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Date: MAR 17 2021
Symbol: EPC-DO-21-078
LA-UR: 21-22037
Locates Action No.:

Mr. Kevin Pierard, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Response to the Disapproval Closure Certification Report for Technical Area 16-399 Open Burn Unit, Los Alamos National Laboratory, EPA ID#NM0890010515

Dear Mr. Pierard:

This correspondence transmits the U.S. Department of Energy (DOE) National Nuclear Security Administration and Triad National Security, LLC (Triad) response to the New Mexico Environment Department-Hazardous Waste Bureau (NMED-HWB) November 18, 2020 letter *Disapproval of Closure Certification Report for Technical Area 16-399 Open Burn Unit Los Alamos National Laboratory EPA ID#NM0890010515, HWB-LANL-20-006* (Disapproval Letter). The NMED-HWB, provided comments to the documentation included in the *Los Alamos National Laboratory Closure Certification Report for Open Burning Treatment Unit Technical Area 16-399 Burn Tray*, (EPC-DO-20-061, LA-UR-20-20437), submitted February 20, 2020. On January 7, 2021, DOE and Triad requested an extension of time to respond to the Disapproval Letter because of issues gathering data. On January 12, 2021, the extension request was granted with a due date on or before March 18, 2021.

A virtual meeting was held on December 23, 2020, with NMED-HWB personnel and risk assessment subject matter expert personnel to clarify the scope of the required response, and to discuss specific updates to the risk assessment. The guidance provided during and after the meeting has been utilized to draft this response, and is intended to fully answer the comments included within the Disapproval Letter.

A revised certification report has not been included with this submittal because the comments in the NMED-HWB's Disapproval Letter are outside the scope of the approved closure plan; therefore, DOE and Triad were advised to submit the revised technical information for review and approval. The information contained within this response is intended to supplement the closure certification report record by providing further evidence of closure of the Technical Area 16-399 Burn Tray.

NMED-HWB's letter provided seven general comments to the closure certification report and ten specific comments to the risk assessment. Enclosure 1, provided with this letter, includes comment responses to all of NMED's comments and also includes expanded analytical data, and data analysis, as well as a revised risk assessment.

If you have questions, comments, or would like a technical briefing of this response, DOE and Triad would appreciate the opportunity. Please contact Karen E. Armijo, NA-LA, at (505) 221-3664, or Patrick L. Padilla, Triad, at (505) 412-0462 with meeting requests.

Sincerely,

JENNIFER PAYNE (Affiliate) Digitally signed by JENNIFER PAYNE (Affiliate) Date: 2021.03.16 17:52:02 -06'00'

Jennifer E. Payne
Division Leader
Environmental Protection and Compliance Division
Triad National Security, LLC
Los Alamos National Laboratory

Sincerely,

Karen E. Armijo Digitally signed by Karen E. Armijo Date: 2021.03.17 06:17:31 -06'00'

Karen E. Armijo
Permitting and Compliance Program Manager
National Nuclear Security Administration
Los Alamos Field Office
U.S. Department of Energy

JEP/KEA/PLP:lvh

Enclosures (s): 1) Response to the Disapproval Closure Certification Report for Technical Area 16-399 Open Burn Unit, Los Alamos National Laboratory, EPA ID#NM0890010515, HWB-LANL-20-006

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Los Alamos NATIONAL LABORATORY COPY

RECEIVED
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Subject: Response to the Disapproval Closure Certification Report for Technical Area 16-399 Open Burn Unit, Los Alamos National Laboratory, EPA ID#NM0890010515

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ENCLOSURE 1

Response to the Disapproval Closure Certification Report for Technical Area 16-399 Open Burn Unit, Los Alamos National Laboratory, EPA ID#NM0890010515, HWB-LANL-20-006

EPC-DO-21-078

LA-UR-21-22037
Unclassified

Date: MAR 17 2021

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

JENNIFER PAYNE (Affiliate) Digitally signed by JENNIFER PAYNE (Affiliate) Date: 2021.03.16 18:55:43 -06'00'

3/16/21

Date Signed

Jennifer E. Payne
Division Leader
Environmental Protection and Compliance Division
Triad National Security, LLC
Los Alamos National Laboratory

Karen E. Armijo Digitally signed by Karen E. Armijo Date: 2021.03.17 06:20:11 -06'00'

3/17/21

Date Signed

Karen E. Armijo
Permitting and Compliance Program Manager
National Nuclear Security Administration
Los Alamos Field Office
U.S. Department of Energy

Response to the Disapproval Closure Certification Report
for Technical Area 16-399 Open Burn Unit
Los Alamos National Laboratory
EPA ID#NM0890010515
HWB-LANL-20-006

Introduction

This document responds to the November 18, 2020, New Mexico Environment Department- Hazardous Waste Bureau (NMED-HWB) Disapproval Letter referenced above. The Disapproval Letter was issued for the *Los Alamos National Laboratory Closure Certification Report for Open Burning Treatment Unit Technical Area 16-399 Burn Tray* (Certification Report) submitted to the NMED-HWB on February 20, 2020 by the United States Department of Energy (DOE) National Nuclear Security Administration, Los Alamos Field Office and Triad National Security, LLC (Triad). DOE/Triad is seeking closure of an open burning treatment unit located at Technical Area (TA) 16, known as the “TA-16-399 Burn Tray”.

Closure activities were conducted and a certification report was drafted in accordance with *Final Action and Response to Comments Closure Plan for Technical Area 16-399 Open Burn Unit, Los Alamos National Laboratory, EPA ID #NM0890010515* (Closure Plan) issued by the NMED-HWB on January 17, 2019. The Disapproval Letter indicates additional scope to the approved Closure Plan. Therefore, the DOE/Triad requested a meeting with NMED-HWB personnel and risk assessment subject matter expert personnel to clarify the scope of the response to ensure that understanding was reached for the comments where NMED-HWB indicated that the risk assessment included in the Certification Report was not correct or was incomplete. A virtual meeting held December 23, 2020, provided the guidance to the DOE/Triad responses within this document. This response document is intended to meet the requirements outlined in the Disapproval Letter.

The scope of the Closure Plan is specific to closure as provided in Code of Federal Regulations (CFR), Title 40, Part 265, Subparts G & P and Permit Part 9 of the Los Alamos National Laboratory Hazardous Waste Facility Permit. DOE/Triad followed the Closure Plan and documented deviations to the plan (including removal of soil from the area) within the Certification Report. A key certifying signature within the report is that of an independent, professional engineer licensed in the State of New Mexico. Because the comments in the NMED-HWB Disapproval Letter are sometimes outside the scope of the Closure Plan, DOE/Triad were advised to submit the revised technical information for review and approval. This response does not include a revised Certification Report, and the information included with this response is an intended supplement to the Certification Report record. The revised human health and ecological risk assessment (revised Risk Assessment) provides further evidence of closure of the Technical Area 16-399 Burn Tray.

The comment responses include NMED-HWB comments verbatim to help with review. The DOE/Triad responses follow each NMED-HWB comment. There are also five attachments to this response document. Attachment 1 includes a copy of the original Disapproval Letter. Attachment 2 includes a revised Risk Assessment for review by the NMED-HWB, as a supplement to the closure Certification Report. Attachment 3 contains data tables for all analytical results. Attachment 4 includes a crosswalk of changes within the human health and ecological risk assessment from the assessment included within the Certification Report and the current revision (Attachment 2). Lastly, Attachment 5 includes a version of the revised Risk Assessment that shows all changes made to the original utilizing red editing marks.

General Comments

1. The risk assessment contains data from only the 2019 sampling events. However, several samples were collected and included in the 2010 human health and ecological risk assessment (*Human-Health and Ecological Screening Assessment for The Technical Area 16 Burn Ground, Revision 1*, dated January 2010). Metals and dioxin/furans were included in the past analyses. The data presented in the 2010 report were collected outside the area of removal and as such, these data must be included as part of site characterization and used to demonstrate compliance with closure criteria. Inclusion of the historical data will likely result in changes to analytes being carried forward in the assessment. As an example, the 2010 report identified cadmium above background, which would result in cadmium being carried forward as a constituent of potential concern (COPC); cadmium was not retained as a COPC in the current closure assessment. Revise the closure report to include all data representative of site conditions to support risk-based closure.

Response:

As directed by the NMED-HWB, past data collected for the site is included in the revised human health and ecological risk analysis. The revised Risk Assessment now includes sample analysis data from 2009, 2012, 2013, 2019, and 2020 (Figures 1-1 and 1-2 in Attachment 2). Table 1-1 below summarizes the data and the intent of the data as collected. Data for sample locations collected in accordance with the approved Closure Plan sampling plan (Location #11), that were later excavated are not included within the data for the revised Risk Assessment. The excavated area is depicted in Figure 1-2 of the revised Risk Assessment (Attachment 2).

Table 1-1. Samples included in Attachment 1, Technical Area 16-399 Burn Tray Human Health And Ecological Risk-Screening Assessments

Year	Sample ID	Location Comment	Analysis Conducted	Depth in Inches	Reason for Sample Collection
2009	09RCRA695	West of Closure Plan Location #10	Dioxin/Furans	0-2	Site characterization
2009	09RCRA696	West of Closure Plan Location #10	Metals	0-2	Site characterization
2009	09RCRA697	Approximate same as Closure Plan Location #10	Dioxin/Furans	0-2	Site characterization
2009	09RCRA698	Approximate same as Closure Plan Location #10	Metals	0-2	Site characterization
2009	09RCRA699	North of Closure Plan Location #1	Dioxin/Furans	0-2	Site characterization
2009	09RCRA700	North of Closure Plan Location #1	Metals	0-2	Site characterization
2009	09RCRA701	West of 09RCRA706 across road	Dioxin/Furans	0-2	Site characterization
2009	09RCRA702	West of 09RCRA706 across road	Metals	0-2	Site characterization
2009	09RCRA703	South of 09RCRA706	Dioxin/Furans	0-2	Site characterization
2009	09RCRA704	South of 09RCRA706	Metals	0-2	Site characterization
2009	09RCRA705	West of Closure Plan Location #1 other side of the road	Dioxin/Furans	0-2	Site characterization

Table 1-1. Samples included in Attachment 1, Technical Area 16-399 Burn Tray Human Health And Ecological Risk-Screening Assessments (continued)

Year	Sample ID	Location Comment	Analysis Conducted	Depth in Inches	Reason for Sample Collection
2009	09RCRA706	West of Closure Plan Location #1 other side of the road	Metals	0-2	Site characterization
2009	09RCRA707	Just south of Closure Plan Location #1	Dioxin/Furans	0-2	Site characteri90zation
2009	09RCRA708	Just south of Closure Plan Location #1	Metals	0-2	Site characterization
2009	09RCRA709	Approximate same as Closure Plan Location #8	Dioxin/Furans	0-2	Site characterization
2009	09RCRA710	Approximate same as Closure Plan Location #8	Metals	0-2	Site characterization
2009	09RCRA711	South and east of Closure Plan Location #6	Dioxin/Furans	0-2	Site characterization
2009	09RCRA712	South and east of Closure Plan Location #6	Metals	0-2	Site characterization
2009	09RCRA731	North of Closure Plan Location #9	Dioxin/Furans	0-2	Site characterization
2009	09RCRA732	North of Closure Plan Location #9	Metals	0-2	Site characterization
2012	RE16-12-17672	Approximate same as Closure Plan Location #1	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2012	RE16-12-17673	Approximate same as Closure Plan Location #2	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2012	RE16-12-17674	Approximate same as Closure Plan Location #3 (at depth)	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	10	Anticipated closure plan approval
2012	RE16-12-17675	Approximate same as Closure Plan Location #4	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2012	RE16-12-17676	Approximate same as Closure Plan Location #4 (duplicate)	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2012	RE16-12-17677	Approximate same as Closure Plan Location #5	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2012	RE16-12-17678	Approximate same as Closure Plan Location #6 (at depth only)	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	10	Anticipated closure plan approval
2012	RE16-12-17679	Approximate south of Closure Plan Location #8	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2012	RE16-12-17680	Approximate same as Closure Plan Location #3	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2012	RE16-12-17681	Approximate same as Closure Plan Location #9	High Explosives, SVOC, VOC, Metals, Perchlorate, Dioxins/Furans	0-2	Anticipated closure plan approval
2013	WST16-13-29794	East of Closure Plan Location #9	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans	0-2	Hotspot location identification
2013	WST16-13-29795	(north of RE16-12-17681)	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans	0-2	Hotspot location identification
2013	WST16-13-29796	(east of RE16-12-17681)	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans	0-2	Hotspot location identification
2013	WST16-13-29797	(south of RE16-12-17681)	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans	0-2	Hotspot location identification
2013	WST16-13-29798	(west of RE16-12-17681)	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans	0-2	Hotspot location identification
2019	WST16-19-181353	Closure Plan Location #2	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location

Table 1-1. Samples included in Attachment 1, Technical Area 16-399 Burn Tray Human Health And Ecological Risk-Screening Assessments (continued)

Year	Sample ID	Location Comment	Analysis Conducted	Depth in Inches	Reason for Sample Collection
2019	WST16-19-181354	Closure Plan Location #3	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location
2019	WST16-19-181355	Closure Plan Location #5	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location
2019	WST16-19-181357	Closure Plan Location #4	High Explosives, VOC, SVOC, Metals (No Mercury), Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location
2019	WST16-19-181358	Closure Plan Location #4 duplicate sample	High Explosives, VOC, SVOC, Metals (No Mercury), Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location
2019	WST16-19-181359	Closure Plan Location #3 subsurface sample	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	2-12	Closure plan sample location
2019	WST16-19-181361	Closure Plan Location #1	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location
2019	WST16-19-181362	Closure Plan Location #6	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location
2019	WST16-19-181363	Closure Plan Location #6 subsurface sample	High Explosives, VOC, SVOC, Metals (No Mercury), Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics	2-12	Closure plan sample location
2019	WST16-19-181364	Closure Plan Location #8	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics	0-2	Closure plan sample location
2019	WST16-19-181365	Closure Plan Location #8 subsurface sample	High Explosives, VOC, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics	2-12	Closure plan sample location
2019	WST16-19-181366	Closure Plan Location #7	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location
2019	WST16-19-181367	Closure Plan Location #9	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics, Nitrate	0-2	Closure plan sample location

Table 1-1. Samples included in Attachment 1, Technical Area 16-399 Burn Tray Human Health And Ecological Risk-Screening Assessments (continued)

Year	Sample ID	Location Comment	Analysis Conducted	Depth in Inches	Reason for Sample Collection
2019	WST16-19-181368	Closure Plan Location #10	High Explosives, SVOC, Metals, Perchlorate, Dioxins/Furans, Gas Range Organics, Diesel Range Organics	0-2	Closure plan sample location
2019	WST16-19-184748	Closure Plan Location #10	VOC	0-2	Resample closure plan sample location
2019	WST16-19-184749	Closure Plan Location #6 subsurface sample	Mercury	0-2	Resample closure plan sample location
2019	WST16-19-184750	Closure Plan Location #7	VOC	0-2	Resample closure plan sample location
2019	WST16-19-184751	Closure Plan Location #9	VOC	0-2	Resample closure plan sample location
2019	WST16-19-184752	Closure Plan Location #4	Mercury	0-2	Resample closure plan sample location
2019	WST16-19-184753	Closure Plan Location #4 duplicate sample	Mercury	0-2	Resample closure plan sample location
2019	WST16-19-184757	Closure Plan Location #8	Nitrate	0-2	Resample closure plan sample location
2019	WST16-19-184758	Closure Plan Location #8 subsurface sample	Nitrate	2-12	Resample closure plan sample location
2020	WST16-20-191427	South of #11 at new surface	High Explosives	0-2	Confirmation sample after soil excavation
2020	WST16-20-191428	Original Closure Plan Location #11	High Explosives	0-2	Confirmation sample after soil excavation
2020	WST16-20-191429	North of #11 at new surface	High Explosives	0-2	Confirmation sample after soil excavation
2020	WST16-20-191430	East of #11 at new surface	High Explosives	0-2	Confirmation sample after soil excavation
2020	WST16-20-191431	West of #11 at new surface	High Explosives	0-2	Confirmation sample after soil excavation
2020	WST16-20-191432	North of #11 at depth	High Explosives	6-12	Confirmation sample after soil excavation
2020	WST16-20-191433	East of #11 at depth	High Explosives	6-12	Confirmation sample after soil excavation
2020	WST16-20-191434	West of #11 at depth	High Explosives	6-12	Confirmation sample after soil excavation
2020	WST16-20-191435	South of #11 at depth	High Explosives	6-12	Confirmation sample after soil excavation
2020	WST16-20-191735	Duplicate South of #11 at depth	High Explosives	6-12	Confirmation sample after soil excavation

2. The site does not appear to meet the requirements for closure without controls. Several technical issues are noted with the approach for the human health risk assessment, as noted in the following general and specific comments. However, in looking just at the hazard index (HI) for the residential receptor, it appears that the site HI is over 5.0, which is well above the target level of 1.0 for closure without controls. The HI is based on maximum detected concentrations. As refined exposure point concentrations were not calculated for all COPCs, and the total HI was not refined appropriately, it is unclear if the site would meet the target level using refined exposure point concentrations (EPCs). It is noted for total cancer risk, while data are not combined according to proper risk methodology, it appears that the total cancer risk for the residential receptor clearly exceeds the New Mexico Environment Department Soil Screening Guidance (NMED SSG) target level of 1E-05. A similar case appears to be noted for the industrial receptor. Further, while ecological risks were not evaluated for specific receptors, it appears the generalized HI is greater than 1.0, indicating adverse ecological risk. The risk assessments must be revised in accordance with the NMED Soil Screening Guidance (SSG), Volumes I and II.

Response

The revised Risk Assessment included in Attachment 2 provides evidence in support of clean closure. The refined analyses included within the revised Risk Assessment provides all data available within the Solid Waste Management Unit (SWMU) boundary that determine that risk to human health and ecological receptor risk is not present at unacceptable levels at the site, when all factors and the closure performance standards are taken into account.

3. The report does not follow the NMED SSG Volume I for determining human health risks. The report and all tables/calculations must be revised in accordance with the methodologies contained in the NMED SSG, and as summarized below:

    a. For cancer risks, a ratio of the EPC to the cancer screening level is provided as an inorganic and organic hazard index. First, cancer risks are provided a total cancer risk; a HI only applies to noncarcinogens. Second, total cancer risk is not evaluated independently for inorganics, organics, dioxins/furans. The cancer risk must be a total risk for all carcinogenic COPCs. Third, the cancer risk is the ratio of the EPC and screening level multiplied by the NMED target risk level. Refer to Section 5 and Equation 59 of the 2019 NMED SSG.

    b. For noncarcinogens, the HI is not evaluated independently for inorganics and organics. The HI risk must be summation of hazard quotients for COPCs. Refer to Section 5 and Equation 60 of the NMED SSG.

    c. The evaluation of lead is an independent evaluation, and a hazard quotient must not be calculated and added to the overall site hazard index. This is because the screening levels for lead are derived using different methodologies than other analytes and are based on blood-lead levels. The evaluation of lead must be a standalone evaluation. Refer to Section 2.3.3 of the NMED SSG.

d. Cancer risks and HIs must not be calculated on a sample-specific basis. For the screening assessment, the EPC must represent the maximum detected concentrations, for each receptor, across the site. If the resulting cancer risk and/or HI is greater than the NMED SSG target levels of 1E-05 or 1.0, respectively, a refined EPC may be calculated. The refined EPC represents exposure across the site, and again, is not evaluated on a sample-specific basis. The refined EPCs and subsequent risk evaluation must address all COPCs and not just those analytes that were below screening levels.

e. The report must provide a clear summary of the resulting total cancer risk and HI for each receptor, i.e., residential, industrial, and construction worker.

Response
The revised Risk Assessment included as Attachment 2 is revised as described in NMED General Comment #3 and utilizing the 2019 NMED guidance, *Risk Assessment Guidance for Site Investigations and Remediation, Volume I, Soil Screening Guidance for Human Health Risk Assessments*. The evaluations for carcinogens, noncarcinogens, and lead have been re-evaluated to ensure they are calculated per the most recent guidance and are described in general in Section 2.0, Human Health Risk Assessment, and detailed in Section 2.2, Screening Evaluation, of the revised Risk Assessment.

4. The ecological screening assessment was not conducted following current NMED or LANL guidance. The 2018 SSG, Volume II along with LANL 2018 (Version 5.1 of the Ecological Risk Assessment Methods) should have been applied. Several technical deficiencies are noted in the specific comments due to use of outdated guidance. The ecological risk assessment must be revised following current NMED-approved guidance along with the current LANL guidance for ecological assessments. Further, a HI must be determined for each receptor and based on exposure to all analytes. HIs for organics, inorganics, explosives and dioxin/furans must not be considered separately but must be combined to represent total exposure. This effects the discussions and associated tables presented in Sections 3.3.1 through 3.3.3 of this report.

Response
The guidance used in the 2020 risk assessment was based on the guidance found on the NMED webpage that was dated 2017. During the virtual meeting on December 23, 2020, DOE/Triad were provided with the NMED 2018 guidance, *Risk Assessment Guidance for Site Investigations and Remediation, Volume II, Soil Screening Guidance for Ecological Risk Assessments*; and the LANL 2018 guidance, *Screening-Level Ecological Risk Assessment Methods, Revision 5.1*. The revised Risk Assessment included within Attachment 2 of this response was updated utilizing these guidance documents.

5. The Permittees have only conducted risk assessment evaluations for the residential pathway prior to removing soil beneath the cement pad. The current residential risk at the site based on the residual contamination is not known, the Permittees must recalculate the residential risk using the confirmatory sample data collected after RDX contaminated soil was removed.

Response

The revised Risk Assessment included in Attachment 2 of this response document is updated to include data from the area where confirmation samples were collected. Additionally, the data for the original sample location #11, both the surface and subsurface data, is removed from the analysis, as it is no longer applicable for the site. This ensures that the most relevant data for the site has been included in the human health and ecological risk assessments.

6. The Permittees must revise this Report to include risk assessment screening for the industrial and construction worker pathways.

Response

The revised Risk Assessment included as Attachment 2 of this response document now includes assessment of industrial and construction worker pathways.

7. The Permittees report that they were not successful in collecting tetryl compounds in any of the 16 soil samples. The Permittees state that tetryl compounds were reported as non-detects in the November 2013. The Permittees must resample the Open Burn Unit and collect tetryl compounds and include these values in the revised Closure Certification Report.

Response

If required, DOE/Triad will resample and analyze for tetryl; however, there is evidence that tetryl is not present at the site. The analytical data collected for the samples in 2019 were rejected due to the quality control standard at the off-site analytical laboratory, it was not due to a sampling error. Additionally, while the standard was out of specification, causing the data to be rejected, the concentrations measured by the laboratory were of similar non detected data for tetryl at the site, both before and after the soil samples were collected in accordance with the Closure Plan in 2019. Because of this evidence, DOE/Triad reason that sampling at the site again is not necessary. Please see Table 2, below for illustration.

Table 2. Tetryl Analytical Data 2012 - 2019

Sample ID	CAS NO.	Parameter name	Qual[1]	Detected[2]	MDL[3] Use (mg/kg)[4]	Result Use[5] (mg/kg)	Date
RE16-12-17672	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17673	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17674	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17675	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17676	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17677	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17678	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17679	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17680	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
RE16-12-17681	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012
WST16-13-29794	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013
WST16-13-29795	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013
WST16-13-29796	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013
WST16-13-29797	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013
WST16-13-29798	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013
WST16-19-181353	479-45-8	Tetryl	U	R	1.50E-01	R	05/07/2019
WST16-19-181354	479-45-8	Tetryl	U	R	1.50E-01	R	05/07/2019
WST16-19-181355	479-45-8	Tetryl	U	R	1.50E-01	R	05/07/2019
WST16-19-181356	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181357	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181358	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181359	479-45-8	Tetryl	U	R	1.50E-01	R	05/07/2019
WST16-19-181360	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181361	479-45-8	Tetryl	U	R	1.50E-01	R	05/07/2019
WST16-19-181362	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181363	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181364	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181365	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-19-181366	479-45-8	Tetryl	U	R	1.50E-01	R	05/07/2019
WST16-19-181367	479-45-8	Tetryl	U	R	1.50E-01	R	05/07/2019
WST16-19-181368	479-45-8	Tetryl	U	R	1.49E-01	R	05/07/2019
WST16-20-191427	479-45-8	Tetryl	U	N	1.49E-01	ND	12/04/2019
WST16-20-191428	479-45-8	Tetryl	U	N	1.47E-01	ND	12/04/2019
WST16-20-191429	479-45-8	Tetryl	U	N	1.46E-01	ND	12/04/2019
WST16-20-191430	479-45-8	Tetryl	U	N	1.46E-01	ND	12/04/2019
WST16-20-191431	479-45-8	Tetryl	U	N	1.49E-01	ND	12/04/2019
WST16-20-191432	479-45-8	Tetryl	U	N	1.48E-01	ND	12/04/2019
WST16-20-191433	479-45-8	Tetryl	U	N	1.44E-01	ND	12/04/2019
WST16-20-191434	479-45-8	Tetryl	U	N	1.46E-01	ND	12/04/2019
WST16-20-191435	479-45-8	Tetryl	U	N	1.52E-01	ND	12/04/2019
WST16-20-191735	479-45-8	Tetryl	U	N	1.47E-01	ND	12/04/2019

1 Qualifiers include: “U” = Unqualified
2 Detected status includes: “N” = Not Detected and “R” = Rejected
3 MDL = Method Detection Limit
4 mg/kg = milligrams per kilogram
5 Result Use options include: “ND” = Not Detected and “R” = Rejected

Specific Comments

1. **Section 2.2.4.1.2 Other Analytical Discussions, page 9**
   Rationale for Eliminating N-nitrosodimethylamine, hexachlorocyclopentadiene, and hexachlorocyclopentadiene as COPCS
   Two analytes (N-nitrosodimethylamine and hexachlorocyclopentadiene) had method detection limits and reported detection limits greater than the residential noncancer screening level.

   The Permittees state that N-nitrosodimethylamine is often used as a food preservative and as a contaminate in rubber products and that it is not likely that N-nitrosodimethylamine would be present at the site based on past operations. NMED notes that the EPA 2014 fact sheet states that N-nitrosodimethylamine was formerly used in the production of rocket fuel and the source could also be from industrial sources through chemical reactions such as those that involve alkylamines with nitrogen oxides, nitrous acid or nitric salts. Since the Permittees were not able to provide adequate documentation for burn operation from 1951-1980, N- nitrosodimethylamine must be retained as a COPC because other potential industrial sources cannot be ruled out at this time.

   The Permittees state that hexachlorocyclopentadiene readily evaporates in the air, is used in the manufacture of certain pesticides; and that it is therefore not likely to be present at the unit based on previous operations. NMED notes that the 2000 EPA hexachlorocyclopentadiene factsheet describes hexachlorocyclopentadiene as acutely toxic to humans and states that it may also be used to make flame-retardants, resins that will not burn, and shock-proof plastics all of which are likely to be associated with past operations. Since the Permittees were not able to provide adequate documentation for burn operation from 1951-1980, hexachlorocyclopentadiene must be retained as a COPC, because other potential industrial sources cannot be ruled out at this time.

   The Permittees must retain N-nitrosodimethylamine and hexachlorocyclopentadiene as COPCs. The Permittees do not have sufficient sampling data to establish the nature and extent of contamination of organic COPCs. The Permittees must resample for N-nitrosodimethylamine and hexachlorocyclopentadiene and re-analyze using sampling methods with detection limits less than the screening level values and provide this information in a revised Report.

Response
Please see expanded discussions regarding these (and other) semi-volatile compounds within Section 2.3.2, MDLs in Excess of NMESSLs, of the revised Risk Assessment included as Attachment 2. If required, DOE/Triad will resample and analyze for N-nitrosodimethylamine and hexachlorocyclopentadiene; however, there is little evidence that the constituents outlined within Section 2.3.2, MDLs in Excess of NMSSLs, are present at the site.

2. Attachment 5, Section 1.1, Conceptual Site Model, page 1

a. Per Section 2.6 of the New Mexico Soil Screening Guidance (NMED SSG) for those sites greater than two acres in size, grazing of cattle must be evaluated to determine if beef ingestion is a plausible and complete exposure pathway. If grazing is not permitted (or could not be permitted due to land use restrictions), or the land does not support grazing (e.g., insufficient forage and/or water availability, terrain, or highly industrialized area), lines of evidence must be provided to demonstrate this as an incomplete pathway. Revise the report to indicate the size of TA 16-399 and to address beef ingestion.

Response

Discussion regarding the size of the Unit and the general area around the Unit regarding the preferences of large mammals in the area is added to Section 1.1, Conceptual Site Model, of the revised Risk Assessment.

b. The risk assessment does not address construction workers. Either a statement must be included to indicate the risk assessment for the industrial worker and resident is protective of the construction work (i.e., no COPCs have screening levels (SLs) driven by the inhalation pathway such that the construction worker SL is more conservative), or the risk assessment must be updated to include the construction worker. Revise the text and/or assessment accordingly.

Response

A method for assessment of risk to construction workers is included in Section 1.1 of the revised Risk Assessment. The analysis and description of risks and the conclusion of risk to construction workers are included throughout Section 2.0, Human Health Risk Assessment, of the revised Risk Assessment.

3. Attachment 5, Section 1.2.2 Evaluation of Inorganic Analytes, page 3

a. The first paragraph states that, “For analytes that the maximum exceeded the established background value (BV) but did not exceed risk-based SL known as the New Mexico Soil Screening Levels (SLs), no further evaluation is necessary.” It appears this is a misinterpretation of Step 2 outlined in Section 1.3 of the NMED SSG. Step 2 refers to the cumulative hazard index being less than 1.0 for all non-carcinogens. As outlined in Section 2.8.3.2.1 of the NMED SSG, if an individual analyte is greater than background and additional lines of evidence are not available to justify the analyte as not being site-related, then either a two- sample hypothesis test may be used to compare the distributions of the site data to the distributions of background data to determine if site concentrations are elevated compared with background or the analyte must be retained as a constituent of potential concern (COPC). This text also appears to contradict text in Section 1.3 of the Report. Revise the Report to include COPCs with results which are above BV; or provide additional lines of evidence which demonstration that the analyte is not a COPC in accordance with the NMED SSG criteria.

Response

The revised Risk Assessment included as Attachment 2 carries forward all inorganic analytes that have values in excess of the established background values. Please see Sections 2.1.1, Comparison of Evaluation of Inorganic Analytes to Background, and 2.2.2, Comparison to Background, of the assessment for description.

b. The first paragraph states that, "If the maximum exceeded the BV and one or more risk-based SLs as indicated by a ratio of the maximum to the SL being >1, a 95% upper confidence level of the mean (UCL95) was calculated…." This text also appears to contradict text in Section 1.3. Review the text in this section and Section 1.3 and resolve the inconsistency in the revised report.

c. The first bullet states that there are no toxicity data available for calcium, sodium, potassium, or magnesium from NMED. However, Table A-1 of the 2019 NMED SSG provides screening levels for these analytes. In addition, Section 5.2 of the NMED SSG directs how risks to these analytes considered essential nutrients should be evaluated. Revise the text and subsequent evaluations accordingly.

d. The second bullets states that toxicity values for trivalent chromium were applied as screening levels as total chromium values are not contained in the NMED SSG and that it was unlikely that hexavalent chromium producing products were historically treated in the unit. As noted in the 2017 *Chromium Study Background Report*, it was agreed that LANL had provided sufficient data to establish that background levels of chromium in the various site media are representative of trivalent chromium and the use of the trivalent chromium screening level is acceptable and appropriate if site history is provided to demonstrate there were no site sources for hexavalent chromium. This justification as cited in the associated report should be used as the line of evidence to support use of trivalent chromium screening levels rather than a lack of a total chromium screening level. Revise the justification of chromium in this section accordingly.

Response

The discussions outlined in 3b, 3c, and 3d above have been deleted in the revised Risk Assessment included as Attachment 2 as they are not relevant for the data within the revised Risk Assessment.

4. Attachment 5, Section 2.1 Screening Evaluation, page 4

a. The second sentence states that the EPC is compared to the cancer and noncancer-based screening levels by dividing the maximum value by the screening level. This is not accurate, as this approach is only partially correct for carcinogens; the text does not include multiplying the ratio by the NMED SSG target cancer risk of 1E-05. Revise the text to clarify the risk determination process for carcinogens and ensure that it is compliant with the NMED SSG.

Response

The description of the calculations for the cumulative cancer risk and the hazard index for noncancer constituents have been updated in Section 2.1.4, Calculation of Hazard Index or Cumulative Cancer Risk, in the revised Risk Assessment to be consistent with this comment.

b. The third sentence implies the EPCs included results for both the parent sample and its field duplicate. As noted in Section 2.8.3 of the NMED SSG, for the initial screening assessment, duplicates should be handled using the higher concentration as the EPC. NMED notes for the initial screening assessment, where the EPC is represented by the maximum detected concentration, the inclusion of both samples does not affect the EPC, revise the text to clarify that for field duplicates, the higher result will be used as the EPC.

Response

The text within Section 2.1.2, Comparison of Maximum EPCs to NMSSLs, of the revised Risk Assessment is updated to be consistent with this comment.

c. The third sentence states that if the maximum EPC was less than the lowest screening level, it was not evaluated further. This approach does not allow for evaluation of cumulative risk. In the event the maximum EPC is lower than its associated screening level, the analyte must still be retained as a COPC for calculating cumulative risk. A point-to-point comparison and screening process are not allowed for in accordance with the NMED SSG. This sentence also appears in contradiction to the following paragraph in the report. Revise the text and associated calculations accordingly.

Response

The text within Section 2.1.2, Comparison of Maximum EPCs to NMSSLs, of the revised Risk Assessment is updated to be consistent with this comment.

d. The second paragraph states that is there were too few detections to calculate a UCL95 (i.e., number of detections <6), the median of all the data was applied as the EPC. The NMED SSG does not allow the use of the median concentration as an EPC; if a UCL cannot be calculated, the maximum detected concentration must be retained as the EPC. Further, in accordance with Section 2.8.4.1 of the NMED SSG, the minimum requirements for calculating UCLs are: 1) each data set must contain at least eight samples (i.e., $n \geq 8$) for the analyte being evaluated; and 2) there must be a minimum of five detections (i.e., ≥ 5 detected observations) for the analyte being evaluated. However, it was agreed in the February 14, 2017 risk meeting between LANL and NMED that calculation of UCLs may be conducted if there are a minimum of five detections, as long as the Permittee can provide sufficient technical justification for the number of samples used in determining UCLs and that the number is consistent with USEPA guidance. Therefore, UCLs must be calculated for data sets that meet the minimum requirements for calculation UCLs. Revise the text and associated calculations accordingly.

Response

The text within the third paragraph of Section 2.2, Screening Evaluation, in the revised Risk Assessment (Attachment 2) is updated to be consistent with this comment.

e. The fourth paragraph refers to a cancer risk of 1E-06 for stated exposure as defined by the NMED SSG. NMED notes that this value is inconsistent with the NMED SSG cancer risk factor of 1E-05. Either revise the text to clarify that 1E-06 cancer risk factor utilized is based on EPA region 6 risk factors or use the NMED SSG cancer risk factor of 1E-05.

Response

The typographical error in Section 2.2, Screening Evaluation, is corrected in the revised Risk Assessment (Attachment 2).

f. This section does not address comparison of site concentrations to the soil-to-groundwater target soil leachate concentrations (refer to Step 5 of Sections 1.3 and 5.0 and the SL-SSL based on a dilution attenuation factor (DAF) of 20 presented in Table A-1 in the NMED SSG). In order to achieve clean closure without controls, this pathway must be evaluated.

Response

Section 2.2.8, Migration to Groundwater, included within the revised Risk Assessment (Attachment 2) describes the comparison of the maximum detected concentrations to the groundwater SL-SSL based on a DAF of 20 to assess the soil-to-groundwater pathway. Additionally, information has been added to the section to describe groundwater monitoring in the area for context.

5. Attachment 5, Section 2.1.1 Data Analysis, page 5

a. The last sentence of the first paragraph indicates that data for both surface and subsurface soil depths were combined for the human health risk assessment. The soil exposure interval for the industrial worker is 0-1 foot below ground surface (ft bgs) while the interval for the resident is 0-10 ft bgs. Typically, subsurface soil data are excluded from the analysis of the industrial worker. However, all soil (surface and subsurface) for this assessment represent soil within the top foot of soil, as such, inclusion of the subsurface data for the industrial worker is acceptable. The report must be revised to include this clarification to support why the datasets were appropriate to combine for both receptors. Note: a similar discussion is needed in Section 3.1, addressing the appropriateness of combining surface and subsurface data for the ecological risk assessment based on the identified receptors and soil exposure intervals (refer to Volume II of the NMED SSG).

Response

Section 2.2.1, Data Analysis and Section 3.1, Introduction, within the revised Risk Assessment (Attachment 2) are updated to include support why the datasets are appropriate to combine for all receptors.

b. The first sentence of the fourth paragraph states that the cancer-based sum of the screening level risk ratios is called the HI. This is incorrect. The HI only refers to the sum of the individual hazard quotients for noncarcinogens. For carcinogens, either refer to analyte-specific risk or total risk, for additive risk. Revise the text throughout the entire report.

c. The discussion of organics presents the cancer risk and HI separately for organics and explosives from those from dioxin/furans. This is incorrect. The total cancer risk is the risk associated from exposure to all carcinogens that include metals, organics, explosives, and dioxin/furans. The Permittees must revise the cancer risk calculations to include the cumulative risk of all carcinogens identified in the NMED SSG.

d. A refined risk assessment was conducted for only dibenz(a,h)anthracene and RDX, as those were the only COPCs having a maximum detected concentration greater than the SL. The refined assessment must address all COPCs, regardless of whether the maximum concentration was below its corresponding SL. This is because site risk evaluates additive risk from exposure to all COPC. Given that the total cancer risk and HI for both the resident and industrial worker exceed target levels when using maximum detected values for the EPC, it is likely that several contaminants will need a revised EPC to show acceptable site levels. Revise the risk assessment accordingly to be consistent with the other revised portions of the Report.

Response

NMED Comments 5b, 5c, and 5d are addressed within the revised Risk Assessment (Attachment 2) within Sections 2.2.1 through Section 2.2.7. The consistency between referencing cancer and noncancer evaluations and the carryover of the appropriate COPCs have been resolved in accordance with the NMED Comments.

6. **Attachment 5, Section 2.3 Conclusions, page 8**
   The risk assessment as presented in this report does not meet the requirements for closure without controls. As noted in the above comments, several technical issues must be addressed, and the risks re-calculated in order to discern whether the site meets acceptable risk.

Response

Please see the DOE/Triad response to NMED General Comment #2.

7. **Attachment 5, Section 3.1 Introduction, page 9**
   a. Ecological screening levels (ESLs) are referenced in Table 3-1. However, there is no discussion on which receptors are being evaluated in this assessment. It appears that the minimum ESL, regardless of mammalian or terrestrial receptor, was applied in the assessment. However, a HI must be calculated for specific representative receptors, which are identified based on the size are the investigation area. At a minimum, the plant, deer mouse and horned lark must be evaluated, per the NMED SSG Volume II. However, LANL requires additional receptors to be considered, as listed in Table 2.6-1 of the LANL ecological risk guidance. Revise the ecological assessment to include a discussion of potential ecological receptors at TA-16-399. In addition, review Table 3-1 to include the receptor-specific ESLs to be used in the evaluation. Note this comment also applies to Sections 3.2 and 3.3.

Response

The revised Risk Assessment in Attachment 2 is revised per the guidance provided by the NMED during the December 23, 2020 virtual meeting. The ESLs were updated to include representative receptors based on the size of the unit, as outlined in Section 3.1, Introduction, and evaluations were conducted as described in Section 3.3, Screening Evaluation. Additionally, Table 3-1 was updated to include specific receptors.

   b. The third paragraph (and Table 3-1) indicates that hazard quotients (HQs) greater than 0.3 in the initial screening are used to determining if an analyte should be retained as a constituent of potential ecological concern (COPEC). When conducting the screening assessment, analytes with HQs greater than 0.3 were retained as COPECs. As noted in the agreements made in the February 14, 2017 risk meeting between LANL and NMED, the use of 0.3 is not appropriate for the second-tier analysis, if more than three COPECs are present. Thus, Table 3-1 must be revised to indicate the lowest observed adverse effect level (LOAEL)- COPECs using the criterion of 0.1. This comment also applies to Sections 3.3.1 through 3.3.3.

Response

The revised Risk Assessment in Attachment 2 is revised per the guidance provided by the NMED after the December 23, 2020 virtual meeting. The HQ comparison was updated to 0.1 as required by the guidance provided by NMED-HWB, and Section 3.3, Screening Evaluations and relevant subsections, as well as Table 3-1, are updated to reflect this change.

8. **Attachment 5, Table 3-7 No Effect Hazard Index Analysis for By Receptor for Exposure Adjusted Within Area Use Factors, page 59**

   A revision of ecological risks using refined exposure assumptions, such as site-specific area use factors, etc., would apply the LOAEL-based ESLs not the no observed adverse effect level (NOAEL) ESLs (as shown in Table 3-8). Table 3-7 must be removed from the report.

Response

The revised Risk Assessment in Attachment 2 has been revised per the guidance provided by the NMED during the December 23, 2020 virtual meeting, and the NOAEL table has been removed from the report within Section 3.0, Ecological Screening Assessment and associated subsections.

9. **Attachment 5, Table 3-8 Low Effect Hazard Index Analysis by Receptor Adjusted Within Area Use Factors, page 61**

   Table 3-8 presents a refinement of the LOAEL-based assessment. However, based on the improper handling of ESLs, and determinations of COPECs, it is unclear if the revised list of COPECs and EPCs listed in Table 3-8 is correct. Upon revision of the Report and risk assessment, update Table 3-8 accordingly.

Response

The revised Risk Assessment in Attachment 2 is revised per the guidance provided by the NMED during the December 23, 2020 virtual meeting. Table 3-8 was updated based on the revised ESLs and determination of COPECs at the site.

10. **Attachment 7, TA-16-399 Analytical Results After Excavation, page 1**

    The Permittees have not used the residual soil concentrations, following excavation, to recalculate risk and demonstrate that the residual contamination meets NMED's human health and ecological risk.

Response

The revised Risk Assessment included as Attachment 2 of this response includes data for the nine samples collected after excavation of soil. The assessment does not include data for the two samples collected from the area prior to excavation, as they are no longer applicable to the area.

Attachment 1

New Mexico Environment Department- Hazardous Waste Bureau Disapproval of Closure Certification Report for Technical Area 16-399 Open Burn Unit

NEW MEXICO
ENVIRONMENT DEPARTMENT

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 18, 2020

Michael Weis, Manager
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U2001233

RE: DISAPPROVAL
CLOSURE CERTIFCATION REPORT FOR TECHINICAL AREA 16-399 OPEN BURN UNIT
LOS ALAMOS NATIONAL LABORATORY
EPA ID#NM0890010515
HWB-LANL-20-006

Dear Mr. Weis and Ms. Payne:

The New Mexico Environment Department (NMED) has reviewed the United States Department of Energy (DOE) and the Triad National Security, LLC. (Triad) (collectively the Permittees *Transmittal of Closure Certification Report for Technical Area 16-399 Open Burn Unit* (Report) dated and received February 20, 2020 and referenced by EPC-DO-20-061/LA-UR-20-20437.

NMED hereby issues this notice of disapproval of the Report with following comments:

General Comments

1. The risk assessment contains data from only the 2019 sampling events. However, several samples were collected and included in the 2010 human health and ecological risk assessment (*Human-Health and Ecological Screening Assessment for The Technical Area 16 Burn Ground, Revision 1*, dated January 2010). Metals and dioxin/furans were included in the past analyses. The data presented in the 2010 report were collected outside the area of removal and as such, these data must be included as part of site characterization and used to demonstrate compliance with closure criteria. Inclusion of

the historical data will likely result in changes to analytes being carried forward in the assessment. As an example, the 2010 report identified cadmium above background, which would result in cadmium being carried forward as a constituent of potential concern (COPC); cadmium was not retained as a COPC in the current closure assessment. Revise the closure report to include all data representative of site conditions to support risk-based closure.

2. The site does not appear to meet the requirements for closure without controls. Several technical issues are noted with the approach for the human health risk assessment, as noted in the following general and specific comments. However, in looking just at the hazard index (HI) for the residential receptor, it appears that the site HI is over 5.0, which is well above the target level of 1.0 for closure without controls. The HI is based on maximum detected concentrations. As refined exposure point concentrations were not calculated for all COPCs, and the total HI was not refined appropriately, it is unclear if the site would meet the target level using refined exposure point concentrations (EPCs). It is noted for total cancer risk, while data are not combined according to proper risk methodology, it appears that the total cancer risk for the residential receptor clearly exceeds the New Mexico Environment Department Soil Screening Guidance (NMED SSG) target level of 1E-05. A similar case appears to be noted for the industrial receptor. Further, while ecological risks were not evaluated for specific receptors, it appears the generalized HI is greater than 1.0, indicating adverse ecological risk. The risk assessments must be revised in accordance with the NMED Soil Screening Guidance (SSG), Volumes I and II.

3. The report does not follow the NMED SSG Volume I for determining human health risks. The report and all tables/calculations must be revised in accordance with the methodologies contained in the NMED SSG, and as summarized below:

a. For cancer risks, a ratio of the EPC to the cancer screening level is provided as an inorganic and organic hazard index. First, cancer risks are provided a total cancer risk; a HI only applies to noncarcinogens. Second, total cancer risk is not evaluated independently for inorganics, organics, dioxins/furans. The cancer risk must be a total risk for all carcinogenic COPCs. Third, the cancer risk is the ratio of the EPC and screening level multiplied by the NMED target risk level. Refer to Section 5 and Equation 59 of the 2019 NMED SSG.

b. For noncarcinogens, the HI is not evaluated independently for inorganics and organics. The HI risk must be summation of hazard quotients for COPCs. Refer to Section 5 and Equation 60 of the NMED SSG.

c. The evaluation of lead is an independent evaluation, and a hazard quotient must not be calculated and added to the overall site hazard index. This is because the screening levels for lead are derived using different methodologies than other analytes and are based on blood-lead levels. The evaluation of lead must be a standalone evaluation. Refer to Section 2.3.3 of the NMED SSG.

d. Cancer risks and HIs must not be calculated on a sample-specific basis. For the screening assessment, the EPC must represent the maximum detected concentrations, for each receptor, across the site. If the resulting cancer risk and/or HI is greater than the NMED SSG target levels of 1E-05 or 1.0, respectively, a refined EPC may be calculated. The refined EPC represents exposure across the site, and again, is not evaluated on a sample-specific basis. The refined EPCs and subsequent risk evaluation must address all COPCs and not just those analytes that were below screening levels.

e. The report must provide a clear summary of the resulting total cancer risk and HI for each receptor, i.e., residential, industrial, and construction worker.

4. The ecological screening assessment was not conducted following current NMED or LANL guidance. The 2018 SSG, Volume II along with LANL 2018 (Version 5.1 of the Ecological Risk Assessment Methods) should have been applied. Several technical deficiencies are noted in the specific comments due to use of outdated guidance. The ecological risk assessment must be revised following current NMED-approved guidance along with the current LANL guidance for ecological assessments. Further, a HI must be determined for each receptor and based on exposure to all analytes. HIs for organics, inorganics, explosives and dioxin/furans must not be considered separately but must be combined to represent total exposure. This effects the discussions and associated tables presented in Sections 3.3.1 through 3.3.3 of this report.

5. The Permittees have only conducted risk assessment evaluations for the residential pathway prior to removing soil beneath the cement pad. The current residential risk at the site based on the residual contamination is not known, the Permittees must recalculate the residential risk using the confirmatory sample data collected after RDX contaminated soil was removed.

6. The Permittees must revise this Report to include risk assessment screening for the industrial and construction worker pathways.

7. The Permittees report that they were not successful in collecting tetryl compounds in any of the 16 soil samples. The Permittees state that tetryl compounds were reported as non-detects in the November 2013. The Permittees must resample the Open Burn Unit and collect tetryl compounds and include these values in the revised Closure Certification Report.

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Specific Comments

1. **Section 2.2.4.1.2 Other Analytical Discussions, page 9**
   Rationale for Eliminating N-nitrosodimethylamine, hexachlorocyclopentadiene, and hexachlorocyclopentadiene as COPCS
   Two analytes (N-nitrosodimethylamine and hexachlorocyclopentadiene) had method detection limits and reported detection limits greater than the residential noncancer screening level.

   The Permittees state that N-nitrosodimethylamine is often used as a food preservative and as a contaminate in rubber products and that it is not likely that N-nitrosodimethylamine would be present at the site based on past operations. NMED notes that the EPA 2014 fact sheet states that N-nitrosodimethylamine was formerly used in the production of rocket fuel and the source could also be from industrial sources through chemical reactions such as those that involve alkylamines with nitrogen oxides, nitrous acid or nitric salts. Since the Permittees were not able to provide adequate documentation for burn operation from 1951-1980, N-nitrosodimethylamine must be retained as a COPC because other potential industrial sources cannot be ruled out at this time.

   The Permittees state that hexachlorocyclopentadiene readily evaporates in the air, is used in the manufacture of certain pesticides; and that it is therefore not likely to be present at the unit based on previous operations. NMED notes that the 2000 EPA hexachlorocyclopentadiene factsheet describes hexachlorocyclopentadiene as acutely toxic to humans and states that it may also be used to make flame-retardants, resins that will not burn, and shock-proof plastics all of which are likely to be associated with past operations. Since the Permittees were not able to provide adequate documentation for burn operation from 1951-1980, hexachlorocyclopentadiene must be retained as a COPC, because other potential industrial sources cannot be ruled out at this time.

   The Permittees must retain N-nitrosodimethylamine and hexachlorocyclopentadiene as COPCs. The Permittees do not have sufficient sampling data to establish the nature and extent of contamination of organic COPCs. The Permittees must resample for N-nitrosodimethylamine and hexachlorocyclopentadiene and re-analyze using sampling methods with detection limits less than the screening level values and provide this information in a revised Report.

2. **Attachment 5, Section 1.1, Conceptual Site Model, page 1**
   a. Per Section 2.6 of the New Mexico Soil Screening Guidance (NMED SSG) for those sites greater than two acres in size, grazing of cattle must be evaluated to determine if beef ingestion is a plausible and complete exposure pathway. If

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grazing is not permitted (or could not be permitted due to land use restrictions), or the land does not support grazing (e.g., insufficient forage and/or water availability, terrain, or highly industrialized area), lines of evidence must be provided to demonstrate this as an incomplete pathway. Revise the report to indicate the size of TA 16-399 and to address beef ingestion.

b. The risk assessment does not address construction workers. Either a statement must be included to indicate the risk assessment for the industrial worker and resident is protective of the construction work (i.e., no COPCs have screening levels (SLs) driven by the inhalation pathway such that the construction worker SL is more conservative), or the risk assessment must be updated to include the construction worker. Revise the text and/or assessment accordingly.

3. Attachment 5, Section 1.2.2 Evaluation of Inorganic Analytes, page 3

a. The first paragraph states that, “For analytes that the maximum exceeded the established background value (BV) but did not exceed risk-based SL known as the New Mexico Soil Screening Levels (SLs), no further evaluation is necessary.” It appears this is a misinterpretation of Step 2 outlined in Section 1.3 of the NMED SSG. Step 2 refers to the cumulative hazard index being less than 1.0 for all non-carcinogens. As outlined in Section 2.8.3.2.1 of the NMED SSG, if an individual analyte is greater than background and additional lines of evidence are not available to justify the analyte as not being site-related, then either a two-sample hypothesis test may be used to compare the distributions of the site data to the distributions of background data to determine if site concentrations are elevated compared with background or the analyte must be retained as a constituent of potential concern (COPC). This text also appears to contradict text in Section 1.3 of the Report. Revise the Report to include COPCs with results which are above BV; or provide additional lines of evidence which demonstration that the analyte is not a COPC in accordance with the NMED SSG criteria.

b. The first paragraph states that, “If the maximum exceeded the BV and one or more risk-based SLs as indicated by a ratio of the maximum to the SL being >1, a 95% upper confidence level of the mean (UCL95) was calculated….” This text also appears to contradict text in Section 1.3. Review the text in this section and Section 1.3 and resolve the inconsistency in the revised report.

c. The first bullet states that there are no toxicity data available for calcium, sodium, potassium, or magnesium from NMED. However, Table A-1 of the 2019 NMED SSG provides screening levels for these analytes. In addition, Section 5.2 of the NMED SSG directs how risks to these analytes considered essential nutrients should be evaluated. Revise the text and subsequent evaluations accordingly.

d. The second bullets states that toxicity values for trivalent chromium were applied as screening levels as total chromium values are not contained in the NMED SSG and that it was unlikely that hexavalent chromium producing products were historically treated in the unit. As noted in the 2017 *Chromium Study Background Report*, it was agreed that LANL had provided sufficient data to establish that background levels of chromium in the various site media are representative of trivalent chromium and the use of the trivalent chromium screening level is acceptable and appropriate if site history is provided to demonstrate there were no site sources for hexavalent chromium. This justification as cited in the associated report should be used as the line of evidence to support use of trivalent chromium screening levels rather than a lack of a total chromium screening level. Revise the justification of chromium in this section accordingly.

4. Attachment 5, Section 2.1 Screening Evaluation, page 4

a. The second sentence states that the EPC is compared to the cancer and noncancer-based screening levels by dividing the maximum value by the screening level. This is not accurate, as this approach is only partially correct for carcinogens; the text does not include multiplying the ratio by the NMED SSG target cancer risk of 1E-05. Revise the text to clarify the risk determination process for carcinogens and ensure that it is compliant with the NMED SSG.

b. The third sentence implies the EPCs included results for both the parent sample and its field duplicate. As noted in Section 2.8.3 of the NMED SSG, for the initial screening assessment, duplicates should be handled using the higher concentration as the EPC. NMED notes for the initial screening assessment, where the EPC is represented by the maximum detected concentration, the inclusion of both samples does not affect the EPC, revise the text to clarify that for field duplicates, the higher result will be used as the EPC.

c. The third sentence states that if the maximum EPC was less than the lowest screening level, it was not evaluated further. This approach does not allow for evaluation of cumulative risk. In the event the maximum EPC is lower than its associated screening level, the analyte must still be retained as a COPC for calculating cumulative risk. A point-to-point comparison and screening process are not allowed for in accordance with the NMED SSG. This sentence also appears in contradiction to the following paragraph in the report. Revise the text and associated calculations accordingly.

d. The second paragraph states that is there were too few detections to calculate a UCL95 (i.e., number of detections <6), the median of all the data was applied as the EPC. The NMED SSG does not allow the use of the median concentration as an EPC; if a UCL cannot be calculated, the maximum detected concentration must be retained as the EPC. Further, in accordance with Section 2.8.4.1 of the NMED SSG, the minimum requirements for calculating UCLs are: 1) each data set must contain at least eight samples (i.e., n ≥ 8) for the analyte being evaluated; and 2) there must be a minimum of five detections (i.e., ≥ 5 detected observations) for the analyte being evaluated. However, it was agreed in the February 14, 2017 risk meeting between LANL and NMED that calculation of UCLs may be conducted if there are a minimum of five detections, as long as the Permittee can provide sufficient technical justification for the number of samples used in determining UCLs and that the number is consistent with USEPA guidance. Therefore, UCLs must be calculated for data sets that meet the minimum requirements for calculation UCLs. Revise the text and associated calculations accordingly.

e. The fourth paragraph refers to a cancer risk of 1E-06 for stated exposure as defined by the NMED SSG. NMED notes that this value is inconsistent with the NMED SSG cancer risk factor of 1E-05. Either revise the text to clarify that 1E-06 cancer risk factor utilized is based on EPA region 6 risk factors or use the NMED SSG cancer risk factor of 1E-05.

f. This section does not address comparison of site concentrations to the soil-to-groundwater target soil leachate concentrations (refer to Step 5 of Sections 1.3 and 5.0 and the SL-SSL based on a dilution attenuation factor (DAF) of 20 presented in Table A-1 in the NMED SSG). In order to achieve clean closure without controls, this pathway must be evaluated.

5. Attachment 5, Section 2.1.1 Data Analysis, page 5

a. The last sentence of the first paragraph indicates that data for both surface and subsurface soil depths were combined for the human health risk assessment. The soil exposure interval for the industrial worker is 0-1 foot below ground surface (ft bgs) while the interval for the resident is 0-10 ft bgs. Typically, subsurface soil data are excluded from the analysis of the industrial worker. However, all soil (surface and subsurface) for this assessment represent soil within the top foot of soil, as such, inclusion of the subsurface data for the industrial worker is acceptable. The report must be revised to include this clarification to support why the datasets were appropriate to combine for both receptors. Note: a similar discussion is needed in Section 3.1, addressing the appropriateness of combining surface and subsurface data for the ecological risk assessment based on the identified receptors and soil exposure intervals (refer to Volume II of the NMED SSG).

b. The first sentence of the fourth paragraph states that the cancer-based sum of the screening level risk ratios is called the HI. This is incorrect. The HI only refers to the sum of the individual hazard quotients for noncarcinogens. For carcinogens, either refer to analyte-specific risk or total risk, for additive risk. Revise the text throughout the entire report.

c. The discussion of organics presents the cancer risk and HI separately for organics and explosives from those from dioxin/furans. This is incorrect. The total cancer risk is the risk associated from exposure to all carcinogens that include metals, organics, explosives, and dioxin/furans. The Permittees must revise the cancer risk calculations to include the cumulative risk of all carcinogens identified in the NMED SSG.

d. A refined risk assessment was conducted for only dibenz(a,h)anthracene and RDX, as those were the only COPCs having a maximum detected concentration greater than the SL. The refined assessment must address all COPCs, regardless of whether the maximum concentration was below its corresponding SL. This is because site risk evaluates additive risk from exposure to all COPC. Given that the total cancer risk and HI for both the resident and industrial worker exceed target levels when using maximum detected values for the EPC, it is likely that several contaminants will need a revised EPC to show acceptable site levels. Revise the risk assessment accordingly to be consistent with the other revised portions of the Report.

6. Attachment 5, Section2.3 Conclusions, page 8

The risk assessment as presented in this report does not meet the requirements for closure without controls. As noted in the above comments, several technical issues must be addressed, and the risks re-calculated in order to discern whether the site meets acceptable risk.

7. Attachment 5, Section 3.1 Introduction, page 9

a. Ecological screening levels (ESLs) are referenced in Table 3-1. However, there is no discussion on which receptors are being evaluated in this assessment. It appears that the minimum ESL, regardless of mammalian or terrestrial receptor, was applied in the assessment. However, a HI must be calculated for specific representative receptors, which are identified based on the size are the investigation area. At a minimum, the plant, deer mouse and horned lark must be evaluated, per the NMED SSG Volume II. However, LANL requires additional receptors to be considered, as listed in Table 2.6-1 of the LANL ecological risk guidance. Revise the ecological assessment to include a discussion of potential ecological receptors at TA-16-399. In addition, review Table 3-1 to include the receptor-specific ESLs to be used in the evaluation. Note this comment also applies to Sections 3.2 and 3.3.

b. The third paragraph (and Table 3-1) indicates that hazard quotients (HQs) greater than 0.3 in the initial screening are used to determining if an analyte should be retained as a constituent of potential ecological concern (COPEC). When conducting the screening assessment, analytes with HQs greater than 0.3 were retained as COPECs. As noted in the agreements made in the February 14, 2017 risk meeting between LANL and NMED, the use of 0.3 is not appropriate for the second-tier analysis, if more than three COPECs are present. Thus, Table 3-1 must be revised to indicate the lowest observed adverse effect level (LOAEL)-COPECs using the criterion of 0.1. This comment also applies to Sections 3.3.1 through 3.3.3.

8. **Attachment 5, Table 3-7 No Effect Hazard Index Analysis for By Receptor for Exposure Adjusted Within Area Use Factors, page 59**
   A revision of ecological risks using refined exposure assumptions, such as site-specific area use factors, etc., would apply the LOAEL-based ESLs not the no observed adverse effect level (NOAEL) ESLs (as shown in Table 3-8). Table 3-7 must be removed from the report.

9. **Attachment 5, Table 3-8 Low Effect Hazard Index Analysis by Receptor Adjusted Within Area Use Factors, page 61**
   Table 3-8 presents a refinement of the LOAEL-based assessment. However, based on the improper handling of ESLs, and determinations of COPECs, it is unclear if the revised list of COPECs and EPCs listed in Table 3-8 is correct. Upon revision of the Report and risk assessment, update Table 3-8 accordingly.

10. **Attachment 7, TA-16-399 Analytical Results After Excavation, page 1**
    The Permittees have not used the residual soil concentrations, following excavation, to recalculate risk and demonstrate that the residual contamination meets NMED's human health and ecological risk.

The Permittees must address all comments and submit a revised Report **within sixty (60) days of receipt of this letter**. Two hard copies of the revised Report, and one electronic copy must be submitted to NMED. As part of the response letter that accompanies the revised Report, the Permittees shall include a table that details where all revisions have been made and cross-references NMED numbered comments. In addition, provide a redline-strikeout version (electronic and hard copy) of the revised Report.

If you have any questions regarding this letter, please contact Siona Briley at (505) 476-6049.

Sincerely,

Kevin Pierard

Digitally signed by Kevin Pierard
Date: 2020.11.18 09:53:49 -07'00'

Kevin M. Pierard, Chief
Hazardous Waste Bureau

cc:

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File: 2020 LANL, TA-16, Disapproval Closure Certification Report OB Unit 16-399
LANL-20-006

U2001233

From:	Martinez, Cynthia, NMENV
To:	Weis, Michael Joseph; Payne, Jen
Cc:	Pierard, Kevin, NMENV; Dhawan, Neelam, NMENV; Briley, Siona, NMENV; Schatz, Mitchell, NMENV; "king.laurie@epa.gov"; karen.armijo@nnsa.doe.gov; Arturo.duran@em.doe.gov; Torres, Enrique; Padilla, Patrick L; adesh-records@lanl.gov; locatesteam; epc-correspondence@lanl.gov
Subject:	[EXTERNAL] Letter to Mr. Weis and Ms. Payne
Date:	Wednesday, November 18, 2020 10:40:07 AM
Attachments:	2020-11-18 NOD Closure Certification Report 16-399 _Nov 2020.pdf

Good Morning,
Please see attachment.

Cynthia Martinez
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Bldg.1
Santa Fe, New Mexico 87505-6313

U2001233

Attachment 2

Technical Area 16-399 Burn Tray Human Health and Ecological Risk-Screening Assessments, Revision 1

LA-UR-20-22037

TECHNICAL AREA 16-399 BURN TRAY
HUMAN HEALTH AND ECOLOGICAL RISK-SCREENING ASSESSMENTS
REVISION 1.0

February 26, 2021

Prepared by:
TerranearPMC
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For:
Waste Management Programs
Environmental Protection and Compliance Division
Los Alamos National Laboratory
P.O. Box 1663 MS 969, Los Alamos, NM 87545

EXECUTIVE SUMMARY

The area around the open burn (OB) unit at Technical Area 16-399 (TA-16-399) Burn Tray (the Unit) within the Los Alamos National Laboratory (LANL) was sampled. Surface and subsurface soil and tuff samples were collected in May and August 2019 and analyzed for inorganic and organic compounds. Historic data from 2009, 2012, and 2013 were also included. Samples located within the soil removal area are not included in the risk assessment; however, confirmation samples collected in December 2019 located at the bottom of the excavated area are included in the analysis. Data from these samples were used to conduct human health and ecological risk-screening assessments.

For the human health risk-screening assessment, residential and industrial exposure scenarios were evaluated by comparing the maximum exposure point concentration for each analyte to the New Mexico Environment Department (NMED) soil screening levels (NMSSLs). The following conclusions are made:

- Inorganics were compared to background values (BVs) and risk-based screening levels (SLs). Eight inorganics, antimony, barium, cadmium, calcium, copper, lead, selenium, silver, and zinc exceeded their respective BVs. There were no BVs for nitrate and perchlorate. Barium was the only inorganic that exceeded its BV and any risk-based SLs. All other inorganics above the BVs, including lead, were below NMSSLs.
- Detected organics were compared to risk-based SLs. There were several organics detected, including some energetics and breakdown products, dioxin/furans, some semivolatile aromatic hydrocarbons (SVOCs), and petroleum hydrocarbons.
- Dioxin/furans were the only detected organic analytes for which the maximum concentration based on all data collected within the 2 ac area exceeded the residential NMSSL. The industrial and construction worker NMSSLs were not exceeded for any organics.
- The cumulative cancer risk (CCR) for residential use based on the maximum detected values for the 2 acre sampled area was 7E-05. The CCR based on the maximum detected concentration was 1E-05 for industrial and 2E-06 for construction workers.
- The Hazard Index (HI) for residential use based on the maximum detected values for the 2 acre sampled area was 9. The HI based on maximum detected concentrations for the construction worker scenario was 4. The HI for the industrial worker was less than 1.
- The upper 95th percent confidence limit (UCL95) was also used to estimate the refined exposure point concentration (EPC) in order to calculate the CCR and HI. CCR for residential use based on a UCL95 was 2E-05, largely due to dioxin/furans. The HI based on the UCL95 for the residential use scenario was 3, largely due to dioxin/furans. CCR for worker receptors was less than 1E-05. HIs based on UCL95 values used as the EPC were 1 or less for all workers.
- Refined EPCs for the 2 acre area for three detected analytes exceeded migration to groundwater screening levels. These were 2,4-dinitrotoluene, RDX, and 2,4,6-trinitrotoluene.
- Based on this analysis, there is some potential human health risk for a hypothetical future resident due to potential exposure to dioxin/furans. Workers at the Unit are not potentially at risk to dioxin/furans or other detected constituents.
- Three sample locations contributed the greatest dioxin/furan risk. These were RE16-12-17681, WST16-13-29795, and WST16-13-29797, which are outside of the SWMU boundary and likely not in an area for which contamination from the Unit could have contributed.
- Migration to groundwater NMSSLs were exceeded, however, the site is deemed to be a low-priority source for its potential impact to groundwater.

The analysis was repeated using data restricted to samples collected from within the Solid Waste Management Unit (SWMU) boundary. The smaller sample size and the focus on sampling from within the source area tends to increase the EPCs with the exception of the dioxin/furans, for which elevated concentrations were found outside the SWMU boundary. This suggests that these dioxin/furans may have been related to activities at other locations besides the Unit and are not increasing over time. The results showed no elevated cancer risk for residential use. No individual analytes had CRs above 1E-05, or hazard quotients (HQs) above 1, when the refined EPCs were applied. The HI based on refined EPCs was 2 for hypothetical future residents, and 1 or less for industrial or construction workers. Because residential use is not a foreseeable use in the near or distant future, there does not appear to be a significant risk to human health due to releases within the Unit. Migration to groundwater SLs were exceeded by barium, 2,4-dinitrotoluene, HMX, RDX, and TNT when only the data from within the SWMU boundary were considered.

Therefore, cancer risk is within the target risk level and the hazard level is only slightly higher than the target level documented in NMED guidance (2019) and should not pose an unacceptable risk to human health. Additionally, the Unit does not pose a source for potential soil-to-groundwater contamination, and all detected COPCs were present at concentrations less than residential soil screening levels for samples collected within the SWMU boundary. Although some migration to groundwater NMSSLs were exceeded, the site is deemed to be a low-priority source for its potential impact to groundwater. Lastly, the closure performance standard in the Closure Plan required achievement of residential clean-up levels to meet the clean closure requirements, and these performance standards are met for samples within the SWMU boundary.

Potential risk to ecological receptors was evaluated by analyzing different lines of evidence that were weighed to draw a conclusion regarding potential for adverse ecological effects. This included:

- Comparing maximum detected exposure point concentrations (EPC) to no effect (NE) ecological screening levels (ESLs) to obtain no effect HQs
- Comparing upper 95th percentile confidence limit EPCs to low effect (LE) ESLs to obtain low effect HQs
- Calculating hazard indices, which are the sum of the HQs
- Consideration of historic site-specific biological sampling
- Application of site-specific population area use factors (PAUF)
- Evaluating all the data from the general (2 ac) area and that from within the SWMU boundary separately

Maximum detected concentrations of several explosives (amino-2,6-dinitrotoluene[4-], HMX, PETN, RDX, TATB, TNT), benzoic acid, bis(2-ethylhexyl)phthalate, dioxin/furans, DRO, and some inorganics (i.e., antimony, barium, cadmium, copper, lead, selenium, silver, and zinc) exceeded NE ESLs with HQs above 0.1 for the 2 ac dataset. HIs based on maximum detected concentrations and the NE ESLs were above 1 for all receptors except the gray fox (*Urocyon cinereoargenteus*).

Refined EPCs based on the UCL95 concentrations for the 2 ac area exceeded LE ESL values for many of these same constituents. Barium, copper, lead, selenium, and zinc refined EPCs exceeded LE ESLs with HQs above 0.1. Refined EPCs for the explosives HMX, RDX, TATB, and TNT; bis(2-ethylhexyl)phthalate; and dioxin/furans resulted in HQs above 0.1. HIs were above 1 for all receptors except the American kestrel (*Falco sparverius*) modeled as a top carnivore, gray fox, and mountain cottontail (*Sylvilagus nuttallii*).

When exposure estimates were adjusted to account for the species home range by application of the PAUF, barium exceeded LE ESLs for robin, plants, and earthworms, and selenium exceeded LE ESLs for plants and deer mouse (*Peromyscus maniculatus*), with HQs above 0.1. HMX, RDX, and TATB exceeded LE ESLs for earthworm only, and bis(2-ethylhexyl)phthalate exceeded LE ESLs for insectivorous and omnivorous birds as represented by the robin and the deer mouse. The dioxin/furans exceed LE ESLs for deer mouse and shrew (*Sorex monticolus*) with HQs above 0.1. Once exposure was adjusted with the PAUFs, HIs exceeded 1 for robin, deer mouse, shrew, earthworms, and plants. The HIs were 10 or less.

The small mammal tissue study indicated little uptake of dioxins/furans by small mammals at TA 16 as a whole, as well as little effect on mammal populations. For birds, eggs analyzed for inorganics had antimony and mercury concentrations above egg background, but mercury concentrations were below known toxic levels. Antimony was detected in one of four egg samples and half of the soil samples, and so concentrations do not appear widespread. Toxicity data for birds for antimony were not obtained. Population metrics for birds were not statistically significantly different from controls.

Based on the soil dataset, there is minimal risk to ecological receptors for exposure to soils identified as the result of this screening analysis. The HIs for nearly half the ecological receptors based on exposure adjusted with PAUFs, refined EPCs, and LE ESLs are less than 1. The HIs are low and well within the expected error for the analysis, for which barium and RDX are the major contributing contaminants of potential ecological concern (COPECs). Additionally, the area is generally kept free of much vegetation because of the nearby operating site that will be used for the foreseeable future.

The analysis was repeated using data restricted to samples collected from within the SWMU boundary. The smaller sample size and the focus on sampling from within the source area tends to increase the EPCs with the exception of the dioxin/furans, for which elevated concentrations were found outside the SWMU boundary. This suggests that these dioxin/furans may have been related to activities at other locations besides the Unit. The HIs for nearly all ecological receptors based on refined EPCs, LE ESLs, and PAUFs are 1 or less than 1. The exceptions are for plants and earthworms, for which the HI is 20 and 4, respectively, and for the robin for which the HI is 2. These are low HIs and well within the expected error for the analysis, for which barium and bis(2-ethylhexyl)phthalate are the major contributing contaminants of potential ecological concern (COPECs).

Overall, the Unit does not pose an unacceptable risk to human health or ecological receptors, and it is recommended for clean closure in accordance with the Closure Plan, based on the closure performance standard (residential clean-up levels) outlined in the Closure Plan as well as the LANL Hazardous Waste Facility Permit.

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Attachments

List of Tables

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Acronyms and Abbreviations

ac	acre
ANFO	Ammonium Nitrate-Fuel Oil
AUF	Area Use Factor
bgs	Below ground surface
BV	Background Value
COPC	Contaminant of Potential Concern
COPEC	Contaminant of Potential Ecological Concern
CCR	Cumulative Cancer Risk
DRO	Diesel Range Organics
EPC	Exposure Point Concentration
ESL	Ecological Screening Level
GRO	Gasoline Range Organics
ha	Hectare
HE	High Explosive
HI	Hazard Index
HMX	Octahydro-1,3,5,7- Tetranitro-1,3,5,7- Tetrazocine
HQ	Hazard Quotient
HR	Home Range
LANL	Los Alamos National Laboratory
LD50	Lethal Dose for Half of the Population
LE	Low Effect
LOAEL	Lowest Observed Adverse Effect Level
MDL	Method Detection Limit
NE	No Effect
NMED	New Mexico Environment Department
NMSSL	New Mexico Soil Screening Levels
NOAEL	No Observed Adverse Effect Level
OB	Open Burn
PAUF	Population Area Use Factor
PETN	2,2-bis[(nitroxy)methyll-1,3-propanediol dinitrate
RDX	Cyclo-1,3,5-Trimethylene-2,4,6-Trinitramine
RfD	Reference Dose
RSL	USEPA Regional Screening Level
RSRL	Regional Statistical Reference Levels
SF	Cancer Slope Factor
SL	Screening Level
SSLs	Soil Screening Levels
SVOC	Semi-Volatile Organic Chemical
SWMU	Solid Waste Management Unit
TA	Technical Area
TATB	Triamino Trinitrobenzene
TECi	Toxicity Equivalent Concentration for congener ***i***
TEF	Toxicity Equivalency Factor
TEQ	Toxicity Equivalent Quotient
TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
TNT	2,4,6-Trinitrotoluene
UCL95	95% Upper Confidence Limit On The Mean
VOC	Volatile Organic Chemical
WHO	World Health Organization
WOE	Weight of Evidence

1. INTRODUCTION

Technical Area -16 (TA-16) is located in the southwestern portion of LANL at the west end of the Pajarito Plateau near the foothills of the Jemez Mountains (Figure 1-1). The TA-16 Burn Ground consists of the TA-16-388 Flash Pad and the TA-16-399 Burn Tray co-located with several Solid Waste Management Units in the immediate area. Only the TA-16-399 Burn Tray (the Unit) is addressed by this risk assessment conducted in support of *Final Action and Response to Comments Closure Plan for Technical Area 16-399 Open Burn Unit, Los Alamos National Laboratory, EPA ID #NM0890010515* (Closure Plan). The surface media at the TA-16 Burn Ground includes soil, debris, vegetation, and rocks. Only soil was sampled for this investigation. Sampling to identify potential contaminants was conducted in 2009, 2012, 2013, and May and August 2019.

The Unit is located in the northeast portion of TA-16. Elevation ranges from approximately 7,700 feet at the west end of the TA to approximately 6,800 feet at the lower east end. Topography varies from steep canyon walls to sloping mesa tops. The open burn (OB) units were managed by the high explosives (HE) engineering personnel who were responsible for the safe treatment, storage, and handling of HE waste and HE contaminated wastes generated by the HE production facilities at LANL. The Unit was a 4-ft by 16-ft covered steel tray lined with firebricks and supported by 1.5-ft high legs on wheels with tracks. It included a concrete pad with an electrical panel and is surrounded by a chain-link fence. The maximum treatment capacity of the Unit was 1000 pounds of waste per burn.

Sampling to identify potential contaminants was conducted in May and August 2019 in accordance with the Closure Plan. Sampling from past activities in 2009, 2012, and 2013, as well as samples collected post soil excavation (December 2019) have been included in this revised assessment per direction by the New Mexico Environment Department- Hazardous Waste Bureau (NMED-HWB) in correspondence dated November 18, 2020. The Unit was used to treat a single waste stream by open burning to destroy the characteristic of reactivity (D003). The bulk of explosives in the waste stream were: octahydro-1,3,5,7-tetranitro-1,3,5,7- tetrazocine (HMX); cyclo-1,3,5-trimethylene-2,4,6-trinitramine (RDX): 2,2-bis[(nitroxy)methyll-1,3-propanediol dinitrate (PETN); 2,4,6-trinitrotoluene (TNT); and triamino trinitrobenzene (TATB). Additionally, mixtures of explosives including ammonium nitrate-fuel oil (ANFO), Composition B, Cyclotol, IMX-101, PBX 9404, PBX 9407, PBX 9501, PBX 9502, X0233, X0533, XTX 8003, XTX 8004, LX-02, LX-07, LX-10, and LX-14 were treated. Records of waste treated at the Unit from 1951 to1980 were not available, and therefore analysis of target analyte metals, nitrates, perchlorate, volatile organic chemicals (VOCs), semi volatile organic chemicals (SVOCs), diesel range organics (DRO), gasoline range organics (GRO), dioxins/furans, and HE degradation products were added to the analytical suite required by the Closure Plan. Samples collected in 2009, 2012, 2013, and 2020 were not analyzed for all parameters. The relevant analytical data for those sample collection events are included to support site characterization in evidence of meeting the closure performance standard within Section 4.1, *Closure Performance Standard* of the Closure Plan.

Human health and ecological risk-screening assessments were conducted using the soil samples mentioned above. NMED (2019) guidelines use 0 to 1 foot depth for industrial worker SL and 0 to 10 foot depth for residential and construction worker SLs. For ecological receptors, surface soil is considered to be 0 to 1 foot for non-burrowing animals and shallow rooted plants, and 0 to 10 feet for burrowing animals and deep rooted plants. For this project, all soil samples were collected from 0 to 1 foot below ground surface (bgs). This data set is representative of site conditions; however, it is a depth limited dataset representing exposure for all receptors. The results of the risk-screening assessments are presented in the following sections.

1.1. CONCEPTUAL SITE MODEL

The primary land use is industrial because only authorized Laboratory workers currently have access to the area around the TA-16 Burn Ground. Laboratory workers are the primary human receptors, and the industrial scenario is the defining scenario for the human health risk-screening assessment (i.e., the scenario on which decisions are based). Because the site is located within the boundaries of an operational facility (TA-16), the reasonably foreseeable future land use will continue to be industrial. A Hypothetical Future Residential and a construction worker exposure are also assessed and provided for comparison purposes.

The release of contaminants from open burn operations has occurred for more than 50 years. Releases are transported primarily by wind, which rapidly disperses the material in ambient air. Most material is deposited close to the source(s) and concentrations decrease with distance from the source. Exposure to a site worker may occur through various surface soil contact pathways. Data for both surface and subsurface soil depths were combined for the human health risk assessment. The exposure interval for industrial workers is 0 to 1 foot below ground surface (bgs), and 0 to 10 feet bgs for residential use and construction workers. Since all data fall within 0 to 1 foot, the available data set was used for all receptors.

Potential exposure pathways are:

- Incidental ingestion of surface soil
- Inhalation of fugitive dust or volatiles emanating from surface soil
- Dermal contact with surface soil

The primary ecological exposure pathways are also based on direct or indirect contact with surface soils. These include root uptake, incidental ingestion of soil, and biotic uptake leading to food-web transport. Exposure of plants and soil invertebrates is not related to dietary pathways but is the result of direct contact with, and uptake from, the surrounding medium. For terrestrial wildlife, most exposure is through the oral pathway from the diet and incidental ingestion of soil (Sample et al. 1998). The dermal contact and inhalation pathways are not typically assessed quantitatively in ecological risk assessments, based on guidance indicating the ingestion route is most important to terrestrial animals (EPA 1997; EPA 2003). Dermal exposure to wildlife is mitigated by the fur or feathers covering the bodies of most vertebrates and the incidental consumption of soil during grooming is included in the direct soil ingestion estimates.

Respirable dust particles are most likely ingested rather than inhaled, and this pathway is negligible (EPA 1997; EPA 2003), while non-respirable dust is ingested and accounted for in incidental soil ingestion values for wildlife species (EPA 1993; EPA 2003). Therefore, the exposure pathways considered in the development of the ecological screening levels (ESLs) used in the risk-screening assessment capture the primary exposure for wildlife receptors, which are soil and dietary ingestion.

Grazing animals are not considered to be a potential pathway of exposure for human health. Per NMED (2019) cattle must be considered to determine if beef ingestion is a likely exposure pathway on sites greater than 2 acres in size. While the total area where all of the samples collected is approximately 2 acres, the fenced portion of the Unit is a total of approximately 9,000 square feet, which is about 0.26 acres (ac). This is equivalent to 0.1 hectare (ha). The slightly larger area within the SWMU boundary is 0.64 ac (0.26 ha). The fence provides some deterrence of animals into the area. The dominant land cover type around the unit is a ponderosa pine (*Pinus ponderosa*) forest with a shrub component of Gambel oak

(*Quercus gambelii*) and mountain mahogany (*Cercocarpus montanus*). Large game animals are common in the forested areas around the Unit. Within the Unit, ground cover is primarily comprised of rocky or bare soil with plants dispersed irregularly. The plant species present are mostly early successional species, often non-native, that tend to do well in disturbed habitats, including cheatgrass (*Bromus tectorum*), rubber rabbitbrush (*Ericameria nauseosa*), broom snakeweed (*Gutierrezia sarothrae*) and common mullein (*Verbascum thapsus*). Large mammals lack adequate cover, forage, or water at the Unit and generally stay out of the area.

1.2. Risk Assessment Dataset

The risk assessment dataset contains current and historical data. Twelve surface soil samples including one duplicate were collected in May and August 2019 for a total of 11 grid points sampled. Soil samples were collected as grab samples (independent, discrete samples) from a depth of 0 to 2 inches below ground surface and 2 to 12 inches. Samples were analyzed for the following:

- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Total Metals
- Dioxins/Furans
- Perchlorate
- High Explosives and Degradation products
- Nitrates
- DRO and GRO

In addition, inorganics and dioxin/furan samples from 2009, as well as samples of inorganics and organics from 2012 and 2013 were included in the risk assessment dataset. Lastly, high explosives samples collected in 2020 from an area at the site where soil was excavated, to ensure removal of explosives contamination. There are 24 to 39 samples for most analytes in the overall sampled area. There are 19 to 21 samples for most analytes collected from within the SWMU boundary. Figure 1-1 shows a map of the site including all sampling locations from which data were obtained for use in the risk assessment. Figure 1-2 shows the soil excavation area and zooms in to the SWMU boundary at the site. Figures 1-3, 1-4, and 1-5 depict concentration maps for various constituents that are helpful to see spatially.

2. HUMAN HEALTH RISK ASSESSMENT

2.1. Identification of Chemicals of Potential Concern

2.1.1. Comparison of Inorganic Analytes to Background

Inorganic analytes are first compared to background values (BV) established for the site (LANL 1998). No further evaluation is necessary for analytes for which the maximum is less than the BV, and these data are not compared to NMED (2019) risk-based soil screening levels (NMSSLs). Organic analytes are not compared to background values as a matter of standard practice, although there are naturally occurring sources of organic constituents

2.1.2. Comparison of Maximum EPCs to NMSSLs

Maximum concentrations of all detected analytes are compared to NMSSLs. Some organic analytes (2,4- and 2,6- dinitrotoluene, dinitrobenzenes) were evaluated by more than one method, resulting in an apparently higher sample count. The presence of duplicate samples also could provide one sample that is higher than the other. The maximum concentration regardless of the method was used as the maximum exposure point concentration (EPC), which is the environmental concentration to which the receptors are potentially exposed.

2.1.3. Surrogates

Where an NMSSL was not available, the USEPA Regional Screening Level (RSL) for residential soils was applied as an SL for residential use, and the RSL for industrial commercial soil was used as the SL for industrial and construction workers. Cancer-based RSLs were adjusted to a cancer risk (CR) level of 1E-05 by multiplying the RSL by 10; noncancer RSLs were based on a hazard quotient (HQ) of 1. If an RSL was also not available, a suitable surrogate is proposed if physicochemical data suggest identifying a suitable surrogate. Most of the surrogates are proposed for nondetected analytes in order to verify that method detection limits (MDLs) are suitable for performing risk assessment. Surrogates were obtained for the following analytes because NMSSLs were not available (Table 2-1); note that most of these are not detected, and the NMSSL is used to verify reporting limits are adequate:

- 2,4-Diamino-6-nitrotoluene – There is no NMSSL or RSL. Use o-nitrotoluene RSLs, which has both cancer and noncancer RSL values, and the lowest of the nitrotoluene isomer cancer RSLs.
- 2,6-Diamino-4-nitrotoluene – Use o-nitrotoluene RSLs, which has both cancer and noncancer RSL values, and the lowest of the nitrotoluene isomer cancer RSLs.
- 3,5-Dinitroaniline – There is no NMSSL. Use the amino-2,6-dinitrotoluene[4-] RSL as surrogate based on structural similarity.
- Acenaphthylene – There is no NMSSL or RSL. The NMSSLs for acenaphthene were used as a surrogate based on structural similarity.
- Amino-2,6-dinitrotoluene[4-] – There is no NMED NMSSL. The RSLs were used as a surrogate.
- Amino-4,6-dinitrotoluene[2-]– There is no NMED NMSSL. The RSLs were used as a surrogate.
- Aniline - There is no NMSSL. The RSLs were used as a surrogate.
- Azobenzene - There is no NMSSL. The RSLs were used as a surrogate.
- Benzo(g,h,i)perylene – There is no NMSSL or RSL. The NMSSLs for benzo(a)pyrene were used as a surrogate.
- Benzoic Acid - There is no NMSSL. RSLs were used as a surrogate.
- Benzyl Alcohol- There is no NMSSL. RSLs were used as a surrogate.
- Bis(2-chloroethoxy)methane- There is no NMSSL. RSLs were used as a surrogate.
- Bromobenzene - There is no NMSSL. RSLs were used as a surrogate.
- Bromochloromethane - There is no NMSSL. RSLs were used as a surrogate.
- Bromophenyl-phenylether[4-] – There is no NMSSL or RSL. The RSL for pentabromodiphenyl ether was used.
- Butylbenzene isomers – There are no NMSSLs. The RSLs are used as surrogates.
- Butylbenzylphthalate – There are no NMSSLs. The RSLs are used as surrogates.
- Chloro-3-methylphenol[4-]– There are no NMSSLs. The RSLs are used as surrogates.
- Chloroaniline[4-] – There are no NMSSLs. The RSLs are used as surrogates.

- Chlorophenyl-phenyl[4-] Ether– There is no NMSSL or RSL. No recommendation for a surrogate is made.
- Chlorotoluene[4-] – Use the NMSSLs for the o-chlorotoluene isomer because the RSLs for the two isomers are the same.
- Dibenzofuran – There are no NMSSLs. The RSLs are used as surrogates.
- Dichlorobenzene[1,3-] – There is no NMSSL or RSL. The NMSSLs for 1,4-dichlorobenzene were used as it may be the more toxic isomer considering it has cancer-based as well as noncancer-based endpoints.
- Dichloropropane[2,2-] – There is no NMSSL or RSL. The NMSSLs for 1,2-dichloropropane were used. The RSL is higher for 1,3 than 1,2 dichloropropane, and therefore this is considered conservative.
- Dichloropropane[1,3-] – There is no NMSSL. The NMSSLs for 1,2-dichloropropane were used.
- Dichloropropene[1,1-] – There is no NMSSL or RSL. The NMSSLs for 1,3-dichloropropene were used.
- Dichloropropene[cis-1,3-] – There is no NMSSL or RSL. The NMSSLs for 1,3-dichloropropene were used.
- Dichloropropene[trans-1,3-] – There is no NMSSL or RSL. The NMSSLs for 1,3-dichloropropene were used.
- Dimethyl phthalate– There is no NMSSL or RSL. The NMSSLs for diethyl phthalate were used.
- Dinitrobenzene[1,3-] – There are no NMSSLs. The RSLs are used as surrogates.
- Di-n-octylphthalate – There are no NMSSLs. The RSLs are used as surrogates.
- Diphenylamine – There are no NMSSLs. The RSLs are used as surrogates.
- Hexanone[2] – There are no NMSSLs. The RSLs are used as surrogates.
- Iodomethane – There is no NMSSL or RSL. No recommendation for a surrogate is made.
- 4-Isopropyltoluene – There is no NMSSL. The NMSSL values for toluene were used as a surrogate.
- Methylphenols – There are no NMSSLs for these compounds. The RSLs were applied for 2- and 4- methylphenol. The RSLs for 3-methylphenol were used for 3,4-methylphenol as most conservative option.
- Nitroanilines – There are no NMSSLs for these compounds. The RSLs were applied for 2- and 4-nitroaniline. The RSL for 4-nitroaniline was applied to 3-nitroaniline.
- Nitrophenols – There are no NMSSLs or RSLs for these compounds. The RSLs for phenol were applied for 2- and 4-nitrophenol.
- Nitroso-di-n-propylamine[N-] – There are no NMSSLs for these compounds. The RSLs were applied.
- PETN - There is no NMSSL for PETN. RSLs were used as a surrogate.
- Propylbenzene[1-] – There are no NMSSLs. The RSLs are used as surrogates.
- Pyridine– There are no NMSSLs. The RSLs are used as surrogates.
- 1,3,5-Trinitrobenzene – There is no NMSSL. RSLs for 1,3,5-trinitrobenzene were used as a surrogate.
- TATB – There is no NMSSL or RSL for TATB. RSLs for 1,3,5-trinitrobenzene were used as a surrogate because of structural similarity.

- Trimethylbenzenes – There are no NMSSLs. The RSLs are used as surrogates.
- Tris (o-cresyl) phosphate – There is no NMSSL or RSL. The RSL for tris(2-ethylhexyl)phosphate was applied as a similar structure without halogen substitutions.

2.1.4. Calculation of Hazard Index or Cumulative Cancer Risk

Noncancer HQs are calculated as follows using the NMSSL based on noncancer endpoints:

$$HQ = EPC/NMSSL$$

A Hazard Index (HI) was calculated by summing all of the HQs as follows:

$$HI = \sum HQ1, HQ2, \dots$$

A CR was calculated as follows using the cancer-based NMSSL for each receptor and adjusting from a ratio to a cancer risk:

$$CR = \frac{EPC}{NMSSL} * 1 \times 10^{-5}$$

A Cumulative Cancer Risk (CCR) was calculated by summing the cancer risks for each detected analytes as follows:

$$CCR = \sum CR1, CR2, \dots..$$

If the HI exceeded 1, or the CCR exceeded 1E-05, a 95% upper confidence level (UCL95) was calculated for all contaminants of potential concern (COPCs) with the USEPA ProUCL 5.1.002 software (EPA 2015). These UCL95 concentrations were then compared to the NMSSLs.

2.2. SCREENING EVALUATION

For the initial screening evaluation step, for both organics and inorganics, the maximum detected value for each analyte was used as the EPC. This is conservative in that the EPC is compared to both the cancer and noncancer-based screening levels by dividing the maximum value by the screening level. The cancer based ratio is converted to a cancer risk by multiplying by 1E-05.

In addition, reporting limits for nondetected analytes were evaluated in order to avoid dropping contaminants from the analysis prematurely. Matrix interference can lead to elevated MDLs in individual samples, whereas for some analytes with high toxicity, detection limits below NMSSLs cannot be readily attained.

In the NMED (2019) screening process, if the HI and CCR are below targets of 1 and 1E-05, then the evaluation into human health risks concludes that there is no elevated noncancer hazard or cancer risk. If the maximum HI or CCR exceeded target levels of 1 or 1E-05, respectively, evaluation was continued with the UCL95 used as the refined EPC for the comparison. For this step in the screening process, the higher of the two values in the duplicate pair was used in the statistical calculation. There were more than 8 samples for every analyte; for most analytes there were 24 to 29 samples. If there were too few detected concentrations reported to allow calculation of a UCL95 (i.e., number of detections <5), the median of all the detected data for the analyte was used. This is consistent with NMED (2019) and EPA (2015) guidance that states that UCLs should not be calculated when the number of detections is low, and a more robust statistic, such as the median, should be applied.

Guidance from NMED (2019) was used to evaluate dioxin/furan concentrations. This guidance relies on the 2005 World Health Organization (WHO) toxicity equivalency factors (TEF) (Van den berg et al. 2006) approach. The TEFs are multiplied by the measured concentration to obtain a congener-specific product called the toxicity equivalent concentration (TECi), and the product for each TECi is summed for each sample location. This sum is referred to as the toxicity equivalent quotient (TEQ). The TEQ is divided by the NMED screening level for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) to obtain a risk ratio.

The toxicity of the various constituents analyzed in this investigation is incorporated into the screening levels. Screening levels are the abiotic media concentration at which toxic effects are not expected (i.e., a noncancer hazard quotient would equal 1, or a cancer risk would equal 1×10^{-5}), for a stated exposure scenario with default exposure parameters as defined by NMED (2019). Thus, when the concentration at the Unit is less than the screening levels, it is less than expected toxic levels.

The following sections present the human health risk-screening assessment for the Unit. The maximum EPC for each detected analyte was compared with the industrial worker, construction worker, and hypothetical future resident soil SLs. The NMSSLs used in the evaluations were obtained from current NMED guidance (NMED 2019). The NMSSLs for carcinogens are equivalent to a 1×10^{-5} cancer risk, and for noncarcinogens the NMSSLs correlate to a HQ of 1. The HI was calculated by summing the HQs (NMED 2019), and the CCR was calculated by summing the CRs. Detected organic analytes were considered COPCs. Any detected inorganic analyte that exceeded background was also considered a COPC.

2.2.1. Data Analysis

Table 2-2 presents summary statistics. Maximum concentrations in the soil samples analyzed for inorganics were compared to the established soil BVs (LANL 1998) (Table 2-3). Data for both surface and subsurface soil depths were combined for the human health risk assessment. The exposure interval for industrial workers is 0 to 1 foot bgs, and 0 to 10 feet bgs for hypothetical future residents and construction workers. Since all data fall within 0 to 1 foot, the available data set was used for all receptors.

2.2.2. Comparison to Background

The maximum detected result was used as the initial EPC (Table 2-3) and compared to background. Background values for the site are from the 1998 background report (LANL 1998), and soil screening levels are the NMSSLs (Table 2-1). There were no BVs for perchlorate or nitrate. The maximum concentration for the following inorganics exceeded BVs, and they were carried forward, in addition to retaining perchlorate and nitrate:

- Antimony
- Barium
- Cadmium
- Calcium
- Copper
- Lead

- Selenium
- Silver
- Zinc

2.2.3. Maximum EPC for Inorganics

None of the inorganics exceeded NMSSLs for the hypothetical future resident or industrial worker. Maximum concentrations of barium exceeded the noncancer NMSSL for the construction worker (Table 2-3). For inorganic analytes, no reporting limits exceeded NMSSLs.

2.2.4. Maximum EPC for Organics

Organics were detected in the surface soil samples (Table 2-2). These include energetics or explosives (e.g., HMX, RDX, TNT, PETN, and TATB) and TNT degradation products (e.g., 2,4-diamino-6-nitrotoluene and 2,6-diamino-4-nitrotoluene). SVOCs including anthracene and bis(2-ethylhexyl)phthalate were also detected (Table 2-2), as was total petroleum hydrocarbon DRO. No detected organics exceeded the NMSSLs for residents, industrial workers, or construction workers with the exception of dioxin/furans.

Some nondetected analytes had MDLs in excess of NMSSLs, including the following analytes:

- N-nitrosodimethylamine MDLs were consistently higher than the residential cancer NMSSLs.
- Nitroso-di-n-propylamine[N] had one MDL that was higher than the residential cancer-based NMSSL, but all other MDLs were adequate.
- Dibenzo(a,h)anthracene had one MDL that was higher than the residential cancer-based NMSSL, but all other MDLs were adequate.
- Bis(2-chloroethyl)ether exceeded cancer-based NMSSLs for the construction worker in one sample only. All other MDLs were adequate.

Analytes exceeding MDLs are further addressed in the Uncertainty Analysis.

2.2.5. Results Based on Maximum Exposure Point Concentrations

The CCR based on the maximum detected value for residents was 7E-05, higher than the target level of 1E-05 (Table 2-4). Dioxin/furan maximum concentrations were higher than the NMSSL for residential use.

The HI based on the maximum EPC for residents was 9 (Table 2-4). The HI based on the maximum EPC for the construction worker was 4. Industrial worker HI estimates were below target levels of 1. The results indicate that refining the EPCs is the appropriate next step.

The evaluation of the dioxin/furans is summarized in Tables 2-5 through 2-7. The TEFs for human health are reported in Table 2-5. The measured concentration or the MDL is shown for each congener in each sample (Table 2-6). The detection status is indicated by a zero for nondetects, and a 1 for a detected value. The TEFs are multiplied by the concentration which produces the TECi. Nondetects were not used to calculate the TECi. Summing the TECi yields the TEQ (Table 2-6). Dividing the TEQ for each sample by the NMSSL for 2,3,7,8 TCDD, shown in Table 2-1, produces a CR or noncancer HQ (Table 2-7). Dioxin/furans were the only organics that exceeded risk-based screening-levels (Table 2-7). The TEQ results are also shown in Table 2-4.

2.2.6. Results Based on Refined Exposure Point Concentrations

The initial risk analysis was based on comparison of the maximum detected value as the EPC. The refined EPCs based on the UCL95 are shown in Table 2-8. Appendix A presents the ProUCL output. A UCL was only calculated if there were 5 or more detected values (NMED 2019). The CCR based on the refined EPC and the NMSSL for residential use is 2E-05, and the HI is 3 (Table 2-9). The CCR and the HI for worker receptors are below the targets of 1E-05 and 1, respectively.

Dioxin/furans exceed the residential cancer and noncancer NMSSLs. There are three dioxin/furan samples that cause the EPC to exceed screening levels. These are RE16-12-17681, WST16-13-29795, and WST16-13-29797 (Table 2-7). This is addressed further in the Uncertainty Analysis by evaluating the data for samples only collected from within the SWMU boundary.

2.2.7. Lead

Lead is evaluated separately from other inorganics. The USEPA RSL for lead was used as the screening level (NMED 2019). The maximum lead concentration of 228 mg/kg was below the residential RSL of 400 mg/kg, and below the industrial RSL of 800 mg/kg (EPA 2020). Lead is not a COPC at the Unit.

2.2.8. Migration to Groundwater

The maximum detected value (Table 2-2) of each analyte was used as the EPC and divided by the Migration to Groundwater NMSSLs for a dilution attenuation factor (DAF) of 20 (Table 2-1). Maximum concentrations of barium, 2,4-dintrotoluene, HMX, RDX, and 2,4,6-trinitrotoluene exceeded the migration to groundwater SLs (Table 2-4).

The refined EPC based on UCL95 concentrations of 2,4-dinitrotoluene, RDX, and TNT also exceeded the NMSSL based on a DAF of 20 (Table 2-9). The highest ratio was 300 for RDX. All other ratios were below 5.

LANL has established a groundwater monitoring network to assess the quality of groundwater in the Los Alamos area. The monitoring network includes monitoring wells, water-supply wells, surface-water sampling stations, and springs located both inside and outside the LANL boundary. Three groundwater zones (alluvial, perched-intermediate, and regional groundwater) are monitored as part of the monitoring network. Sample locations, analytical suites, and sampling schedules for the monitoring network are identified in the LANL Interim Facility-Wide Groundwater Monitoring Plan (LANL 2020b) that is updated annually.

A hydrologic conceptual model for TA-16, including the area of the TA-16 Burn Ground, is presented in the TA-16 Well Network Evaluation and Recommendations (LANL 2012b). That document ranks different sources at TA-16 by their potential to impact groundwater. High- and moderate-ranking sources were characterized by significant hydrologic drivers, i.e., either large outfall volumes released to canyons or ponds located on mesa tops. Sources were also characterized in terms of the release of large inventories or high contaminant concentrations. Both of these conditions are necessary to consider an area to have a high or moderate impact to groundwater. The TA-16 Burn Ground area was ranked as a low-priority source for its potential to impact groundwater, because it lacks both a large contaminant inventory and a large volume of water to provide a hydrologic driving force for contaminant infiltration.

2.3. UNCERTAINTY ANALYSIS

The human health risk assessment has inherent uncertainties associated with data and data evaluation, exposure assessment, and the toxicity values on which the SLs are based. Each or all of these uncertainties may affect the assessment results, biasing the risk assessment results high or low.

2.3.1. Data and Data Analysis

Uncertainties in the data or its analysis may include errors in sampling, laboratory analysis, and data analysis. Data evaluation uncertainties are expected to have little effect on the assessment results because the data have undergone validation to minimize errors, and any errors are not expected to bias the results high or low. The J-flagged (estimated) qualification of detected concentrations of some organic COPCs does not affect the assessment by biasing results high or low, but can introduce some additional uncertainty in the result.

The use of the maximum and UCL95 as the EPC for each COPC is expected to bias risk estimates high, erring towards being conservative. Use of the maximum as the EPC overestimates exposure, as all other concentrations are below this value. Use of the UCL95 also results in an overestimation of risk since mean values are nearly always less than this value for typical contaminant distributions.

Data collected from outside of the SWMU boundary can act to dilute or decrease the EPC. This is because data from outside of the source area are expected to have lower concentrations. In addition, calculating statistics on a smaller sample size results in slightly higher UCL95s. When the dataset is restricted to samples collected from within the SWMU boundary, EPCs tended to be higher with the exception of the dioxin/furans, for which the highest samples fell outside of the SWMU. The risk results based on the samples from within the SWMU boundary are as follows (Table 2-11-17):

- The CCR based on the maximum detected value for residents was 1E-05, which meets the target level of 1E-05 set by NMED (Table 2-13). The CCR for industrial and construction workers is 3E-06 and 4E-07, respectively. The HI based on the maximum EPC for residents was 4 (Table 2-13). The HI based on the maximum EPC for the construction worker was 3. Industrial worker HI estimates were below target levels of 1.
- The CCR based on the refined EPC and the NMSSL for residential use is 1E-05, and the HI is 2 (Table 2-17). The CCR for industrial and construction worker receptors are below the target of 1E-05. The HI is less than or equal to 1 for the industrial and construction workers. All individual CR and HQ values for these receptors are less than targets of 1E-05 and 1.
- The maximum lead concentration for data within the SWMU boundary was the same as for the entire dataset. The maximum value of 228 mg/kg was below the residential RSL of 400 mg/kg (HQ of 0.6), and below the industrial RSL of 800 mg/kg (HQ of 0.3)
- Maximum concentrations of barium, 2,4-dintrotoluene, HMX, RDX, and 2,4,6-trinitrotoluene exceeded the migration to groundwater SLs (Table 2-13). The refined EPC based on UCL95 concentrations of barium, 2,4-dintrotoluene, HMX, RDX, and TNT also exceeded the NMSSL based on a DAF of 20 (Table 2-17). The highest ratio was 300 for RDX, as for the full dataset. All other ratios were 4 or less, which is slightly lower than the full dataset. 2,4-dinitrotoluene was detected in one sample only and a refined EPC was not calculated.

2.3.2. MDLs in Excess of NMSSLs

The concern when MDLs are higher than NMSSLs is that the analyte is present below detection levels at concentrations that could produce risk. In general, project MDLs were satisfactory. The following nondetected analytes had MDLs in excess of NMSSLs for residents or worker receptors (Table 2-10):

- Bis(2-chloroethyl)ether – MDLs exceeded cancer-based NMSSLs for the construction worker in one sample only (WST16-19-181358); the cancer risk was 2E-05. All other MDLs were adequate relative to risk-based SLs. Although records from 1951 to 1980 are not available for the Unit, physicochemical data indicate that this analyte would not remain in the environment even if it existed at one time. Volatilization of this compound is expected to be slow but significant (ATSDR 2017), and half-life in water is 3.4 d. It is soluble in water and not expected to adsorb to soils. The half-life for degradation in soils is 16.7 day (0.042 d^{-1}), and after 48 days the rate increased to 8 days (0.086 d^{-1}), possibly due to microbial acclimation. It has been detected in soil in only 0.4% of Superfund sites (ATSDR 2017).

- Dibenzo(a,h)anthracene – One sample (WST16-19-181358) had an MDL that was higher than the residential cancer-based NMSSL; the cancer risk for this MDL was 2E-05. All other MDLs were adequate. It is unlikely that this analyte is present. Few other polynuclear aromatic hydrocarbons were detected. Similar compounds that were detected (i.e., anthracene) did not have detected values in excess of NMSSLs.

- N-nitrosodimethylamine – MDLs were consistently higher than the residential cancer NMSSL. Although records from 1951 to 1980 are not available for the Unit, physicochemical data indicate that this analyte would not remain in the environment even if it existed at one time. ATSDR (1989) states that this compound will not persist as it evaporates from soil, degrades on exposure to sunlight, or migrates into the subsurface, where it should breakdown within several months in subsurface soils. Degradation of NDMA at 21 ^{o}C had a half-life of 4.1 days for ground cover soil, 5.6 days for turfgrass soil, and 22.5 days for tree soil (Yang et al. 2005). These short half-lives indicate that under environmental conditions this analyte would not be expected to occur in the 40 years following absence of records (i.e., 146,00 days).

- Nitroso-di-n-propylamine[N-] – One sample (WST16-19-181358) had an MDL that was higher than the residential cancer-based NMSSL; the cancer risk for this MDL was 4E-05. All other MDLs were adequate. It is unlikely that this analyte is present given that all other MDLs were adequate. A liquid at room temperature, it is only slightly soluble in water. Similar amines have very short environmental half-lives (i.e., n-nitrosodimethylamine).

Numerous nondetected organics had MDLs in excess of the migration to groundwater SL:

- There were several analytes for which elevated MDLs occurred due to elevated reporting limits for only one sample (WST16-19-181358). These were 2,4-dichlorophenol, 2,4-dinitrophenol, naphthalene, pentachlorophenol, and trichlorophenol[2,4,6-]. The remaining 23 or more samples had adequate reporting limits, suggesting that the analytes are adequately characterized. Additionally three other samples have been collected from approximately the same location (WST16-19-181357, RE16-12-17675, and RE16-12-17676), that do not display the same elevated reporting limits.

- Dinitro-2-methylphenol[4,6-] MDLs are consistently above the migration to groundwater SLs; however, this compound is expected to be removed from soil within 14 hours to 2 months (Environment Canada 2009).

- All of the MDLs for 2,6-dinitrotoluene exceeded the SL for migration to groundwater. These compounds are expected to undergo photolysis, and based on the short half-life of 43 hours or less in water, they are not expected to be stable in soils (Pubchem 2021a).

- Hexachlorobenzene – only three MDLs exceeded the migration to groundwater SL. All others were well below the screening level, suggesting that this analyte is adequately characterized.

- Hexachlorocyclopentadiene MDLs exceed the migration to groundwater SL. Although records from 1951 to 1980 are not available for the Unit, physicochemical data indicate that this analyte would not remain in the environment even if it existed at one time. Kloskowski et al. (1981) used a model ecosystem and radiolabeled hexachlorocyclopentadiene to study degradation rates in soil and found that after 7 days approximately 19.5% of the original radioactivity was recovered as radiolabeled CO_2. WHO (1991) stated that soil degradation is rapid under non-sterile aerobic and anaerobic conditions and that the persistence in soil is brief, with degradation of more than 90% of applied compound to non-polar degradation products within approximately 7 days.

- Hexachloroethane MDLs all exceeded the migration to groundwater SLs. It is not persistent in soil, with 99% loss within 4 days to 4 weeks (ATSDR 1997).
- Nitrobenzene MDLs all exceeded the migration to groundwater SLs. It is not persistent in soil, with a half-life of approximately 19 days (WHO 2003).
- N-nitrosodimethylamine – MDLs were consistently higher than the migration to groundwater NMSSL. As discussed above, this compound is not persistent in soil.
- 2- or 3-Nitrotoluene – All MDLs of these compounds exceeded the migration to groundwater SL. The half-life for biodegradation of 2-nitrotoluene from soil is 300 days (IARC 2018), and it undergoes photolysis and it is expected to volatilize from moist soil. A similar compound, 4-nitrotoluene, was completely biodegraded in sludge 21 days in one study and 95% biodegraded in 5 days in another; half-life in water was estimated as 45 minutes (Pubchem 2021b) to 5.9 hours (OECD 2003).
- Oxybis(1-chloropropane)[2,2'-] – All MDLs exceeded the migration to groundwater SL. Synonym is bis(2-chloroisopropyl)ether. Half-life in water is 3 to 59 days, and 85% to 100 % was found to biodegrade in 7 days (Guidechem 2021). One source indicates the half-life in soil ranges from 18 days to 6 months (Howard et al. 1991). A similar compound (bis(2-chloroethyl)ether) discussed above is not persistent in soils.
- Trichloropropane[1,2,3-] – Volatilization from moist soil surfaces is expected based on an estimated Henry's Law constant of 3.43×10^{-4} atm-m^3 /mole, as well as from dry soil surfaces based on a low vapor pressure. Half-life in surface water is 7 hours to 6 days (Pubchem 2021c). Biodegradation under aerobic conditions in silty and sandy loam soil samples resulted in a degradation half-life of 2.7 days (ECHA 2021).

Not retaining any of these nondetected analytes as COPCs is unlikely to bias risk estimates low because the lines of evidence indicate there is little likelihood that significant concentrations of them would be expected in soil. In general, few organic compounds are detected at the Unit. The nondetected ones with MDLs above SLs are not persistent, and many have elevated MDLs in only one to a few samples.

2.3.3. Exposure Assessment

The exposure assessment assumptions bias the risk results high (overestimate risk). Assumptions for the industrial SLs are that the potentially exposed individual is a Laboratory worker who is outside at the site for 8 h/d for 225 d/yr (NMED 2019), and who spends the entire 8 h on-site within the contaminated area. Assumptions for the residential SLs are that the potentially exposed individual is a resident who is present 24 h/d for 350 d/yr (NMED 2019) and spends the entire 24 h on-site within the contaminated area. Construction workers are considered to be short-term workers but exposed at high rates. Because it is unlikely the worker or resident would be within the small (i.e., 0.26 acre) contaminated area for any significant duration, the screening assessments overestimate the exposure.

Assumptions underlying the exposure parameters, routes of exposure, and intake rates for routes of exposure are consistent with NMED parameters and default values (NMED 2019). In the absence of site-specific data, several upper-bound values for the assumptions may be combined to estimate exposure for any one pathway, and the resulting risk estimate derived from combining upper-bound exposure parameters can exceed the 99th percentile of a true risk estimate. Therefore, uncertainties in the assumptions underlying the exposure pathways may contribute to risk assessments that overestimate the reasonably expected risk levels.

2.3.4. Toxicity Values

An additional uncertainty associated with the screening values is related to the derivation of toxicity values used in their calculation. Toxicity values (slope factors [SFs] and reference doses [RfDs]) were used to derive the risk-based screening values used in the screening evaluation (NMED 2019). Uncertainties are recognized to occur in four areas with respect to the toxicity values: (1) extrapolation from animals to humans, (2) variability between individuals in the human population, (3) the derivation of RfDs and SFs, and (4) the chemical form of the COPC.

The SFs and RfDs are often determined by extrapolation from animal data to humans, which may result in uncertainties in toxicity values because differences exist between animals and humans in chemical absorption, metabolism, excretion, and toxic responses. Differences in body weight, surface area, and pharmacokinetic relationships between animals and humans are taken into account to address these uncertainties in the dose-response relationship. However, conservatism is usually incorporated in each of these steps, potentially biasing the estimate high and resulting in the overestimation of potential risk.

For noncarcinogenic effects, the degree of variability in human physical characteristics is important both in determining the risks that can be expected at low exposures and in defining the no observed adverse effect level (NOAEL). The NOAEL uncertainty factor approach incorporates a 10-fold factor to reflect individual variability within the human population that can contribute to uncertainty in the risk assessment. This factor of 10 is generally considered to result in a conservative estimate of risk for noncarcinogenic COPCs.

The RfDs and SFs for different chemicals are derived from experiments conducted by different laboratories that may have different accuracy and precision that could lead to an over- or underestimation of risk. The uncertainty associated with the toxicity factors for noncarcinogens is measured by the uncertainty factor, the modifying factor, and the confidence level. For carcinogens, the weight of evidence (WOE) classification indicates the likelihood that a contaminant is a human carcinogen. EPA's WOE classification is not based on the level of risk a substance might present, but how good the evidence is regarding carcinogenicity to humans. This WOE helps interpret uncertainty in the results.

COPCs may be bound to the environmental matrix and not available for absorption into the human body following ingestion. However, the exposure scenarios typically default to the assumption that the COPCs are bioavailable. This assumption can lead to an overestimation of the total exposure and overestimate risk.

For some analytes surrogate values were used due to a lack of NMSSLs. Where possible, the USEPA RSLs were applied. It is not expected that use of surrogates will bias the results high or low. Primarily, surrogates were needed for nondetected analytes in order to verify MDLs were adequate.

2.3.5. Additive Approach

For noncarcinogens, the effects of exposure to multiple chemicals are generally unknown and possible interactions could be synergistic or antagonistic, resulting in either an overestimation or underestimation of the potential risk by assuming additivity. Additionally, RfDs used in the risk calculations typically are not based on the same endpoints with respect to severity, effects, or target organs. Therefore, the potential for noncarcinogenic effects may be overestimated by the HI considering individual COPCs act by different mechanisms and on different target organs but are addressed additively. Cancer risks are typically assumed to be additive.

2.4. CONCLUSIONS

Inorganics were compared to BVs and risk-based SLs. Eight inorganics, plus lead, exceeded background, and two had no BVs. Maximum barium concentrations were above NMSSLs. No inorganics exceeded human health risk-based SLs when refined EPCs were considered. Lead was below SLs.

Organics were compared to risk-based SLs for the 2 ac sampled area. There were several organics detected, including some energetics and breakdown products, some SVOCs, and DRO. However, maximum concentrations of any of the detected analytes were below SLs for all constituents except dioxin/furans. When refined EPCs were considered, dioxin/furans were still slightly above target levels. The CCR based on refined EPCs was 2E-05, and the HI was 3. Lead is considered separately, and the HQs for lead were less than 1 for all receptors.

Additional, clean-up (e.g., soil removal) at the Unit is not recommended for several reasons.

1. Removal of soil to decrease dioxin/furan concentrations (see Figure 1-5) would be most effective outside of the unit boundary where activities at the Unit are not likely a contributing factor, and ultimately would not decrease the refined EPC assessment HI within the SWMU boundary.
2. Additional excavation within the SMWU boundary to decrease explosives concentrations (see Figure 1-4) would not likely reduce risk levels associated with explosives because:
    a. the excavation conducted in December 2019 already decreased the level of risk associated with explosives compounds previously present at the site, and
    b. concentrations currently at the site (both surface and subsurface, even within the excavated area), are about the same. Therefore, it is unlikely that the concentrations of explosives compounds could be further decreased without substantial earth removal.
3. The approved Closure Plan includes “residential clean-up levels” as a component of the closure performance standard, and the NMED guidance (NMED 2019), indicates that strictly an HI >1 does not necessarily indicate that current conditions are not safe or that they present an unacceptable risk.

Migration to groundwater NMSSLs were exceeded by 2,4-dinitrotoluene, RDX, and 2,4,6-trinitrotoluene refined EPCs. A hydrologic conceptual model for TA-16, including the area of the TA-16 Burn Ground, is presented in the TA-16 Well Network Evaluation and Recommendations (LANL 2012b). That document ranks different sources at TA-16 by their potential to impact groundwater. High- and moderate-ranking sources were characterized by significant hydrologic drivers, i.e., either large outfall volumes released to canyons or ponds located on mesa tops. Sources were also characterized in terms of the release of large inventories or high contaminant concentrations. Both of these conditions are necessary to consider an area to have a high or moderate impact to groundwater. The TA-16 Burn Ground area was ranked as a low-priority source for its potential to impact groundwater, because it lacks both a large contaminant inventory and a large volume of water to provide a hydrologic driving force for contaminant infiltration.

Evaluating only data from within the SWMU boundary focuses the assessment on the Closure area and removes the diluting effect of samples with lower contaminant levels. The results are very similar to those based on the larger sampling area of approximately 2 acres with the exception that the dioxin/furan risk is reduced because the samples with the highest dioxin/furan concentrations are well outside of the SWMU boundary, and may not be associated with a release from this SWMU. The SWMU CCR based on refined

EPCs was 1E-05, indicating the Unit does not present a cancer risk to any human receptor. The SWMU HI based on the refined EPC was 2 for hypothetical future residents. The HI of 2 is probably within the realm of uncertainty for the risk assessment given the conservative assumptions contained within the analysis. No individual HQs exceeded 1. Note that land use in the foreseeable future is not residential. Groundwater at the facility is monitored in accordance with the LANL Interim Facility-Wide Groundwater Monitoring Plan and the TA-16 Burn Ground site is ranked as a low-priority source for its potential to impact groundwater.

Therefore, cancer risk is within the target risk level and the hazard level is only slightly higher than the target level documented in NMED guidance (2019). Additionally, the Unit does not pose a source for potential soil-to-groundwater contamination, and for samples collected within the SWMU boundary, all detected COPCs were present at concentrations less than residential soil screening levels when either the maximum or the refined EPCs based on UCL95 concentrations were compared to the NMSSLs. Lastly, the closure performance standard in the Closure Plan required achievement of residential clean-up levels to meet the clean closure requirements. A clean closure determination in accordance with the Closure Plan is recommended for this site.

3. ECOLOGICAL SCREENING ASSESSMENT

3.1. INTRODUCTION

The ecological risk-screening assessments for the Unit is presented in the following sections. The ecological risk-screening evaluation identifies chemicals of potential ecological concern (COPECs) and is based on the comparison of EPCs with ecological screening levels (ESLs) in accordance with Laboratory (LANL 2018) and NMED (2018) guidance. Data for both surface and subsurface soil depths were combined for the ecological risk-screening assessment, because all data fall within a 0 to 1 foot interval. Although NMED guidance (2018) recommends two soil horizons be evaluated, the samples collected all represent the interval for non-burrowing receptor and shallow rooted plants (0 to 1 foot interval). There is not a deeper soil interval at the Unit to be evaluated because the subsurface samples collected from as close to the tuff-soil surface as possible.

The ESLs obtained from the ECORISK Database, Version 4.2 (LANL 2020a), updated November 11, 2020, are presented in Table 3-1. The ESLs are based on toxicity data for Laboratory species similar to those expected to occur at the site, and are derived from experimentally determined no observed adverse effect levels (NOAELs), lowest observed adverse effect levels (LOAELs), or doses determined to be lethal to 50% of the test population (LD50). Information relevant to the calculation of ESLs, including concentration equations, dose equations, bioconcentration factors, transfer factors, and toxicity reference values, are presented in the ECORISK Database, Versions 2.0, 3.1, 4.1, and 4.2 (LANL 2003; LANL 2012a; LANL 2017, LANL 2020a).

The initial screening evaluation is conducted by dividing the maximum EPCs by the no adverse effect level ESLs (NE ESLs) to obtain a HQ calculated for each COPEC and screening receptor. As a generalization, the higher the contaminant levels relative to the ESLs, the higher the potential risk to receptors; conversely, the higher the ESLs relative to the contaminant levels, the lower the potential risk to receptors. HQs greater than 0.1 in the initial screening level evaluation are used to identify COPECs requiring additional evaluation (DOE NMED 2017).

Individual HQs for a receptor are summed to derive a HI. An HI greater than 1 indicates that further assessment may be needed to ensure exposure to multiple COPECs at a site will not lead to potential adverse impacts to a given receptor population. The HQ and HI analysis is a conservative indication of potential adverse effects and is designed to minimize the potential of overlooking possible COPECs at the site. UCL95 values are used to refine the EPCs, which are then compared to the ESL based on the lower observed adverse effect level (LE ESL). The analysis is then concluded with evaluation using area use factors (AUF).

3.2. PROBLEM FORMULATION

The Unit is a terrestrial ecosystem. The area within the fence is disturbed with little to no vegetation present adjacent to the burn tray. Vegetation increases with distance from the burn tray and consists of grasses and shrubs. The site slopes slightly to the south - southwest. There are likely terrestrial birds and small mammals including deer mice and ground squirrels using the area. Elk tracks and scat were observed during a site visit March 2019; however, there is not enough vegetation within the fenced area to support large herbivores. They prefer the ponderosa pine forest around the unit.

Due to the site history, there is the potential for energetic compounds or their breakdown products to be present in surface soils. Terrestrial animals and plants may contact surface soils and be exposed. While the total area where all of the samples collected is approximately 2 acres and includes areas that may not have been impacted by the activities at this Unit, the fenced portion of the Unit is a total of approximately 9,000 square feet, which is about 0.26 ac. This is equivalent to 0.1 hectare (ha). The slightly larger area within the SWMU boundary is 0.64 ac (0.26 ha).

Soil is the only potential abiotic exposure medium at the Unit. Soil ingestion is the primary exposure route (Figure 3-1). Dietary ingestion by higher trophic level animals of plants and animals exposed to soil may also occur.

Due to lack of its preferred riparian habitat and lack of dense cover, the montane shrew is not expected to occur in the Unit. It is retained only because it may be representative of other mammalian insectivores. Other receptors that are expected to occur based on available habitat are shown in the conceptual site model (Figure 3-1).

3.3. SCREENING EVALUATION

The summary statistics for the site sample data were presented in Table 2-2. The NE ESLs are presented for each receptor in Table 3-1. Maximum detected concentrations of each analyte are used as the initial EPC. The EPCs and the screening results are presented in Table 3-2.

Any analytes for which the measured maximum detected value exceeded the ESLs with an HQ of 0.1 or more were considered COPECs and evaluated further by calculating refined EPCs based on UCL95s. ESLs are lacking for many of the organics on the target analyte list.

Surrogates were proposed for the detected organics and inorganics above background or without BVs for which no ESLs were available. There remain analytes for which ESLs are lacking for birds, and sometimes invertebrates or plants. In general, ESLs were available for mammals. The analytes lacking ESLs and the applied surrogates are as follows:

- Calcium – No values in LANL database. Addressed in Uncertainty Analysis.
- Nitrate – No values in LANL database. Addressed in Uncertainty Analysis.
- 3,5-Dinitroaniline - Use amino-2,6-dinitrotoluene[4-] ESLs
- TATB - Use 1,3,5-Trinitrobenzene ESLs
- Isopropyltoluene[4-] - Use toluene ESLs

3.3.1. Inorganics

There are nine inorganic analytes that exceed site BVs, and two for which BVs were not calculated. These inorganics carry forward for further evaluation:

- Antimony
- Barium
- Cadmium
- Calcium
- Copper
- Lead
- Perchlorate (No BV)
- Nitrate (No BV)
- Selenium
- Silver
- Zinc

The inorganic analytes that were above BVs that also exceed ecological NE ESLs are as follows (Table 3-2):

- Antimony
- Barium
- Cadmium
- Copper
- Lead
- Selenium
- Silver
- Zinc

If an inorganic analyte maximum exceeded the BV, and the ratio of the maximum to the risk-based SL was greater than 0.1, a refined EPC based on the UCL95 was calculated with the USEPA ProUCL 5.1.002 software (EPA 2015). This refined EPC based on the UCL95 (Table 2-8) was then compared to the LE ESLs found in Table 3-3.

The UCL95 values for barium, copper, lead, selenium, and zinc exceeded the LE ESL (Table 3-4). The HQs based on the refined EPC and the LE ESLs for approximately half of the 11 receptors exceeded 1 but were less than 5 (Table 3-4). HQs for the American kestrel modeled as a top carnivore and the gray fox also modeled as a carnivore were consistently less than 0.1 for inorganics. This suggests some limited potential for adverse ecological effects at the Unit due to exposure to inorganics above background, however additional lines of evidence are considered in the following sections.

3.3.2. Dioxin and Furans

Dioxins and furans are evaluated in a multi-step process that takes the concentration of each congener and multiplies it by a TEF (Table 3-5) for mammals or birds. The resulting TECi values are summed to obtain a TEQ (Table 3-6 and Table 3-7). The maximum 2,3,7,8-tetrachlorodibenzodioxin (TCDD) TEQ for mammals or birds are compared to the NE ESLs (Table 3-8). These values were above an initial screening HQ of 0.1. TEFs were not available for invertebrates and so the mammalian TEQ was used to extrapolate exposure to invertebrates.

The avian NE ESL is from the ECORISK Database, Version 2.0 (LANL 2003) as reported in Attachment H, Technical Area 16 Burn Ground Human Health and Ecological Risk-Screening Assessments (LA-UR-13-24177), Class 3 Permit Modification Request for Addition of an Open Burning Unit at Technical Area (TA) 16 to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID No. NM0890010515. September 30, 2013. Refer To: WM-DO-13-0064, LAUR: 13-27579. The most recent LANL database does not report ESLs for any avian species.

A UCL95 based on the sample-specific TEQs was calculated for mammals and birds with ProUCL (EPA 2015). When these UCLs were divided by the LE ESL for TCDD for mammals (there is no LE ESL for birds), the resulting ratios or HQs exceeded 0.1 for all mammalian receptors (Table 3-4). This analysis suggests that there may be toxicity to ecological receptors due to exposure to dioxins/furans. The dioxin/furans are further evaluated in the uncertainty analysis.

3.3.3. Other Organics

Maximum concentrations of nine organics in the soil samples exceeded NE ESLs. These were amino-2,6-dinitrotoluene[4-], benzoic acid, bis(2-ethylhexyl)phthalate, HMX, PETN, RDX, TATB, DRO, and TNT.

UCL95 values (Table 2-8), were calculated for these organics and compared to the LE ESLs (Table 3-4). There were only two detects of benzoic acid, and one detection of PETN, which is too low a detection rate to allow calculation of a UCL95. Therefore, a median of the detected concentrations was calculated and used as the estimate of the benzoic acid refined EPC, whereas the maximum detected value was used as the PETN EPC. This approach is consistent with ProUCL guidance (EPA 2015) which recommends use of alternative statistics when detection frequency is low. The highest value of each duplicate pair was retained for calculating UCL95s.

HQs for amino-2,6-dinitrotoluene[4-], benzoic acid, DRO, and PETN based on refined EPC values and the LE ESLs were less than 0.1 and are not considered further (Table 3-4). Bis(2-ethylhexyl)phthalate, HMX, RDX, TATB, and TNT had HQs above 0.1 for comparison of the refined EPC to the LE ESLs for one or more receptor groups (Table 3-4).

3.3.4. Hazard Indices

The HIs for summation of inorganic, dioxin/furan, and other organic HQs for all receptors except the gray fox and mountain cottontail exceeded 1. This analysis suggests that there may be toxicity to ecological receptors due to exposure to within the Unit. The COPECs with HQs greater than 0.1 are further evaluated in the uncertainty analysis.

3.4. UNCERTAINTY ANALYSIS

3.4.1. Chemical Form

Inorganic analytes can speciate into different forms with varying degrees of toxicity. The assumptions used in the ESL derivations are conservative and not necessarily representative of actual conditions. These assumptions include maximum chemical bioavailability, maximum receptor ingestion rates, minimum bodyweight, and additive effects of multiple COPECs. These factors tend to result in conservative ESL estimates, which may lead to an overestimation of the potential risk. Toxicological data are typically based on the most toxic and bioavailable chemical species, which may or may not be found in the environment. The ESLs were calculated to ensure a conservative indication of potential risk (LANL 2018), and the values are biased toward overestimating the potential risk to receptors.

The chemical form of the individual COPECs was not determined as part of the investigation. COPECs are generally not 100% bioavailable to receptors in the natural environment because of interference from other natural processes, such as the adsorption of chemical constituents to matrix surfaces (e.g., soil) or rapid oxidation or reduction changes that render harmful chemical forms unavailable to biotic processes.

3.4.2. Exposure

Exposure parameters including the EPC and the intakes likely bias risk estimates high because they presume no movement of receptors in and out of source areas. Sampling focused on areas of known or expected contamination, which biases the EPC high. Receptors are assumed to spend 100% of their time in the contaminated area which results in conservative estimates of exposure.

3.4.3. Mixture Toxicity

The assumption of additive effects for multiple COPECs may result in an over- or under-estimation of the potential risk to receptors. Exposure to multiple contaminants may result in other than additive effects.

3.4.4. Small-Mammal Field Investigations

Small mammal trapping and analysis of whole organisms were conducted in the area near the Unit in 2011 and 2012. This information was considered useful for the current analysis. Field mice and voles were collected around the open-burn site and analyzed for dioxins and furans as well as metals in 2011 and for polychlorinated biphenyls (PCBs), high explosives, and perchlorate in 2012. Small-mammal community and population parameters were also measured across the site in 2012 (Fresquez et al. 2013).

Barium, cadmium, and nickel were detected in two to three whole body samples, and lead was detected in one whole body sample, above the regional statistical reference levels (RSRLs), which are the upper bounds of concentrations (mean plus three standard deviations) calculated from field mice collected at regional locations over nine miles away from the influence of the Laboratory (Fresquez 2009 and 2011a). The cadmium, nickel, and lead concentrations were slightly above the RSRLs, while barium concentrations were three to four times the RSRL. No high explosives were detected in any of the animals collected, and perchlorate concentrations were one or two orders of magnitude below the RSRL.

Dioxin and furan congeners were not detected above the detection limit in any of the whole-body samples analyzed; eight congeners were detected in one deer mouse sample, one congener was detected in one long-tailed vole sample, and no congeners were detected in the other four small mammals (three voles and one deer mouse) (Fresquez et al. 2013). Concentrations in whole body samples were well below the concentrations detected in the soil, and biological samples had fewer congeners detected than in 40% of the soil samples, and concentrations were below the deer mouse ESL for TCDD in LANL (2012). The dioxin and furan data are similar to other dioxin/furan field-mouse uptake studies at LANL (Fresquez 2011b) and nationally (Krouskop et al. 1991).

The data indicate dioxins and furans at the concentrations found in soil under natural field conditions are not significantly assimilated, either by ingestion and/or by surface contact, by field mice/voles possibly because of the adsorption of the chemical to soil surfaces or because of oxidation/reduction changes. In addition, the samples analyzed included the pelt and carcass so it is not clear whether the congeners detected represent uptake or adherence of soil particles to the pelt. Also, no adverse effect of burning ground operations was found on local small mammal populations based on species richness, capture rate, species diversity, sex ratios and adult body weights (Fresquez et al. 2013).

The presence of dioxins and furans in soil does not determine exposure and risk to receptors. Dioxins and furans are relatively unavailable for uptake by plants and animals because these compounds are tightly bound to soil particles, are immobile, and insoluble (Umbreit et al. 1986). EPA reported that the relative bioavailability of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofuran congeners in soil is less than 100% as compared with a lipid or organic solvent vehicle as the reference material (EPA 2010a). Abiotic constituents, compound aging, and other associated soil factors may influence soil bioavailability (e.g., bioavailability appears to decrease with aging based on comparisons of laboratory spiked soil and soil contaminated in situ [Umbreit et al. 1986]). This relationship is supported by the lack of uptake and impacts to biota around the Laboratory and at the TA-16 Burn Ground where dioxin and furan congeners have been detected. The difference between the toxicity represented by the ESLs and the lack of adverse effects may be related to the low bioavailability of dioxins and furans in soil.

Small mammal populations in the area show no evidence of significant elevated exposure. There do not appear to be population-related impacts based on the above analysis.

3.4.5. Avian Field Investigations

A total of four avian egg samples were obtained in 2018 from TA-16 and analyzed for inorganic elements (Gaukler and Stanek 2019). Two samples consisted of one western bluebird (*Sialia mexicana*) egg each. There was one composite sample of four western bluebird eggs, and one composite sample of two ash-throated flycatcher (*Myiarchus cinerascens*) eggs.

Concentrations of inorganic elements were compared with the upper-level bounds of background concentrations in bird eggs. The data indicated aluminum, arsenic, beryllium, cadmium, lead, nickel, thallium or vanadium were not detected in eggs. One sample contained higher concentrations of antimony (0.21 mg/kg) compared with background (0.11 mg/kg). Two samples contained higher concentrations of mercury (0.23 and 0.25 mg/kg) compared to background (0.18 mg/kg). The few elements that exceeded background were compared to the lowest observable adverse effect level (LOAEL), when available. There was no LOAEL for antimony. However, both of the egg samples were below the LOAEL for mercury (1.67 mg/kg, converted from wet to dry weight).

Although maximum concentrations of antimony exceeded ESLs, the UCL95 concentration did not. There is no toxicity information in the LANL Ecorisk Database for birds. Given that only one of four samples had elevated antimony relative to background, and that only half the soil samples had detections, these data suggest that antimony concentrations in eggs observed at TA-16 are not of ecological concern. Mercury was slightly higher than background in eggs, but below known toxicity levels. Mercury also does not appear to pose a hazard to birds.

Avian population metrics also do not suggest that birds in the vicinity of TA-16 399 are being negatively impacted (Hathcock et al 2018). Metrics including species richness and diversity were not statistically different from the Unit than at the control area. Abundance varied in the Unit and control area annually, but abundance in the Unit compared to controls were similar over time. Species composition indicates little difference between the Unit and control sites.

Combined, the egg concentration data and population metrics suggest that adverse health effects are not expected at the observed concentrations.

3.4.6. Detection Frequency and Areal Extent of Concentrations Greater than Screening Levels

The detection frequency and spatial pattern of the COPECs that have HQs greater than the LE ESL it considered. Barium, copper, lead, selenium and zinc are the only inorganics for which the UCL95 exceeded the LE ESL. Bis(2-ethylhexyl)phthalate, HMX, RDX, TATB, dioxin/furans, and TNT are the only organics for which the refined EPC based on the UCL95 exceeds LE ESLs.

Barium was detected in all samples collected. The barium UCL95 is 11 times higher than background values of 295 mg/kg. The minimum barium ESL is based on potential toxicity to plants; however, no toxicity to plants was noted in the field visit (i.e., chlorosis, dead plants). EPA (2005) indicates barium background concentrations in the Western US range from about 350 mg/kg to about 1100 mg/kg. A total of 27 of 39 samples exceed site background and 14 of 39 had concentrations higher than upper bound of Western US background of 1100 mg/kg. Sources of toxicity information for plants suggest that it takes concentrations of barium in soils above 2000 mg/kg to cause toxicity (Chaudhry et al. 1977). Nine samples exceeded this level for plants. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358. This analysis suggests that there may be toxicity to ecological receptors, in particular plant populations, at the site due to barium.

Copper was detected in 27 of 29 samples. Only 6/29 samples exceeded background values of 14.7 mg/kg. The UCL95 was only two times higher than background, suggesting copper is not significantly elevated within the Unit and exposure across the Unit is only slightly higher than inherent background.

Lead was detected in all samples. Of these, only 5 of 39 samples exceeded background values of 22.3 mg/kg. The UCL95 was about two times higher than background, suggesting exposure across the Unit is only slightly higher than inherent background. However, HQs based on the LE ESL were above 1.

Selenium was detected in 14 of 39 samples. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358. Eight of 39 samples were above the BV of 1.52 mg/kg. The UCL95 of 0.968 mg/kg was less than the BV, suggesting that exposure across the Unit will not exceed inherent background.

Zinc was detected in all samples. Of these, 13 of 39 samples exceeded background values of 48.8 mg/kg. The UCL95 was 1.2 times higher than background, suggesting exposure across the Unit is approximately equal to inherent background.

Bis(2-ethylhexyl)phthalate was detected in 10 of 29 samples. The American robin modeled as an insectivore was the most sensitive receptor. Five samples produced HQs above 1 for the robin and the kestrel, two samples produced HQs above 1 for the shrew and one sample produced an HQ above 1 for the deer mouse based on the LE ESLs. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358.

HMX was detected in 17 of 39 samples. Only one receptor, earthworms representing all soil fauna, exhibited HQs above 0.1. The maximum HQ was 1 for the LE ESL, suggesting HMX is not likely to produce an adverse effect on soil invertebrates. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358.

RDX was detected in 17 of 39 samples. The robin was the most sensitive ecological receptor regardless of feeding guild and was determined to be a more appropriate receptor for the area rather than the horned lark. Nine out of 39 samples had HQs above 1 for the robin as an herbivore, insectivore, or omnivore; three of 39 samples for the kestrel modeled as an insectivore/carnivore had HQs above 1, and four samples had HQs above 1 for the earthworm for comparison to LE ESLs. Maximum RDX concentrations were observed at WST16-19-181355.

TATB was detected in 22 of 38 samples. The earthworm was the only receptor for which HQs based on the LE ESL exceeded 1. HQs exceeded 1 in only one sample, the duplicate pair WST16-19-181357/181358, where the HQ was 2 in 181357 and 0.8 in 181358. This suggests that TATB is not going to cause adverse effects in soil fauna.

One or more dioxin/furan isomers were detected in all samples collected. The UCL95 compared to the LE ESL produced HQs above 0.1 for all mammalian receptors, and above 1 for shrew and deer mouse.

TNT was detected in 7 of 39 samples. The robin modeled as an herbivore was the most sensitive ecological receptor and the only one with an HQ above 0.1 for comparison of the UCL95 to the LE ESL. The maximum HQ was 1 for the LE ESL, suggesting TNT is not likely to produce an adverse effect on birds. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358.

To summarize the results of evaluating the data against BVs and spatially, of these constituents identified as COPECs, only barium, bis(2-ethylhexyl)phthalate, dioxin/furans, lead, and RDX are frequently detected, are well above background, and have HQs based on the LE ESL above 1.

3.4.7. Detected Analytes Without ESLs

Several chemicals do not have ESLs for any receptor in release 4.2 of the ECORISK Database (LANL 2020a). In the absence of a chemical-specific ESL, concentrations were compared with the ESLs for a surrogate chemical. Comparison to surrogate ESLs provides an estimate of potential effects of a similar related compound and a line of evidence to indicate the likelihood that ecological receptors are potentially impacted. Surrogates were obtained for 3,5-dinitroaniline, DRO, TATB, and isopropyltoluene[4-]. For birds, ESLs from a previous LANL database were used. Surrogate increase uncertainty, but are not expected to bias the risk results low or high.

ESLs were not available for total petroleum hydrocarbons DRO, which were detected in all samples. Using a value for mixed fractions, HQs were less than or equal to 1. Using the human health residential risk evaluation as a surrogate suggests that there would be no risk to ecological receptors due to exposure to DRO because all noncancer HQs were less than 1. The residential ratio for comparison of maximum DRO in soils to human health values was 0.0002, and the worker ratio was 0.00005. Residential HQs for TATB, 4-isopropyltoluene, and 3,5-dinitroaniline were less than 1.

Some chemicals without ESLs do not have chemical-specific toxicity data or surrogate chemicals to be used in the screening assessments and cannot be assessed quantitatively for potential ecological risk. These are calcium and nitrate.

There were no ESLs for calcium. Calcium is toxic to nonlaying chickens at 3.5 to 6% of the diet, or 35,000 mg/kg diet (Merck Manual 2020). Given that most birds or mammals consume soil at 10% or less of the diet, a toxic amount in soil would be on the order of 350,000 mg/kg or more, much higher than the maximum concentration of 16,100 mg/kg. Calcium did not exceed human health values. Calcium is unlikely to present an ecological risk.

Chemicals lacking ESLs are often infrequently detected across the site. In these cases, comparisons with human health SSLs are presented as part of a qualitative assessment. The comparison of concentrations to human health SSLs is a viable alternative for several reasons. Animal studies are used to infer effects on humans and are the basic premise of modern toxicology (EPA 1989). In addition, toxicity values derived for the calculation of human health SLs are often based on potential effects that are more sensitive than the ones used to derive ESLs (e.g., cellular effects for humans versus survival or reproductive effects for terrestrial animals). EPA also applies uncertainty factors or modifying factors to ensure the toxicity values are protective (i.e., they are adjusted by uncertainty factors to values much lower than the study results). Concentrations compared with these values are frequently an order of magnitude or more below the SLs, which corresponds to uncertainty factors of 10 or more. Therefore, it is assumed the differences in toxicity would not be more than an order of magnitude for any given chemical. The relative difference between values provides a weight of evidence that the potential toxicity of the chemical is likely to be low or very low to the receptor(s).

3.4.8. Data and Area Use Factors

The Unit is small with an areal extent of 0.26 acres (ac) or 0.1 hectares (ha) within the fenceline. This is less than the size of the home range of an individual robin or a deer mouse (LANL 2018). The slightly larger area within the SWMU boundary is 0.64 ac (0.26 ha). The total area where all of the samples were collected is approximately 2 acres.

The home range (HR) is used to calculate area use factors (AUFs) that are used in the EcoPRG equations (LANL 2018). Individual AUFs and population area use factors (PAUFs) may be used to modify the estimate of risk to wildlife receptors to allow estimates to be more site-specific. The application of AUFs or PAUFs reduces potential overestimation of risks for those receptors with HRs larger than the area of contamination being evaluated. The estimated ecological risk as indicated by the HQ or HI is multiplied by the AUF or PAUF. HQs for plants or invertebrates are not adjusted by area use.

Table 3-9 presents the area use hazard analysis based on LE ESLs and an area of 2 ac. The LE ESLs for each COPC that exceeded background and was detected are shown. The site specific AUF and PAUFs are shown for an area equivalent to the fenced area of the Unit and the additional sampled area outside the fenceline. The UCL95 EPC (Table 2-8; Appendix A) is divided by the species-specific ESL and multiplied by the PAUF to obtain revised HQs. The habitat is not suitable for Mexican Spotted Owls or other special status species, and so an AUF evaluation was not conducted.

Several COPECs produce HQs above 0.1 for one or more receptors. These are:

- barium for robin modeled at all feeding guilds, the deer mouse, earthworm, and plants;
- selenium for deer mouse and plants;
- bis(2-ethylhexylphthalate) for the robin modeled as an insectivore or omnivore, deer mouse, and shrew;
- HMX for earthworms;
- RDX for robin modeled as an herbivore, insectivore or omnivore, and earthworms;
- TATB for earthworm; and
- TCDD for deer mouse and shrew.

The HIs are above 1 for the robin modeled as an ominivore and insectivore, the deer mouse, earthworms, plants, and the shrew.

Tables 3-10 to 3-15 present the ecological risk assessment based on the data collected from within the SWMU boundary. The total area within the SWMU boundary is smaller than the overall sampled area, which includes areas near other SWMUs and which may have been affected by activities at other SWMUs. The hazard analysis is based on the SWMU area of 0.64 ac (0.26 ha). The area within the SWMU boundary is the area most likely to have been impacted by activities at the Unit. Overall, utilizing data from within the SWMU boundary produces higher, more conservative refined EPCs due in part to the smaller sample size, with the exception of the dioxin/furans. There are HIs above 1 for most receptor groups based upon the refined EPC (Table 3-11).

Table 3-15 presents the hazard analysis utilizing only the data within the SWMU boundary. Bis(2-ethylhexyl)phthalate LE ESL HQs are above 0.1 for the robin in both the insectivore and omnivore feeding categories. Barium LE ESLs HQs were greater than 0.1 for plants and invertebrates, selenium LE HQs are above 0.1 for plants, and HMX, RDX and TATB HQs are above 0.1 for the earthworm (Table 3-9). HQs are above 0.1 for dioxin/furans for deer mouse and shrew.

The HIs for nearly all ecological receptors based on data within the SWMU boundary are less than 1. The exceptions are for plants and earthworms, for which the HI is 20 and 4, respectively and the robin for which the HI is 2. Plants and earthworms are taxa for which the PAUF does not affect the HQ or HI since they are not mobile in the ecosystem.

3.5. CONCLUSIONS

Barium, copper, lead, selenium, and zinc were the only inorganics for which the UCL95 based on the 2 ac area exceeded both the BV and the LE ESL to produce HQs above 0.1. Further evaluation with the PAUFs indicated that barium exceeded the LE ESL for plants and invertebrates, and selenium exceeded the LE ESL for plants and deer mouse. No visual effects were noted on the plant community within the Unit. No effects have been observed in small mammals. When data from within the SWMU boundary only were considered, there were no HQs above 0.1 for mammals or birds for inorganics when exposure was adjusted with the PAUF to reflect spatial averaging.

The refined EPC based on the UCL95 for TCDD exceeded the LE ESLs to produce HQs above 0.1 for mammals. Birds are not as sensitive to the effects of TCDD considering the TEQ is slightly less and the NE ESL is higher than that for mammals, but birds cannot be quantitatively addressed due to the absence of an LE ESL. Further evaluation with application of PAUFs indicated that HQs were above 1 for deer mouse and shrew, but not gray fox or cottontails. Further evaluation with application of PAUFs for data from within the SWMU only indicated that TCDD would not adversely mammals since the HIs for mammals were less than or equal to 1. It is assumed that the evaluation for mammals is protective of avian species.

Bis(2-ethylhexyl)phthalate, HMX, RDX, TATB and TNT are the only other organics for which the refined EPC based on the UCL95 exceeded LE ESLs to produce HQs above 0.1. Further evaluation with the PAUFs indicated that bis(2-ethylhexyl)phthalate exceeded LE ESLs for robins modeled as insectivores and omnivores, as well as deer mouse and shrew, and RDX produced HQs greater than 0.1 for robins at all feeding levels. In addition, after applying the PAUFs based on an area of 2 acres, HMX, TATB, and RDX exceeded the LE ESL for earthworms. Evaluating the data only within the SWMU boundary suggested that explosives would be above the LE ESL for invertebrates but not birds, and bis(2-ethylhexyl phthalate would have HQs above 0.1 for robins feeding as insectivores and omnivores, and deer mice.

The HIs for six of the 11 receptors exceed 1 if the entire 2 ac area is considered, where the maximum HI is 10 for plants. The HIs for nearly all ecological receptors are less than 1 based on data from within the SWMU only. The exceptions are for plants and earthworms, for which the HI is 20 and 4, respectively, and robin, for which the HI is 2. Plants and earthworms are taxa for which the PAUF does not affect the HQ or HI since they are not mobile in the ecosystem.

The small mammal tissue study indicated little uptake of dioxins/furans by small mammals at TA-16 as a whole, as well as little effect on mammal populations. For avian species, eggs analyzed for inorganics had antimony and mercury concentrations above egg background values, but mercury concentrations were below known toxic levels. Antimony was detected in one of four egg samples and half of the soil samples, and concentrations do not appear widespread. Antimony toxicity data for birds were not obtained. Population metrics for birds were not statistically significantly different from controls.

NMED guidance (2018) indicate that ecological risk assessments require inquiries into the relationship between an assessed endpoint and the expected response when exposed to site contamination. While comparison to literature published values show a potential for elevated risk to receptors potentially in the area, studies conducted in the area show no adverse population effects to small mammals or birds in the area. Additionally, when thinking of the near and foreseeable future use for the site, vegetation in the area will be kept to a minimum, as it is located in the general area of an operating Unit. There is not a likely species impact to representative receptors. Because biological data from the area indicate no adverse effects, and because HQs and HIs, while exceeding targets of 0.1 and 1, respectively, are relatively low, the Unit does not appear to present a significant ecological risk.

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Tables

Table 2-1. NMSSLs and Surrogate Values Used in the Risk Assessment

Parameter Category	**Parameter name**	**CAS NO.**	**Residential Cancer (mg/kg)**	**Residential Noncancer (mg/kg)**	**Industrial Cancer (mg/kg)**	**Industrial Noncancer (mg/kg)**	**Construction Worker Noncancer (mg/kg)**	**Construction Worker Cancer (mg/kg)**	**SL-SSL, DAF 20 (mg/kg)**
	Aluminum	7429-90-5	-	7.80E+04	-	1.29E+06	4.14E+04	-	5.97E+05
INORGANIC	Antimony	7440-36-0	-	3.13E+01	-	5.19E+02	1.42E+02	-	6.56E+00
	Arsenic	7440-38-2	7.07E+00	1.30E+01	3.59E+01	2.08E+02	4.12E+01	2.16E+02	5.83E+00
	Barium	7440-39-3	-	1.56E+04	-	2.55E+05	4.39E+03	-	2.70E+03
	Beryllium	7440-41-7	6.44E+04	1.56E+02	3.13E+05	2.58E+03	1.48E+02	2.71E+03	1.96E+02
	Cadmium	7440-43-9	8.59E+04	7.05E+01	4.17E+05	1.11E+03	7.21E+01	3.61E+03	9.39E+00
	Calcium	Ca	-	1.30E+07	-	3.24E+07	8.85E+06	-	-
	Chromium	16065-83-1	9.66E+01	4.52E+04	5.05E+02	3.14E+05	1.34E+02	4.68E+02	2.05E+05
	Cobalt	7440-48-4	1.72E+04	2.34E+01	8.34E+04	3.88E+02	3.67E+01	7.22E+02	5.40E+00
	Copper	7440-50-8	-	3.13E+03	-	5.19E+04	1.42E+04	-	9.15E+02
	Iron	7439-89-6	-	5.48E+04	-	9.08E+05	2.48E+05	-	6.96E+03
	Lead	7439-92-1	-	4.00E+02	-	8.00E+02	8.00E+02	-	2.70E+02
	Magnesium	Mg	-	1.56E+07	-	5.68E+06	1.55E+06	-	-
	Manganese	7439-96-5	-	1.05E+04	-	1.60E+05	4.64E+02	-	2.63E+03
	Mercury	7487-94-7	-	2.35E+01	-	3.89E+02	7.71E+01	-	5.13E+00
	Nickel	7440-02-0	5.95E+05	1.56E+03	2.89E+06	2.57E+04	7.53E+02	2.50E+04	4.85E+02
	Nitrate	14797-55-8	-	1.25E+05	-	2.08E+06	5.66E+05	-	4.25E+02
	Perchlorate	14797-73-0	-	5.48E+01	-	9.08E+02	2.48E+02	-	1.17E-01
	Potassium	K	-	1.56E+07	-	7.62E+07	2.08E+07	-	-
	Selenium	7782-49-2	-	3.91E+02	-	6.49E+03	1.75E+03	-	1.02E+01
	Silver	7440-22-4	-	3.91E+02	-	6.49E+03	1.77E+03	-	1.38E+01
	Sodium	Na	-	7.82E+06	-	3.73E+07	1.02E+07	-	-
	Thallium	7440-28-0	-	7.82E-01	-	1.30E+01	3.54E+00	-	2.85E+00
	Vanadium	7440-62-2	-	3.94E+02	-	6.53E+03	6.14E+02	-	1.26E+03
	Zinc	7440-66-6	-	2.35E+04	-	3.89E+05	1.06E+05	-	7.41E+03
	2,3,7,8-TCDD	1746-01-6	4.90E-05	5.06E-05	2.38E-04	8.08E-04	2.26E-04	1.72E-03	2.24E-04
ORGANIC	2,4-Diamino-6-nitrotoluene	6629-29-4	*3.20E+01*	*7.00E+01*	*1.50E+02*	*1.10E+03*	*1.10E+03*	*1.50E+02*	-
	2,6-Diamino-4-nitrotoluene	59229-75-3	*3.20E+01*	*7.00E+01*	*1.50E+02*	*1.10E+03*	*1.10E+03*	*1.50E+02*	-
	3,5-Dinitroaniline	618-87-1	-	*7.70E+00*	-	*1.10E+02*	*1.10E+02*	-	-
	Acenaphthene	83-32-9	-	3.48E+03	-	5.05E+04	1.51E+04	-	8.25E+01
	Acenaphthylene	208-96-8	-	*3.48E+03*	-	*5.05E+04*	*1.51E+04*	-	*8.25E+01*
	Acetone	67-64-1	-	6.63E+04	-	9.60E+05	2.42E+05	-	4.98E+01
	Amino-2,6-dinitrotoluene[4-]	19406-51-0	-	*7.70E+00*	-	*1.10E+02*	*1.10E+02*	-	-
	Amino-4,6-dinitrotoluene[2-]	35572-78-2	-	*7.70E+00*	-	*1.10E+02*	*1.10E+02*	-	-
	Aniline	62-53-3	*9.50E+02*	*4.40E+02*	*4.00E+03*	*5.70E+03*	*5.70E+03*	*4.00E+03*	-
	Anthracene	120-12-7	-	1.74E+04	-	2.53E+05	7.53E+04	-	8.51E+02
	Azobenzene	103-33-3	*5.60E+01*	-	*2.60E+02*	-	-	*2.60E+02*	-
	Benzene	71-43-2	1.78E+01	1.14E+02	8.72E+01	7.29E+02	1.42E+02	4.23E+02	4.18E-02
	Benzo(a)anthracene	56-55-3	1.53E+00	-	3.23E+01	-	-	2.40E+02	6.37E-01
	Benzo(a)pyrene	50-32-8	1.12E+00	1.74E+01	2.36E+01	2.51E+02	1.50E+01	1.73E+02	4.42E+00

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	Benzo(b)fluoranthene	205-99-2	1.53E+00	-	3.23E+01	-	-	2.40E+02	6.17E+00
	Benzo(g,h,i)perylene	191-24-2	*1.12E+00*	*1.74E+01*	*2.36E+01*	*2.51E+02*	*1.50E+01*	*1.73E+02*	*4.42E+00*
	Benzo(k)fluoranthene	207-08-9	1.53E+01	-	3.23E+02	-	-	2.31E+03	6.05E+01
	Benzoic Acid	65-85-0	-	*2.50E+05*	-	*3.30E+06*	*3.30E+06*	-	-
	Benzyl Alcohol	100-51-6	-	*6.30E+03*	-	*8.20E+04*	*8.20E+04*	-	-
	Bis(2-chloroethoxy)methane	111-91-1	-	*1.90E+02*	-	*2.50E+03*	*2.50E+03*	-	-
	Bis(2-chloroethyl)ether	111-44-4	3.11E+00	-	1.57E+01	-	-	1.95E+00	6.05E-04
	Bis(2-ethylhexyl)phthalate	117-81-7	3.80E+02	1.23E+03	1.83E+03	1.83E+04	5.38E+03	1.34E+04	2.00E+02
	Bromobenzene	108-86-1	-	*2.90E+02*	-	*1.80E+03*	*1.80E+03*	-	-
	Bromochloromethane	74-97-5	-	*1.50E+02*	-	*6.30E+02*	*6.30E+02*	-	-
	Bromodichloromethane	75-27-4	6.19E+00	1.56E+03	3.02E+01	2.60E+04	7.08E+03	1.43E+02	6.21E-03
	Bromoform	75-25-2	6.74E+02	1.23E+03	1.76E+03	1.83E+04	5.38E+03	2.37E+04	1.47E-01
	Bromomethane	74-83-9	-	1.77E+01	-	9.45E+01	1.79E+01	-	3.43E-02
	Bromophenyl-phenylether[4-]	101-55-3	-	*1.60E+02*	-	*2.30E+03*	*2.30E+03*	-	-
	Butanone[2-]	78-93-3	-	3.74E+04	-	4.11E+05	9.17E+04	-	2.01E+01
	Butylbenzene[n-]	104-51-8	-	*3.90E+03*	-	*5.80E+04*	*5.80E+04*	-	-
	Butylbenzene[sec-]	135-98-8	-	*7.80E+03*	-	*1.20E+05*	*1.20E+05*	-	-
	Butylbenzene[tert-]	98-06-6	-	*7.80E+03*	-	*1.20E+05*	*1.20E+05*	-	-
	Butylbenzylphthalate	85-68-7	*2.90E+03*	*1.30E+04*	*1.20E+04*	*1.60E+05*	*1.60E+05*	*1.20E+04*	-
	Carbon Disulfide	75-15-0	-	1.55E+03	-	8.54E+03	1.62E+03	-	4.42E+00
	Carbon Tetrachloride	56-23-5	1.07E+01	1.44E+02	5.25E+01	1.02E+03	2.02E+02	2.52E+02	3.67E-02
	Chloro-3-methylphenol[4-]	59-50-7	-	*6.30E+03*	-	*8.20E+04*	*8.20E+04*	-	-
	Chloroaniline[4-]	106-47-8	*2.70E+01*	*2.50E+02*	*1.10E+02*	*3.30E+03*	*3.30E+03*	*1.10E+02*	-
	Chlorobenzene	108-90-7	-	3.78E+02	-	2.16E+03	4.12E+02	-	1.08E+00
	Chlorodibromomethane	124-48-1	1.39E+01	1.23E+03	6.74E+01	1.83E+04	5.38E+03	3.40E+02	7.55E-03
	Chloroethane	75-00-3	-	1.90E+04	-	8.95E+04	1.66E+04	-	1.07E+02
	Chloroform	67-66-3	5.90E+00	3.06E+02	2.87E+01	2.00E+03	3.91E+02	1.34E+02	1.09E-02
	Chloromethane	74-87-3	4.11E+01	2.68E+02	2.01E+02	1.26E+03	2.35E+02	9.56E+02	9.52E-02
	Chloronaphthalene[2-]	91-58-7	-	6.26E+03	-	1.04E+05	2.83E+04	-	5.70E+01
	Chlorophenol[2-]	95-57-8	-	3.91E+02	-	6.49E+03	1.77E+03	-	1.15E+00
	Chlorophenyl-phenyl[4-] Ether	7005-72-3	-	-	-	-	-	-	-
	Chlorotoluene[2-]	95-49-8	-	1.56E+03	-	2.60E+04	7.08E+03	-	3.56E+00
	Chlorotoluene[4-]	106-43-4	-	*1.56E+03*	-	*2.60E+04*	*7.08E+03*	-	*3.56E+00*
	Chrysene	218-01-9	1.53E+02	-	3.23E+03	-	-	2.31E+04	1.86E+02
	Dibenz(a,h)anthracene	53-70-3	1.53E-01	-	3.23E+00	-	-	2.40E+01	1.97E+00
	Dibenzofuran	132-64-9	-	*7.80E+01*	-	*1.20E+03*	*1.20E+03*	-	-
	Dibromo-3-Chloropropane[1,2-]	96-12-8	8.58E-02	5.88E+00	1.18E+00	4.11E+01	8.29E+00	5.53E+00	1.39E-03
	Dibromoethane[1,2-]	106-93-4	6.72E-01	1.35E+02	3.31E+00	7.38E+02	1.40E+02	1.63E+01	3.52E-04
	Dibromomethane	74-95-3	-	5.79E+01	-	2.88E+02	5.39E+01	-	3.35E-02
	Dichlorobenzene[1,2-]	95-50-1	-	2.15E+03	-	1.30E+04	2.50E+03	-	9.08E+00
	Dichlorobenzene[1,3-]	541-73-1	*1.29E+03*	*5.48E+03*	*6.73E+03*	*9.08E+04*	*2.48E+04*	*4.59E+04*	*1.12E+00*
	Dichlorobenzene[1,4-]	106-46-7	1.29E+03	5.48E+03	6.73E+03	9.08E+04	2.48E+04	4.59E+04	1.12E+00

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	Dichlorobenzidine[3,3'-]	91-94-1	1.18E+01	-	5.70E+01	-	-	4.10E+02	1.24E-01
	Dichlorodifluoromethane	75-71-8	-	1.82E+02	-	8.65E+02	1.61E+02	-	7.23E+00
	Dichloroethane[1,1-]	75-34-3	7.86E+01	1.56E+04	3.83E+02	2.60E+05	7.08E+04	1.82E+03	1.36E-01
	Dichloroethane[1,2-]	107-06-2	8.32E+00	5.56E+01	4.07E+01	2.86E+02	5.38E+01	1.95E+02	2.38E-02
	Dichloroethene[1,1-]	75-35-4	-	4.40E+02	-	2.26E+03	4.24E+02	-	1.95E+00
	Dichloroethene[cis-1,2-]	156-59-2	-	1.56E+02	-	2.60E+03	7.08E+02	-	3.52E-01
	Dichloroethene[trans-1,2-]	156-60-5	-	2.95E+02	-	1.61E+03	3.05E+02	-	5.03E-01
	Dichlorophenol[2,4-]	120-83-2	-	1.85E+02	-	2.75E+03	8.07E+02	-	8.25E-01
	Dichloropropane[1,2-]	78-87-5	1.78E+01	2.90E+01	8.68E+01	1.37E+02	2.54E+01	4.15E+02	2.77E-02
	Dichloropropane[1,3-]	142-28-9	*1.78E+01*	*2.90E+01*	*8.68E+01*	*1.37E+02*	*2.54E+01*	*4.15E+02*	*2.77E-02*
	Dichloropropane[2,2-]	594-20-7	*1.78E+01*	*2.90E+01*	*8.68E+01*	*1.37E+02*	*2.54E+01*	*4.15E+02*	*2.77E-02*
	Dichloropropene[1,1-]	563-58-6	*2.93E+01*	*1.41E+02*	*1.46E+02*	*6.95E+02*	*1.30E+02*	*7.81E+02*	*2.81E-02*
	Dichloropropene[cis-1,3-]	10061-01-5	*2.93E+01*	*1.41E+02*	*1.46E+02*	*6.95E+02*	*1.30E+02*	*7.81E+02*	*2.81E-02*
	Dichloropropene[trans-1,3-]	10061-02-6	*2.93E+01*	*1.41E+02*	*1.46E+02*	*6.95E+02*	*1.30E+02*	*7.81E+02*	*2.81E-02*
	Diethylphthalate	84-66-2	-	4.93E+04	-	7.33E+05	2.15E+05	-	9.79E+01
	Dimethyl Phthalate	131-11-3	-	*4.93E+04*	-	*7.33E+05*	*2.15E+05*	-	*9.79E+01*
	Dimethylphenol[2,4-]	105-67-9	-	1.23E+03	-	1.83E+04	5.38E+03	-	6.45E+00
	Di-n-butylphthalate	84-74-2	-	6.16E+03	-	9.16E+04	2.69E+04	-	3.38E+01
	Dinitro-2-methylphenol[4,6-]	534-52-1	-	4.93E+00	-	7.33E+01	2.15E+01	-	3.98E-02
	Dinitrobenzene[1,3-]	99-65-0	-	-	-	*8.20E+01*	*8.20E+01*	-	-
	Dinitrophenol[2,4-]	51-28-5	-	1.23E+02	-	1.83E+03	5.38E+02	-	6.69E-01
	Dinitrotoluene[2,4-]	121-14-2	1.71E+01	1.23E+02	8.23E+01	1.82E+03	5.36E+02	6.00E+02	4.92E-02
	Dinitrotoluene[2,6-]	606-20-2	3.56E+00	1.85E+01	1.72E+01	2.76E+02	8.09E+01	1.65E+02	1.02E-02
	Di-n-octylphthalate	117-84-0	-	*6.30E+02*	-	*8.20E+03*	*8.20E+03*	-	-
	Diphenylamine	122-39-4	-	*6.30E+03*	-	*8.20E+04*	*8.20E+04*	-	-
	Ethylbenzene	100-41-4	7.51E+01	3.93E+03	3.68E+02	2.90E+04	5.80E+03	1.77E+03	1.23E+01
	Fluoranthene	206-44-0	-	2.32E+03	-	3.37E+04	1.00E+04	-	1.34E+03
	Fluorene	86-73-7	-	2.32E+03	-	3.37E+04	1.00E+04	-	8.00E+01
	Hexachlorobenzene	118-74-1	3.33E+00	4.93E+01	1.60E+01	7.33E+02	2.15E+02	1.17E+02	1.89E-01
	Hexachlorobutadiene	87-68-3	6.83E+01	6.16E+01	5.21E+01	9.16E+02	2.69E+02	2.40E+03	4.13E-02
	Hexachlorocyclopentadiene	77-47-4	-	2.30E+00	-	5.49E+03	8.67E+02	-	2.40E+00
	Hexachloroethane	67-72-1	1.33E+02	4.31E+01	6.41E+02	6.41E+02	1.88E+02	4.67E+03	3.20E-02
	Hexanone[2-]	591-78-6	-	*2.00E+02*	-	*1.30E+03*	*1.30E+03*	-	-
	HMX	2691-41-0	-	3.85E+03	-	6.33E+04	1.74E+04	-	1.94E+01
	Indeno(1,2,3-cd)pyrene	193-39-5	1.53E+00	-	3.23E+01	-	-	2.40E+02	2.01E+01
	Iodomethane	74-88-4	NV	NV	NV	NV	NV	NV	NV
	Isophorone	78-59-1	5.61E+03	1.23E+04	2.70E+04	1.83E+05	5.37E+04	1.98E+05	4.23E+00
	Isopropylbenzene	98-82-8	-	2.36E+03	-	1.42E+04	2.74E+03	-	1.14E+01
	Isopropyltoluene[4-]	99-87-6	-	*5.23E+03*	-	*6.13E+04*	*1.40E+04*	-	*1.21E+01*
	Methyl-2-pentanone[4-]	108-10-1	-	5.81E+03	-	8.16E+04	2.02E+04	-	4.80E+00
	Methylene Chloride	75-09-2	7.66E+02	4.09E+02	1.44E+04	5.13E+03	1.21E+03	8.96E+04	4.71E-01
	Methylnaphthalene[2-]	91-57-6	-	2.32E+02	-	3.37E+03	1.00E+03	-	2.76E+00

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	Methylphenol[2-]	95-48-7	-	*3.20E+03*	-	*4.10E+04*	*4.10E+04*	-	-
	Methylphenol[3-,4-]	65794-96-9	-	*3.20E+03*	-	*4.10E+04*	*4.10E+04*	-	-
	Methylphenol[4-]	106-44-5	-	*6.30E+03*	-	*8.20E+04*	*8.20E+04*	-	-
	Naphthalene	91-20-3	4.97E+01	1.62E+02	2.41E+02	8.43E+02	1.59E+02	1.11E+03	8.23E-02
	Nitroaniline[2-]	88-74-4	-	*6.30E+02*	-	*8.00E+03*	*8.00E+03*	-	-
	Nitroaniline[3-]	99-09-2	*2.70E+02*	*2.50E+02*	*1.10E+03*	*3.30E+03*	*3.30E+03*	*1.10E+03*	-
	Nitroaniline[4-]	100-01-6	*2.70E+02*	*2.50E+02*	*1.10E+03*	*3.30E+03*	*3.30E+03*	*1.10E+03*	-
	Nitrobenzene	98-95-3	6.04E+01	1.31E+02	2.93E+02	1.54E+03	3.53E+02	1.35E+03	1.44E-02
	Nitrophenol[2-]	88-75-5	-	*1.85E+04*	-	*2.75E+05*	*7.74E+04*	-	*5.23E+01*
	Nitrophenol[4-]	100-02-7	-	*1.85E+04*	-	*2.75E+05*	*7.74E+04*	-	*5.23E+01*
	Nitrosodimethylamine[N-]	62-75-9	2.34E-02	4.93E-01	5.03E-01	7.33E+00	2.14E+00	3.66E+00	2.04E-05
	Nitroso-di-n-propylamine[N-]	621-64-7	*7.80E-01*	-	*3.30E+00*	-	-	*3.30E+00*	-
	Nitrotoluene[2-]	88-72-2	3.16E+01	7.04E+01	1.65E+02	1.17E+03	3.19E+02	1.13E+03	4.58E-02
	Nitrotoluene[3-]	99-08-1	-	6.16E+00	-	9.16E+01	2.69E+01	-	2.50E-02
	Nitrotoluene[4-]	99-99-0	3.33E+02	2.47E+02	1.60E+03	3.67E+03	1.08E+03	1.18E+04	6.13E-01
	Oxybis(1-chloropropane)[2,2'-]	108-60-1	9.93E+01	-	5.19E+02	-	-	3.54E+03	4.75E-02
	Pentachlorophenol	87-86-5	9.85E+00	2.34E+02	4.45E+01	3.18E+03	9.89E+02	3.46E+02	1.52E-01
	PETN	78-11-5	*1.40E+03*	*1.30E+02*	*5.70E+03*	*1.60E+03*	*1.60E+03*	*5.70E+03*	-
	Phenanthrene	85-01-8	-	1.74E+03	-	2.53E+04	7.53E+03	-	8.59E+01
	Phenol	108-95-2	-	1.85E+04	-	2.75E+05	7.74E+04	-	5.23E+01
	Propylbenzene[1-]	103-65-1	-	*3.80E+03*	-	*2.40E+04*	*2.40E+04*	-	-
	Pyrene	129-00-0	-	1.74E+03	-	2.53E+04	7.53E+03	-	1.92E+02
	Pyridine	110-86-1	-	*7.80E+01*	-	*1.20E+03*	*1.20E+03*	-	-
	RDX	121-82-4	8.31E+01	3.01E+02	4.28E+02	4.89E+03	1.35E+03	2.96E+03	5.93E-02
	Styrene	100-42-5	-	7.26E+03	-	5.13E+04	1.02E+04	-	2.06E+01
	TATB	3058-38-6	-	*2.20E+03*	-	*3.20E+04*	*3.20E+04*	-	-
	Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	4.90E-05	5.06E-05	2.38E-04	8.08E-04	2.26E-04	1.72E-03	2.24E-04
	Tetrachlorodibenzofuran[2,3,7,8-]	51207-31-9	4.90E-04	-	2.43E-03	-	-	1.72E-02	7.69E-06
	Tetrachloroethane[1,1,1,2-]	630-20-6	2.81E+01	2.35E+03	1.37E+02	3.89E+04	1.06E+04	6.59E+02	3.60E-02
	Tetrachloroethane[1,1,2,2-]	79-34-5	7.98E+00	1.56E+03	3.94E+01	2.60E+04	7.08E+03	1.97E+02	4.81E-03
	Tetrachloroethene	127-18-4	3.37E+02	1.11E+02	1.65E+03	6.29E+02	1.20E+02	7.91E+03	3.21E-01
	Tetryl	479-45-8	-	1.56E+02	-	2.59E+03	7.06E+02	-	5.59E+00
	Toluene	108-88-3	-	5.23E+03	-	6.13E+04	1.40E+04	-	1.21E+01
	Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	-	2.00E+03	-	3.00E+03	-	-	5.72E+03
	Total Petroleum Hydrocarbons Gasoline Range Org.	TPH-GRO	-	1.00E+02	-	5.00E+02	-	-	6.93E+03
	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	-	5.08E+04	-	2.43E+05	4.53E+04	-	3.20E+03
	Trichlorobenzene[1,2,4-]	120-82-1	2.40E+02	8.29E+01	1.25E+03	4.23E+02	7.91E+01	8.54E+03	3.10E+00
	Trichloroethane[1,1,1-]	71-55-6	-	1.44E+04	-	7.25E+04	1.36E+04	-	5.11E+01
	Trichloroethane[1,1,2-]	79-00-5	1.88E+01	2.61E+00	9.21E+01	1.24E+01	2.30E+00	4.30E+03	2.68E-02
	Trichloroethene	79-01-6	1.55E+01	6.77E+00	1.12E+02	3.65E+01	6.90E+00	5.37E+03	3.10E-02

Parameter Category	Parameter name	CAS NO.	Residential Cancer (mg/kg)	Residential Noncancer (mg/kg)	Industrial Cancer (mg/kg)	Industrial Noncancer (mg/kg)	Construction Worker Noncancer (mg/kg)	Construction Worker Cancer (mg/kg)	SL-SSL, DAF 20 (mg/kg)
	Trichlorofluoromethane	75-69-4	-	1.23E+03	-	6.03E+03	1.13E+03	-	1.57E+01
	Trichlorophenol[2,4,5-]	95-95-4	-	6.16E+03	-	9.16E+04	2.69E+04	-	6.62E+01
	Trichlorophenol[2,4,6-]	88-06-2	4.84E+02	6.16E+01	2.33E+03	9.16E+02	2.69E+02	1.70E+04	6.74E-01
	Trichloropropane[1,2,3-]	96-18-4	5.10E-02	7.09E+00	1.21E+00	3.40E+01	6.31E+00	8.26E+00	5.82E-05
	Trimethylbenzene[1,2,4-]	95-63-6	-	*3.00E+02*	-	*1.80E+03*	*1.80E+03*	-	-
	Trimethylbenzene[1,3,5-]	108-67-8	-	*2.70E+02*	-	*1.50E+03*	*1.50E+03*	-	-
	Trinitrobenzene[1,3,5-]	99-35-4	-	*2.20E+03*	-	*3.20E+04*	*3.20E+04*	-	-
	Trinitrotoluene[2,4,6-]	118-96-7	2.11E+02	3.60E+01	1.07E+03	5.73E+02	1.61E+02	7.50E+03	8.61E-01
	Tris (o-cresyl) phosphate	78-30-8	*1.70E+03*	*6.30E+03*	*7.20E+03*	*8.20E+04*	*8.20E+04*	*7.20E+03*	-
	Vinyl Chloride	75-01-4	7.42E-01	1.13E+02	2.84E+01	8.16E+02	1.62E+02	1.61E+02	1.34E-02
	Xylene[1,2-]	95-47-6	-	8.05E+02	-	3.94E+03	7.36E+02	-	2.98E+00
	Xylene[1,3-]+Xylene[1,4-]	Xylene[m+p]	-	8.71E+02	-	4.28E+03	7.98E+02	-	1.54E+02

Notes:

Italics indicate a surrogate was used because an NMSSL was not available. See Section 2.1.3

mg/kg – milligram per kilogram

NV – No value

SL-SSL DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-2. Summary Statistics for the Risk Assessment Soil Data

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Inorganics							
Aluminum	7429-90-5	29	1.45E+03	1.25E+04	6.23E+00	8.08E+00	29
Antimony	7440-36-0	29	4.18E-01	1.22E+00	3.02E-01	3.92E-01	7
Arsenic	7440-38-2	39	6.56E-01	3.67E+00	1.79E-01	3.89E-01	39
Barium	7440-39-3	39	6.99E+01	1.26E+04	9.16E-02	1.20E+01	39
Beryllium	7440-41-7	29	1.43E-01	1.13E+00	1.79E-02	2.30E-02	29
Cadmium	7440-43-9	39	3.19E-01	5.62E-01	2.00E-02	1.19E-01	10
Calcium	Ca	29	9.63E+02	1.61E+04	7.33E+00	9.59E+00	29
Chromium	16065-83-1	39	3.05E+00	1.11E+01	1.37E-01	2.40E-01	39
Cobalt	7440-48-4	29	1.02E+00	3.40E+00	1.37E-01	1.62E+00	20
Copper	7440-50-8	29	5.78E+00	1.13E+02	2.75E-01	3.56E-01	27
Iron	7439-89-6	29	3.06E+03	1.70E+04	7.33E+00	9.59E+00	29
Lead	7439-92-1	39	5.19E+00	2.28E+02	1.00E-01	3.92E-01	39
Magnesium	Mg	29	7.60E+02	2.24E+03	7.78E+00	1.01E+01	29
Manganese	7439-96-5	29	6.36E+01	5.38E+02	1.83E-01	2.40E-01	29
Mercury	7487-94-7	39	3.68E-03	4.00E-02	3.57E-03	4.60E-03	34
Nickel	7440-02-0	29	3.30E+00	1.07E+01	8.95E-02	1.15E-01	29
Nitrate	14797-55-8	12	5.14E-01	4.02E+00	3.12E-01	3.67E-01	12
Perchlorate	14797-73-0	29	5.17E-04	1.73E-03	5.00E-04	6.10E-04	7
Potassium	K	29	2.47E+02	1.80E+03	5.86E+00	7.60E+00	29
Selenium	7782-49-2	39	9.58E-01	3.05E+00	2.95E-01	5.90E-01	14
Silver	7440-22-4	39	1.57E-01	7.95E+00	9.16E-02	1.20E-01	35
Sodium	Na	29	5.85E+01	1.54E+02	6.41E+00	8.31E+00	29
Thallium	7440-28-0	29	7.72E-02	4.55E-01	5.37E-02	1.61E-01	19
Vanadium	7440-62-2	29	6.99E+00	1.90E+01	9.16E-02	1.19E-01	29
Zinc	7440-66-6	29	2.64E+01	1.15E+02	3.66E-01	4.75E-01	29
Organics							
2,3,7,8-TCDD	1746-01-6	10	-	1.34E-06	8.83E-08	1.35E-07	7
2,4-Diamino-6-nitrotoluene	6629-29-4	39	ND	ND	4.78E-01	5.08E-01	0
2,6-Diamino-4-nitrotoluene	59229-75-3	39	ND	ND	6.32E-01	6.70E-01	0
3,5-Dinitroaniline	618-87-1	39	1.33E+00	1.33E+00	2.87E-01	3.05E-01	1
Acenaphthene	83-32-9	29	ND	ND	1.00E-02	3.05E-01	0
Acenaphthylene	208-96-8	29	ND	ND	1.00E-02	3.05E-01	0
Acetone	67-64-1	24	ND	ND	1.53E-03	2.04E-03	0
Amino-2,6-dinitrotoluene[4-]	19406-51-0	39	2.10E-01	3.24E+00	1.44E-01	1.52E-01	8
mino-4,6-dinitrotoluene[2-]	35572-78-2	39	2.77E-01	1.49E+00	1.44E-01	1.52E-01	8

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Aniline	62-53-3	29	ND	ND	1.00E-01	3.05E+00	0
Anthracene	120-12-7	29	1.42E-02	5.09E-01	1.00E-02	3.05E-01	3
Azobenzene	103-33-3	29	ND	ND	1.00E-01	3.05E+00	0
Benzene	71-43-2	24	ND	ND	3.05E-04	4.07E-04	0
Benzo(a)anthracene	56-55-3	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(a)pyrene	50-32-8	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(b)fluoranthene	205-99-2	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(g,h,i)perylene	191-24-2	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(k)fluoranthene	207-08-9	29	ND	ND	1.00E-02	3.05E-01	0
Benzoic Acid	65-85-0	29	4.83E-01	4.90E-01	1.67E-01	5.09E+00	2
Benzyl Alcohol	100-51-6	29	ND	ND	1.00E-01	3.05E+00	0
Bis(2-chloroethoxy)methane	111-91-1	29	ND	ND	1.00E-01	3.05E+00	0
Bis(2-chloroethyl)ether	111-44-4	29	ND	ND	1.00E-01	3.05E+00	0
Bis(2-ethylhexyl)phthalate	117-81-7	29	1.11E-02	5.66E+01	1.01E-02	3.05E-01	10
Bromobenzene	108-86-1	24	ND	ND	3.05E-04	4.07E-04	0
Bromochloromethane	74-97-5	24	ND	ND	3.05E-04	4.07E-04	0
Bromodichloromethane	75-27-4	24	ND	ND	3.05E-04	4.07E-04	0
Bromoform	75-25-2	24	ND	ND	3.05E-04	4.07E-04	0
Bromomethane	74-83-9	24	ND	ND	3.05E-04	4.07E-04	0
Bromophenyl-phenylether[4-]	101-55-3	29	ND	ND	1.00E-01	3.05E+00	0
Butanone[2-]	78-93-3	24	ND	ND	1.53E-03	2.04E-03	0
Butylbenzene[n-]	104-51-8	24	ND	ND	3.05E-04	4.07E-04	0
Butylbenzene[sec-]	135-98-8	24	ND	ND	3.05E-04	4.07E-04	0
Butylbenzene[tert-]	98-06-6	24	ND	ND	3.05E-04	4.07E-04	0
Butylbenzylphthalate	85-68-7	29	ND	ND	1.01E-02	3.05E-01	0
Carbon Disulfide	75-15-0	24	ND	ND	1.53E-03	2.04E-03	0
Carbon Tetrachloride	56-23-5	24	ND	ND	3.05E-04	4.07E-04	0
Chloro-3-methylphenol[4-]	59-50-7	29	ND	ND	1.34E-01	4.07E+00	0
Chloroaniline[4-]	106-47-8	29	ND	ND	1.00E-01	3.05E+00	0
Chlorobenzene	108-90-7	24	ND	ND	3.05E-04	4.07E-04	0
Chlorodibromomethane	124-48-1	24	ND	ND	3.05E-04	4.07E-04	0
Chloroethane	75-00-3	24	ND	ND	3.05E-04	4.07E-04	0
Chloroform	67-66-3	24	ND	ND	3.05E-04	4.07E-04	0
Chloromethane	74-87-3	24	ND	ND	3.05E-04	4.07E-04	0
Chloronaphthalene[2-]	91-58-7	29	ND	ND	1.00E-02	3.05E-01	0
Chlorophenol[2-]	95-57-8	29	ND	ND	1.00E-01	3.05E+00	0
Chlorophenyl-phenyl[4-] Ether	7005-72-3	29	ND	ND	1.00E-01	3.05E+00	0
Chlorotoluene[2-]	95-49-8	24	ND	ND	3.05E-04	4.07E-04	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Chlorotoluene[4-]	106-43-4	24	ND	ND	3.05E-04	4.07E-04	0
Chrysene	218-01-9	29	ND	ND	1.00E-02	3.05E-01	0
Dibenz(a,h)anthracene	53-70-3	29	ND	ND	1.00E-02	3.05E-01	0
Dibenzofuran	132-64-9	29	ND	ND	1.00E-01	3.05E+00	0
Dibromo-3-Chloropropane[1,2-]	96-12-8	24	ND	ND	5.07E-04	6.10E-04	0
Dibromoethane[1,2-]	106-93-4	24	ND	ND	3.05E-04	4.07E-04	0
Dibromomethane	74-95-3	24	ND	ND	3.05E-04	4.07E-04	0
Dichlorobenzene[1,2-]	95-50-1	53	ND	ND	3.05E-04	3.05E+00	0
Dichlorobenzene[1,3-]	541-73-1	53	ND	ND	3.05E-04	3.05E+00	0
Dichlorobenzene[1,4-]	106-46-7	53	ND	ND	3.05E-04	3.05E+00	0
Dichlorobenzidine[3,3'-]	91-94-1	29	ND	ND	1.00E-01	3.05E+00	0
Dichlorodifluoromethane	75-71-8	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethane[1,1-]	75-34-3	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethane[1,2-]	107-06-2	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethene[1,1-]	75-35-4	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethene[cis-1,2-]	156-59-2	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethene[trans-1,2-]	156-60-5	24	ND	ND	3.05E-04	4.07E-04	0
Dichlorophenol[2,4-]	120-83-2	29	ND	ND	1.00E-01	3.05E+00	0
Dichloropropane[1,2-]	78-87-5	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropane[1,3-]	142-28-9	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropane[2,2-]	594-20-7	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropene[1,1-]	563-58-6	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropene[cis-1,3-]	10061-01-5	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropene[trans-1,3-]	10061-02-6	24	ND	ND	3.05E-04	4.07E-04	0
Diethylphthalate	84-66-2	29	ND	ND	1.01E-02	3.05E-01	0
Dimethyl Phthalate	131-11-3	29	ND	ND	1.01E-02	3.05E-01	0
Dimethylphenol[2,4-]	105-67-9	29	ND	ND	1.00E-01	3.05E+00	0
Di-n-butylphthalate	84-74-2	29	ND	ND	1.01E-02	3.05E-01	0
Dinitro-2-methylphenol[4,6-]	534-52-1	29	ND	ND	1.00E-01	3.05E+00	0
Dinitrobenzene[1,3-]	99-65-0	39	ND	ND	1.44E-01	1.52E-01	0
Dinitrophenol[2,4-]	51-28-5	29	ND	ND	1.00E-01	3.05E+00	0
Dinitrotoluene[2,4-]	121-14-2	68	1.72E-01	1.72E-01	1.00E-01	3.05E+00	1
Dinitrotoluene[2,6-]	606-20-2	68	ND	ND	1.00E-01	3.05E+00	0
Di-n-octylphthalate	117-84-0	29	ND	ND	1.01E-02	3.05E-01	0
Diphenylamine	122-39-4	29	ND	ND	1.00E-01	3.05E+00	0
Ethylbenzene	100-41-4	24	ND	ND	3.05E-04	4.07E-04	0
Fluoranthene	206-44-0	29	ND	ND	1.00E-02	3.05E-01	0
Fluorene	86-73-7	29	ND	ND	1.00E-02	3.05E-01	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Hexachlorobenzene	118-74-1	29	ND	ND	1.00E-01	3.05E+00	0
Hexachlorobutadiene	87-68-3	29	ND	ND	1.00E-01	3.05E+00	0
Hexachlorocyclopentadiene	77-47-4	29	ND	ND	1.00E-01	3.05E+00	0
Hexachloroethane	67-72-1	29	ND	ND	1.00E-01	3.05E+00	0
Hexanone[2-]	591-78-6	24	ND	ND	1.53E-03	2.04E-03	0
HMX	2691-41-0	39	1.82E-01	1.60E+02	1.44E-01	3.73E+01	17
Indeno(1,2,3-cd)pyrene	193-39-5	29	ND	ND	1.00E-02	3.05E-01	0
Iodomethane	74-88-4	24	ND	ND	1.53E-03	2.04E-03	0
Isophorone	78-59-1	29	ND	ND	1.00E-01	3.05E+00	0
Isopropylbenzene	98-82-8	24	ND	ND	3.05E-04	4.07E-04	0
Isopropyltoluene[4-]	99-87-6	24	4.24E-04	1.05E-03	3.05E-04	4.07E-04	2
Methyl-2-pentanone[4-]	108-10-1	24	ND	ND	1.53E-03	2.04E-03	0
Methylene Chloride	75-09-2	24	2.62E-03	4.73E-03	1.69E-03	2.16E-03	2
Methylnaphthalene[2-]	91-57-6	29	1.31E-02	1.31E-02	1.00E-02	3.05E-01	1
Methylphenol[2-]	95-48-7	29	ND	ND	1.00E-01	3.05E+00	0
Methylphenol[3-,4-]	65794-96-9	14	ND	ND	1.01E-01	3.05E+00	0
Methylphenol[4-]	106-44-5	15	ND	ND	1.00E-01	1.08E-01	0
Naphthalene	91-20-3	29	ND	ND	1.00E-02	3.05E-01	0
Nitroaniline[2-]	88-74-4	29	ND	ND	1.10E-01	3.36E+00	0
Nitroaniline[3-]	99-09-2	29	ND	ND	1.00E-01	3.05E+00	0
Nitroaniline[4-]	100-01-6	29	ND	ND	1.00E-01	3.05E+00	0
Nitrobenzene	98-95-3	68	ND	ND	1.00E-01	3.05E+00	0
Nitrophenol[2-]	88-75-5	29	ND	ND	1.00E-01	3.05E+00	0
Nitrophenol[4-]	100-02-7	29	ND	ND	1.00E-01	3.05E+00	0
Nitrosodimethylamine[N-]	62-75-9	29	ND	ND	1.00E-01	3.05E+00	0
Nitroso-di-n-propylamine[N-]	621-64-7	29	ND	ND	1.00E-01	3.05E+00	0
Nitrotoluene[2-]	88-72-2	39	ND	ND	1.44E-01	1.52E-01	0
Nitrotoluene[3-]	99-08-1	39	ND	ND	1.44E-01	1.52E-01	0
Nitrotoluene[4-]	99-99-0	39	ND	ND	1.44E-01	1.52E-01	0
Oxybis(1-chloropropane)[2,2'-]	108-60-1	29	ND	ND	1.00E-01	3.05E+00	0
Pentachlorophenol	87-86-5	29	ND	ND	1.00E-01	3.05E+00	0
PETN	78-11-5	39	3.88E+01	3.88E+01	2.39E-01	6.25E+00	1
Phenanthrene	85-01-8	29	ND	ND	1.00E-02	3.05E-01	0
Phenol	108-95-2	29	ND	ND	1.00E-01	3.05E+00	0
Propylbenzene[1-]	103-65-1	24	ND	ND	3.05E-04	4.07E-04	0
Pyrene	129-00-0	29	ND	ND	1.00E-02	3.05E-01	0
Pyridine	110-86-1	29	ND	ND	1.00E-01	3.05E+00	0
RDX	121-82-4	39	1.56E-01	7.24E+01	1.46E-01	3.75E+00	17

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Styrene	100-42-5	24	ND	ND	3.05E-04	4.07E-04	0
TATB	3058-38-6	38	3.65E-01	4.32E+01	2.87E-01	3.00E+00	22
Tetrachloroethane[1,1,1,2-]	630-20-6	24	ND	ND	3.05E-04	4.07E-04	0
Tetrachloroethane[1,1,2,2-]	79-34-5	24	ND	ND	3.05E-04	4.07E-04	0
Tetrachloroethene	127-18-4	24	ND	ND	3.05E-04	4.07E-04	0
Tetryl	479-45-8	25	ND	ND	1.44E-01	1.52E-01	0
Toluene	108-88-3	24	ND	ND	3.05E-04	4.07E-04	0
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	14	3.54E+00	7.91E+01	2.19E+00	2.64E+00	14
Total Petroleum Hydrocarbons Gasoline Range Org.	TPH-GRO	14	ND	ND	1.41E-02	2.31E-02	0
Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	24	ND	ND	1.53E-03	2.04E-03	0
Trichlorobenzene[1,2,4-]	120-82-1	29	ND	ND	1.00E-01	3.05E+00	0
Trichloroethane[1,1,1-]	71-55-6	24	ND	ND	3.05E-04	4.07E-04	0
Trichloroethane[1,1,2-]	79-00-5	24	ND	ND	3.05E-04	4.07E-04	0
Trichloroethene	79-01-6	24	ND	ND	3.05E-04	4.07E-04	0
Trichlorofluoromethane	75-69-4	24	ND	ND	3.05E-04	4.07E-04	0
Trichlorophenol[2,4,5-]	95-95-4	29	ND	ND	1.00E-01	3.05E+00	0
Trichlorophenol[2,4,6-]	88-06-2	29	ND	ND	1.00E-01	3.05E+00	0
Trichloropropane[1,2,3-]	96-18-4	24	ND	ND	3.05E-04	4.07E-04	0
Trimethylbenzene[1,2,4-]	95-63-6	24	ND	ND	3.05E-04	4.07E-04	0
Trimethylbenzene[1,3,5-]	108-67-8	24	ND	ND	3.05E-04	4.07E-04	0
Trinitrobenzene[1,3,5-]	99-35-4	39	3.97E-01	4.60E-01	1.44E-01	1.52E-01	3
Trinitrotoluene[2,4,6-]	118-96-7	39	2.42E-01	1.27E+01	1.44E-01	1.49E+00	7
Tris (o-cresyl) phosphate	78-30-8	39	ND	ND	2.87E-01	3.05E-01	0
Vinyl Chloride	75-01-4	24	ND	ND	3.05E-04	4.07E-04	0
Xylene[1,2-]	95-47-6	24	ND	ND	3.05E-04	4.07E-04	0
Xylene[1,3-]+Xylene[1,4-]	Xylene[m+p]	24	ND	ND	3.05E-04	8.14E-04	0

Note: Data are for soils depths from 0 to 12". Data as shown contain duplicates.
ND – Not detected

Table 2-3. Comparison of Maximum Detected Values to Background

Parameter Category	Parameter Name	Maximum Detected Value (mg/kg)	BV (mg/kg)	Maximum BV Ratio
INORGANIC	Aluminum	1.25E+04	2.92E+04	4.28E-01
	Antimony	1.22E+00	8.30E-01	1.47E+00
	Arsenic	3.67E+00	8.17E+00	4.49E-01
	Barium	1.26E+04	2.95E+02	4.27E+01
	Beryllium	1.13E+00	1.83E+00	6.17E-01
	Cadmium	5.62E-01	4.00E-01	1.41E+00
	Calcium	1.61E+04	6.12E+03	2.63E+00
	Chromium	1.11E+01	1.93E+01	5.75E-01
	Cobalt	3.40E+00	8.64E+00	3.94E-01
	Copper	1.13E+02	1.47E+01	7.69E+00
	Iron	1.70E+04	2.15E+04	7.91E-01
	Lead	2.28E+02	2.23E+01	1.02E+01
	Magnesium	2.24E+03	4.61E+03	4.86E-01
	Manganese	5.38E+02	6.71E+02	8.02E-01
	Mercury	4.00E-02	1.00E-01	4.00E-01
	Nickel	1.07E+01	1.54E+01	6.95E-01
	Nitrate	4.02E+00	NV	NA
	Perchlorate	1.73E-03	NV	NA
	Potassium	1.80E+03	3.46E+03	5.20E-01
	Selenium	3.05E+00	1.52E+00	2.01E+00
	Silver	7.95E+00	1.00E+00	7.95E+00
	Sodium	1.54E+02	9.15E+02	1.68E-01
	Thallium	4.55E-01	7.30E-01	6.23E-01
	Vanadium	1.90E+01	3.96E+01	4.80E-01
	Zinc	1.15E+02	4.88E+01	2.36E+00

Notes: Shaded cells indicate maximum exceeds background, analyte further evaluated
Analytes indicated as NA are carried forward

BV – Background value
mg/kg – Milligram per kilogram
NA – Not applicable
NV – No value

Table 2-4. Human Health Screening Results for Maximum Detected Exposure Point Concentrations Greater than Background

Parameter Category	Name	Maximum Detected Value (mg/kg)	Resident Cancer Risk	Resident HQ	Industrial Worker Cancer Risk	Industrial Worker HQ	CW Cancer Risk	CW HQ	SL-SSL, DAF 20 Ratio
INORGANIC	Antimony	1.22E+00	NA	4E-02	NA	2E-03	NA	9E-03	2E-01
	Barium	1.26E+04	NA	8E-01	NA	5E-02	NA	3E+00	5E+00
	Cadmium	5.62E-01	7E-11	8E-03	1E-11	5E-04	2E-09	8E-03	6E-02
	Calcium	1.61E+04	NA	1E-03	NA	5E-04	NA	2E-03	NA
	Copper	1.13E+02	NA	4E-02	NA	2E-03	NA	8E-03	1E-01
	Nitrate	4.02E+00	NA	3E-05	NA	2E-06	NA	7E-06	9E-03
	Perchlorate	1.73E-03	NA	3E-05	NA	2E-06	NA	7E-06	1E-02
	Selenium	3.05E+00	NA	8E-03	NA	5E-04	NA	2E-03	3E-01
	Silver	7.95E+00	NA	2E-02	NA	1E-03	NA	4E-03	6E-01
	Zinc	1.15E+02	NA	5E-03	NA	3E-04	NA	1E-03	2E-02
ORGANIC	2,3,7,8 TCDD TEQ	6.08E+00	6E-05	6E+00	1E-05	4E-01	2E-06	1E+00	1E+00
	3,5-Dinitroaniline	1.33E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Amino-2,6-dinitrotoluene[4-]	3.24E+00	NA	4E-01	NA	3E-02	NA	3E-02	NA
	Amino-4,6-dinitrotoluene[2-]	1.49E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Anthracene	5.09E-01	NA	3E-05	NA	2E-06	NA	7E-06	6E-04
	Benzoic Acid	4.90E-01	NA	2E-06	NA	1E-07	NA	1E-07	NA
	Bis(2-ethylhexyl)phthalate	5.66E+01	1E-06	5E-02	3E-07	3E-03	4E-08	1E-02	3E-01
	Dinitrotoluene[2,4-]	1.72E-01	1E-07	1E-03	2E-08	9E-05	3E-09	3E-04	3E+00
	HMX	1.60E+02	NA	4E-02	NA	3E-03	NA	9E-03	8E+00
	Isopropyltoluene[4-]	1.05E-03	NA	2E-07	NA	2E-08	NA	7E-08	9E-05
	Methylene Chloride	4.73E-03	6E-11	1E-05	3E-12	9E-07	5E-13	4E-06	1E-02
	Methylnaphthalene[2-]	1.31E-02	NA	6E-05	NA	4E-06	NA	1E-05	5E-03
	PETN	3.88E+01	3E-07	3E-01	7E-08	2E-02	7E-08	2E-02	NA
	RDX	7.24E+01	9E-06	2E-01	2E-06	1E-02	2E-07	5E-02	1E+03
	TATB	4.32E+01	NA	2E-02	NA	1E-03	NA	1E-03	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	7.91E+01	NA	4E-02	NA	3E-02	NA	NA	1E-02
	Trinitrobenzene[1,3,5-]	4.60E-01	NA	2E-04	NA	1E-05	NA	1E-05	NA
	Trinitrotoluene[2,4,6-]	1.27E+01	6E-07	4E-01	1E-07	2E-02	2E-08	8E-02	1E+01
Cumulative Cancer Risk			7E-05		1E-05		2E-06		
Hazard Index				9E+00		6E-01		4E+00	1E+03

Notes:
Shaded cells indicate risk or HQ exceeds target

CW – Construction worker
HQ – Noncancer hazard quotient
mg/kg – milligram per kilogram
NA – Not applicable
SL-SSL, DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of

Table 2-5. Human Health TEFs

Category	Name	TEF	CAS
Chlorinated dibenzo-p-dioxins	2,3,7,8-TCDD	1	1746-01-6
	1,2,3,7,8-PeCDD	1	40321-76-4
	1,2,3,4,7,8-HxCDD	0.1	39227-28-6
	1,2,3,6,7,8-HxCDD	0.1	57653-85-7
	1,2,3,7,8,9-HxCDD	0.1	19408-74-3
	1,2,3,4,6,7,8-HpCDD	0.01	35822-46-9
Chlorinated dibenzofurans	OCDD	0.0003	3268-87-9
	2,3,7,8-TCDF	0.1	51207-31-9
	1,2,3,7,8-PeCDF	0.03	57117-41-6
	2,3,4,7,8-PeCDF	0.3	57117-31-4
	1,2,3,4,7,8-HxCDF	0.1	70648-26-9
	1,2,3,6,7,8-HxCDF	0.1	57653-85-7
	1,2,3,7,8,9-HxCDF	0.1	72918-21-9
	2,3,4,6,7,8-HxCDF	0.1	60851-34-5
	1,2,3,4,6,7,8-HpCDF	0.01	67562-39-4
	1,2,3,4,7,8,9-HpCDF	0.01	55673-89-7
	OCDF	0.0003	39001-02-0

Source: NMED (2019), EPA (2010b).

Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample

Parameter name	09RCRA695		09RCRA697		09RCRA699		09RCRA701		09RCRA703		09RCRA705		09RCRA707		09RCRA709		09RCRA711		09RCRA731	
	Result (mg/kg)	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	3.41E-05	1	8.61E-05	1	1.02E-04	1	5.06E-05	1	2.09E-04	1	2.08E-04	1	1.29E-04	1	1.85E-04	1	4.80E-03	1	3.18E-05	1
1,2,3,4,5,6,7,8-OCDF	3.98E-06	1	1.25E-05	1	1.27E-05	1	5.82E-06	1	2.93E-05	1	2.79E-05	1	1.95E-05	1	2.19E-05	1	6.57E-04	1	3.64E-06	1
1,2,3,4,6,7,8-HpCDD	4.50E-06	1	8.35E-06	1	1.31E-05	1	8.37E-06	1	3.67E-05	1	3.66E-05	1	2.01E-05	1	3.23E-05	1	9.00E-04	1	5.93E-06	1
1,2,3,4,6,7,8-HpCDF	2.33E-06	1	3.50E-06	1	4.30E-06	1	3.05E-06	1	1.27E-05	1	1.13E-05	1	7.27E-06	1	8.71E-06	1	2.88E-04	1	2.02E-06	1
1,2,3,4,7,8,9-HpCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	1.02E-06	1	9.20E-07	1	7.30E-07	1	7.41E-07	1	1.92E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	7.33E-07	1	7.41E-07	1	4.44E-07	0	7.71E-07	1	1.79E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDF	6.73E-07	1	5.88E-07	1	5.83E-07	1	4.66E-07	0	9.55E-07	1	7.64E-07	1	7.87E-07	1	7.66E-07	1	1.21E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDD	4.36E-07	0	4.67E-07	1	5.61E-07	1	4.66E-07	0	1.58E-06	1	1.40E-06	1	7.53E-07	1	1.28E-06	1	3.33E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDF	4.36E-07	0	4.53E-07	1	4.82E-07	1	4.66E-07	0	8.90E-07	1	0.00E+00	1	7.41E-07	1	7.37E-07	1	1.44E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDD	4.36E-07	0	0.00E+00	1	0.00E+00	1	4.66E-07	0	1.65E-06	1	1.49E-06	1	8.03E-07	1	0.00E+00	1	4.07E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	4.44E-07	0	2.02E-06	1	4.42E-07	0
1,2,3,7,8-PeCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	0.00E+00	1	6.99E-06	1	4.42E-07	0
1,2,3,7,8-PeCDF	1.59E-06	1	4.83E-07	1	8.30E-07	1	4.66E-07	0	4.64E-07	0	4.60E-07	0	5.72E-07	1	4.76E-07	1	1.65E-06	1	4.42E-07	0
2,3,4,6,7,8-HxCDF	4.36E-07	0	6.30E-07	1	5.67E-07	1	4.66E-07	0	1.13E-06	1	9.33E-07	1	0.00E+00	1	8.63E-07	1	1.78E-05	1	4.42E-07	0
2,3,4,7,8-PeCDF	4.36E-07	0	5.13E-07	1	4.48E-07	0	4.66E-07	0	4.66E-07	1	4.60E-07	0	6.77E-07	1	0.00E+00	1	1.97E-06	1	4.42E-07	0
2,3,7,8-TCDD	9.11E-08	0	1.03E-07	1	1.33E-07	1	9.37E-08	0	6.18E-07	1	1.11E-07	0	0.00E+00	1	5.49E-07	1	1.34E-06	1	4.61E-07	1
2,3,7,8-TCDF	3.14E-06	1	6.59E-07	1	0.00E+00	1	1.14E-06	1	1.82E-07	0	5.45E-07	1	0.00E+00	1	5.95E-07	1	1.51E-06	1	2.45E-07	1
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.02E-08		2.58E-08		3.06E-08		1.52E-08		6.27E-08		6.24E-08		3.87E-08		5.55E-08		1.44E-06		9.54E-09	
1,2,3,4,5,6,7,8-OCDF	1.19E-09		3.75E-09		3.81E-09		1.75E-09		8.79E-09		8.37E-09		5.85E-09		6.57E-09		1.97E-07		1.09E-09	
1,2,3,4,6,7,8-HpCDD	4.50E-08		8.35E-08		1.31E-07		8.37E-08		3.67E-07		3.66E-07		2.01E-07		3.23E-07		9.00E-06		5.93E-08	
1,2,3,4,6,7,8-HpCDF	2.33E-08		3.50E-08		4.30E-08		3.05E-08		1.27E-07		1.13E-07		7.27E-08		8.71E-08		2.88E-06		2.02E-08	
1,2,3,4,7,8,9-HpCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.02E-08		9.20E-09		7.30E-09		7.41E-09		1.92E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.33E-08		7.41E-08		0.00E+00		7.71E-08		1.79E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	6.73E-08		5.88E-08		5.83E-08		0.00E+00		9.55E-08		7.64E-08		7.87E-08		7.66E-08		1.21E-06		0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00		4.67E-08		5.61E-08		0.00E+00		1.58E-07		1.40E-07		7.53E-08		1.28E-07		3.33E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00		4.53E-08		4.82E-08		0.00E+00		8.90E-08		0.00E+00		7.41E-08		7.37E-08		1.44E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.65E-07		1.49E-07		8.03E-08		0.00E+00		4.07E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.02E-07		0.00E+00	
1,2,3,7,8-PeCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.99E-06		0.00E+00	
1,2,3,7,8-PeCDF	4.77E-08		1.45E-08		2.49E-08		0.00E+00		0.00E+00		0.00E+00		1.72E-08		1.43E-08		4.95E-08		0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00		6.30E-08		5.67E-08		0.00E+00		1.13E-07		9.33E-08		0.00E+00		0.00E+00		1.78E-06		0.00E+00	
2,3,4,6,7,S-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.63E-08		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		1.54E-07		0.00E+00		0.00E+00		1.40E-07		0.00E+00		2.03E-07		0.00E+00		5.91E-07		0.00E+00	
2,3,7,8-TCDD	0.00E+00		1.03E-07		1.33E-07		0.00E+00		6.18E-07		0.00E+00		0.00E+00		5.49E-07		1.34E-06		4.61E-07	
2,3,7,8-TCDF	3.14E-07		6.59E-08		0.00E+00		1.14E-07		0.00E+00		5.45E-08		0.00E+00		5.95E-08		1.51E-07		2.45E-08	
TEQ	**5.09E-07**		**6.99E-07**		**5.86E-07**		**2.45E-07**		**2.03E-06**		**1.15E-06**		**8.54E-07**		**1.54E-06**		**3.67E-05**		**5.76E-07**	

Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

Parameter name		RE16-12-17672		RE16-12-17673		RE16-12-17674		RE16-12-17675		RE16-12-17676		RE16-12-17677		RE16-12-17678		RE16-12-17679		RE16-12-17680		RE16-12-17681	
	CAS NO.	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	6.68E-05	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1				
1,2,3,4,5,6,7,8-OCDF	39001-02-0	8.05E-06	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1	6.32E-03	1
1,2,3,4,6,7,8-HpCDD	35822-46-9	1.20E-05	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1	8.77E-03	1
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.75E-06	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1	2.35E-03	1
1,2,3,4,7,8,9-HpCDF	55673-89-7	1.73E-06	0	1.39E-06	1	1.81E-06	0	8.79E-07	1	1.17E-06	1	1.74E-06	0	1.71E-06	0	1.50E-06	1	3.30E-05	1	1.59E-04	1
1,2,3,4,7,8-HxCDD	39227-28-6	1.73E-06	0	1.20E-06	1	1.81E-06	0	7.40E-07	1	8.66E-07	1	1.74E-06	0	1.71E-06	0	1.61E-06	1	3.08E-05	1	1.52E-04	1
1,2,3,4,7,8-HxCDF	70648-26-9	9.68E-07	1	1.75E-06	1	1.81E-06	0	7.33E-07	1	8.23E-07	1	1.74E-06	0	1.71E-06	0	9.85E-07	1	1.69E-05	1	8.36E-05	1
1,2,3,6,7,8-HxCDD	57653-85-7	8.23E-07	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	1.74E-06	0	7.55E-07	1	3.69E-06	1	7.18E-05	1	3.33E-04	1
1,2,3,6,7,8-HxCDF	57117-44-9	9.02E-07	1	1.10E-06	1	1.81E-06	0	7.05E-07	1	7.81E-07	1	1.74E-06	0	1.71E-06	0	1.32E-06	1	2.23E-05	1	1.07E-04	1
1,2,3,7,8,9-HxCDD	19408-74-3	1.73E-06	0	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	1.74E-06	0	6.99E-07	1	4.34E-06	1	8.71E-05	1	3.71E-04	1
1,2,3,7,8,9-HxCDF	72918-21-9	1.73E-06	0	1.67E-06	0	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	2.88E-06	1	1.41E-05	1
1,2,3,7,8-PeCDD	40321-76-4	1.73E-06	0	7.45E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	8.39E-07	1	1.11E-05	1	5.63E-05	1
1,2,3,7,8-PeCDF	57117-41-6	7.01E-07	1	1.61E-06	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	6.50E-07	1	1.77E-06	1	7.35E-06	1
2,3,4,6,7,8-HxCDF	60851-34-5	7.80E-07	1	1.49E-06	1	1.81E-06	0	9.09E-07	1	7.41E-07	1	1.74E-06	0	1.71E-06	0	1.57E-06	1	2.66E-05	1	1.37E-04	1
2,3,4,7,8-PeCDF	57117-31-4	1.73E-06	0	8.97E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	3.00E-06	1	1.25E-05	1
2,3,7,8-TCDD	1746-01-6	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	4.17E-07	1	1.49E-06	1	3.09E-06	1
2,3,7,8-TCDF	51207-31-9	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	3.43E-07	0	3.43E-07	0	3.45E-06	0
TECs																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	2.00E-08		1.14E-07		3.24E-08		7.20E-08		9.96E-08		1.13E-08		3.27E-08		1.44E-07		0.00E+00		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	39001-02-0	2.42E-09		1.36E-08		3.54E-09		8.46E-09		1.09E-08		1.07E-09		3.03E-09		1.48E-08		3.84E-07		1.90E-06	
1,2,3,4,6,7,8-HpCDD	35822-46-9	1.20E-07		5.27E-07		1.81E-07		3.48E-07		4.21E-07		5.33E-08		1.49E-07		8.02E-07		1.70E-05		8.77E-05	
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.75E-08		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06		2.35E-05	
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.00E+00		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07		1.59E-06	
1,2,3,4,7,8-HxCDD	39227-28-6	0.00E+00		1.20E-07		0.00E+00		7.40E-08		8.66E-08		0.00E+00		0.00E+00		1.61E-07		3.08E-06		1.52E-05	
1,2,3,4,7,8-HxCDF	70648-26-9	9.68E-08		1.75E-07		0.00E+00		7.33E-08		8.23E-08		0.00E+00		0.00E+00		9.85E-08		1.69E-06		8.36E-06	
1,2,3,6,7,8-HxCDD	57653-85-7	8.23E-08		2.52E-07		1.04E-07		1.58E-07		1.75E-07		0.00E+00		7.55E-08		3.69E-07		7.18E-06		3.33E-05	
1,2,3,6,7,8-HxCDF	57117-44-9	9.02E-08		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06		1.07E-05	
1,2,3,7,8,9-HxCDD	19408-74-3	0.00E+00		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06		3.71E-05	
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07		1.41E-06	
1,2,3,7,8-PeCDD	40321-76-4	0.00E+00		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05		5.63E-05	
1,2,3,7,8-PeCDF	57117-41-6	2.10E-08		4.83E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.95E-08		5.31E-08		2.21E-07	
2,3,4,6,7,8-HxCDF	60851-34-5	7.80E-08		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06		1.37E-05	
2,3,4,7,8-PeCDF	57117-31-4	0.00E+00		2.69E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.00E-07		3.75E-06	
2,3,7,8-TCDD	1746-01-6	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06		3.09E-06	
2,3,7,8-TCDF	51207-31-9	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ		**5.68E-07**		**2.97E-06**		**4.76E-07**		**1.21E-06**		**1.38E-06**		**8.62E-08**		**3.60E-07**		**3.86E-06**		**6.27E-05**		**2.98E-04**	

Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

Parameter name	WST16-13-29794 Result (mg/kg)	DC	WST16-13-29795 Result (mg/kg)	DC	WST16-13-29796 Result (mg/kg)	DC	WST16-13-29797 Result (mg/kg)	DC	WST16-13-29798 Result (mg/kg)	DC	WST16-19-181353 Result (mg/kg)	DC	WST16-19-181354 Result (mg/kg)	DC	WST16-19-181355 Result (mg/kg)	DC	WST16-19-181357 Result (mg/kg)	DC	WST16-19-181358 Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	5.63E-04	1	5.51E-02	1	6.70E-03	1	5.06E-02	1	6.65E-03	1	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1
1,2,3,4,5,6,7,8-OCDF	6.17E-05	1	7.03E-03	1	7.40E-04	1	7.63E-03	1	8.40E-04	1	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1
1,2,3,4,6,7,8-HpCDD	9.21E-05	1	7.44E-03	1	1.11E-03	1	6.81E-03	1	9.64E-04	1	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1
1,2,3,4,6,7,8-HpCDF	3.96E-05	1	2.51E-03	1	4.11E-04	1	2.22E-03	1	3.37E-04	1	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1
1,2,3,4,7,8,9-HpCDF	1.97E-06	1	1.49E-04	1	1.78E-05	1	1.44E-04	1	2.01E-05	1	1.89E-06	1	9.85E-07	1	1.55E-06	0	7.85E-07	1	1.07E-06	1
1,2,3,4,7,8-HxCDD	2.45E-06	1	1.41E-04	1	2.48E-05	1	1.24E-04	1	1.89E-05	1	9.07E-07	1	1.14E-06	1	1.55E-06	0	6.78E-07	1	8.31E-07	1
1,2,3,4,7,8-HxCDF	1.15E-06	1	8.96E-05	1	1.27E-05	1	7.31E-05	1	1.18E-05	1	2.44E-06	1	8.29E-07	1	1.55E-06	0	7.14E-07	1	1.42E-06	1
1,2,3,6,7,8-HxCDD	4.76E-06	1	3.02E-04	1	5.18E-05	1	2.74E-04	1	4.40E-05	1	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1
1,2,3,6,7,8-HxCDF	1.87E-06	1	9.84E-05	1	1.93E-05	1	8.49E-05	1	1.47E-05	1	1.71E-06	1	9.81E-07	1	1.55E-06	0	6.89E-07	1	1.04E-06	1
1,2,3,7,8,9-HxCDD	5.94E-06	1	3.23E-04	1	6.26E-05	1	2.82E-04	1	5.09E-05	1	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1
1,2,3,7,8,9-HxCDF	1.69E-06	0	1.68E-05	0	1.93E-06	1	1.67E-05	0	1.87E-06	1	4.96E-07	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDD	6.20E-07	1	3.83E-05	1	7.93E-06	1	3.22E-05	1	5.83E-06	1	4.88E-07	1	5.71E-07	1	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDF	1.69E-06	0	1.68E-05	0	1.18E-06	1	1.67E-05	0	8.73E-07	1	2.03E-06	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	5.99E-07	1
2,3,4,6,7,8-HxCDF	2.21E-06	1	1.37E-04	1	2.41E-05	1	1.10E-04	1	1.84E-05	1	2.45E-06	1	1.14E-06	1	1.55E-06	0	8.59E-07	1	1.55E-06	1
2,3,4,7,8-PeCDF	1.69E-06	0	1.05E-05	1	1.81E-06	1	7.67E-06	1	1.42E-06	1	1.43E-06	1	1.59E-06	0	1.55E-06	0	4.69E-07	1	1.06E-06	1
2,3,7,8-TCDD	3.38E-07	0	3.36E-06	0	3.44E-07	1	3.35E-06	0	3.34E-07	0	2.15E-07	1	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
2,3,7,8-TCDF	3.38E-07	0	3.36E-06	0	3.34E-07	0	3.35E-06	0	3.34E-07	0	1.66E-06	2	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.69E-07		1.65E-05		2.01E-06		1.52E-05		2.00E-06		9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08	
1,2,3,4,5,6,7,8-OCDF	1.85E-08		2.11E-06		2.22E-07		2.29E-06		2.52E-07		1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09	
1,2,3,4,6,7,8-HpCDD	9.21E-07		7.44E-05		1.11E-05		6.81E-05		9.64E-06		4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07	
1,2,3,4,6,7,8-HpCDF	3.96E-07		2.51E-05		4.11E-06		2.22E-05		3.37E-06		1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07	
1,2,3,4,7,8,9-HpCDF	1.97E-08		1.49E-06		1.78E-07		1.44E-06		2.01E-07		1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08	
1,2,3,4,7,8-HxCDD	2.45E-07		1.41E-05		2.48E-06		1.24E-05		1.89E-06		9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08	
1,2,3,4,7,8-HxCDF	1.15E-07		8.96E-06		1.27E-06		7.31E-06		1.18E-06		2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07	
1,2,3,6,7,8-HxCDD	4.76E-07		3.02E-05		5.18E-06		2.74E-05		4.40E-06		1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07	
1,2,3,6,7,8-HxCDF	1.87E-07		9.84E-06		1.93E-06		8.49E-06		1.47E-06		1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07	
1,2,3,7,8,9-HxCDD	5.94E-07		3.23E-05		6.26E-06		2.82E-05		5.09E-06		1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		1.93E-07		0.00E+00		1.87E-07		4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	6.20E-07		3.83E-05		7.93E-06		3.22E-05		5.83E-06		4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	0.00E+00		0.00E+00		3.54E-08		0.00E+00		2.62E-08		6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08	
2,3,4,6,7,8-HxCDF	2.21E-07		1.37E-05		2.41E-06		1.10E-05		1.84E-06		2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07	
2,3,4,7,8-PeCDF	0.00E+00		3.15E-06		5.43E-07		2.30E-06		4.26E-07		4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07	
2,3,7,8-TCDD	0.00E+00		0.00E+00		3.44E-07		0.00E+00		0.00E+00		2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.98E-06**		**2.70E-04**		**4.62E-05**		**2.39E-04**		**3.78E-05**		**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**	

Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

Parameter name	WST16-19-181359		WST16-19-181361		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																		
1,2,3,4,5,6,7,8-OCDD	6.50E-04	1	1.26E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1			1.70E-05	1
1,2,3,4,5,6,7,8-OCDF	8.35E-05	1	1.45E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1	8.31E-04	1	3.31E-06	1
1,2,3,4,6,7,8-HpCDD	1.05E-04	1	2.15E-05	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1	1.40E-03	1	2.98E-06	1
1,2,3,4,6,7,8-HpCDF	3.47E-05	1	9.10E-06	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1	4.66E-04	1	2.60E-06	1
1,2,3,4,7,8,9-HpCDF	2.20E-06	1	5.71E-07	1	1.58E-06	0	1.57E-06	0	3.26E-06	1	1.62E-06	0	1.50E-06	0	2.38E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDD	1.95E-06	1	7.03E-07	1	5.72E-07	1	1.57E-06	0	4.13E-06	1	1.62E-06	0	1.50E-06	0	3.20E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDF	1.64E-06	1	8.72E-07	1	8.57E-07	1	1.57E-06	0	2.06E-06	1	1.62E-06	0	1.50E-06	0	1.70E-05	1	6.08E-07	1
1,2,3,6,7,8-HxCDD	4.06E-06	1	1.13E-06	1	8.53E-07	1	1.57E-06	0	7.10E-06	1	7.06E-07	1	1.50E-06	0	6.02E-05	1	1.61E-06	0
1,2,3,6,7,8-HxCDF	1.56E-06	1	7.59E-07	1	1.58E-06	0	1.57E-06	0	2.57E-06	1	1.62E-06	0	1.50E-06	0	2.54E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDD	4.20E-06	1	1.04E-06	1	7.43E-07	1	1.57E-06	0	8.50E-06	1	1.13E-06	1	5.09E-07	1	7.04E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	1.79E-06	1	1.61E-06	0
1,2,3,7,8-PeCDD	6.70E-07	1	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.53E-06	1	1.62E-06	0	1.50E-06	0	1.23E-05	1	1.61E-06	0
1,2,3,7,8-PeCDF	5.68E-07	1	6.81E-07	1	8.34E-07	1	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	2.27E-06	1	6.14E-07	1
2,3,4,6,7,8-HxCDF	1.91E-06	1	1.03E-06	1	1.58E-06	0	1.57E-06	0	3.56E-06	1	1.62E-06	0	1.50E-06	0	3.19E-05	1	1.61E-06	0
2,3,4,7,8-PeCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	3.11E-06	1	1.61E-06	0
2,3,7,8-TCDD	2.03E-07	1	3.10E-07	0	2.10E-07	1	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	7.57E-07	1	3.20E-07	0
2,3,7,8-TCDF	3.20E-07	0	3.10E-07	0	3.16E-07	0	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	3.24E-07	0	3.20E-07	0
TECs																		
1,2,3,4,5,6,7,8-OCDD	1.95E-07		3.78E-08		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08		0.00E+00		5.10E-09	
1,2,3,4,5,6,7,8-OCDF	2.51E-08		4.35E-09		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09		2.49E-07		9.93E-10	
1,2,3,4,6,7,8-HpCDD	1.05E-06		2.15E-07		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07		1.40E-05		2.98E-08	
1,2,3,4,6,7,8-HpCDF	3.47E-07		9.10E-08		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08		4.66E-06		2.60E-08	
1,2,3,4,7,8,9-HpCDF	2.20E-08		5.71E-09		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00		2.38E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	1.95E-07		7.03E-08		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00		3.20E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	1.64E-07		8.72E-08		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00		1.70E-06		6.08E-08	
1,2,3,6,7,8-HxCDD	4.06E-07		1.13E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00		6.02E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	1.56E-07		7.59E-08		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00		2.54E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	4.20E-07		1.04E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08		7.04E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.79E-07		0.00E+00	
1,2,3,7,8-PeCDD	6.70E-07		0.00E+00		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00		1.23E-05		0.00E+00	
1,2,3,7,8-PeCDF	1.70E-08		2.04E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.81E-08		1.84E-08	
2,3,4,6,7,8-HxCDF	1.91E-07		1.03E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00		3.19E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.33E-07		0.00E+00	
2,3,7,8-TCDD	2.03E-07		0.00E+00		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.57E-07		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**4.06E-06**		**9.28E-07**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**		**5.71E-05**		**1.41E-07**	

Notes: The TECi are summed in each column to obtain the TEQ
Detect Code (DC) = 1 is detected, 0 is not detected
Shaded columns indicate a duplicate pair

Table 2-7.Dioxin Furan Cancer Risk and Hazard Quotients by Receptor

Sample ID	TCDD TEQ	Resident Cancer Risk	Resident HQ	Industrial Worker Cancer Risk	Industrial Worker HQ	CW Cancer Risk	CW HQ	SL-SSL, DAF 20 Ratio
09RCRA695	5E-07	1E-12	1E-02	2E-08	6E-04	3E-09	2E-03	2E-03
09RCRA697	7E-07	1E-07	1E-02	3E-08	9E-04	4E-09	3E-03	3E-03
09RCRA699	6E-07	1E-07	1E-02	2E-08	7E-04	3E-09	3E-03	3E-03
09RCRA701	2E-07	5E-08	5E-03	1E-08	3E-04	1E-09	1E-03	1E-03
09RCRA703	2E-06	4E-07	4E-02	9E-08	3E-03	1E-08	9E-03	9E-03
09RCRA705	1E-06	2E-07	2E-02	5E-08	1E-03	7E-09	5E-03	5E-03
09RCRA707	9E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
09RCRA709	2E-06	3E-07	3E-02	6E-08	2E-03	9E-09	7E-03	7E-03
09RCRA711	4E-05	7E-06	7E-01	2E-06	5E-02	2E-07	2E-01	2E-01
09RCRA731	6E-07	1E-07	1E-02	2E-08	7E-04	3E-09	3E-03	3E-03
RE16-12-17672	6E-07	1E-07	1E-02	2E-08	7E-04	3E-09	3E-03	3E-03
RE16-12-17673	3E-06	6E-07	6E-02	1E-07	4E-03	2E-08	1E-02	1E-02
RE16-12-17674	5E-07	1E-07	9E-03	2E-08	6E-04	3E-09	2E-03	2E-03
RE16-12-17676	1E-06	3E-07	3E-02	6E-08	2E-03	8E-09	6E-03	6E-03
RE16-12-17677	9E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
RE16-12-17678	4E-07	7E-08	7E-03	2E-08	4E-04	2E-09	2E-03	2E-03
RE16-12-17679	4E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
RE16-12-17680	6E-05	1E-05	1E+00	3E-06	8E-02	4E-07	3E-01	3E-01
RE16-12-17681	**3E-04**	**6E-05**	**6E+00**	**1E-05**	**4E-01**	**2E-06**	**1E+00**	**1E+00**
WST16-13-29794	4E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
WST16-13-29795	3E-04	6E-05	5E+00	1E-05	3E-01	2E-06	1E+00	1E+00
WST16-13-29796	5E-05	9E-06	9E-01	2E-06	6E-02	3E-07	2E-01	2E-01
WST16-13-29797	2E-04	5E-05	5E+00	1E-05	3E-01	1E-06	1E+00	1E+00
WST16-13-29798	4E-05	8E-06	7E-01	2E-06	5E-02	2E-07	2E-01	2E-01
WST16-19-181353	3E-06	7E-07	7E-02	1E-07	4E-03	2E-08	1E-02	1E-02
WST16-19-181354	2E-06	5E-07	4E-02	1E-07	3E-03	1E-08	1E-02	1E-02
WST16-19-181355	3E-07	5E-08	5E-03	1E-08	3E-04	2E-09	1E-03	1E-03
WST16-19-181358	2E-06	3E-07	3E-02	7E-08	2E-03	1E-08	8E-03	8E-03
WST16-19-181359	4E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
WST16-19-181361	9E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
WST16-19-181362	9E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
WST16-19-181363	9E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
WST16-19-181364	7E-06	1E-06	1E-01	3E-07	9E-03	4E-08	3E-02	3E-02
WST16-19-181365	5E-07	1E-07	1E-02	2E-08	6E-04	3E-09	2E-03	2E-03
WST16-19-181366	2E-07	4E-08	4E-03	9E-09	3E-04	1E-09	9E-04	9E-04
WST16-19-181367	6E-05	1E-05	1E+00	2E-06	7E-02	3E-07	3E-01	3E-01
WST16-19-181368	1E-07	3E-08	3E-03	6E-09	2E-04	8E-10	6E-04	6E-04

Notes:
Highlighted cells show values above targets
Bold indicates the maximum detected TEQ
CW – Construction worker
HQ – Hazard quotient
SL-SSL, DAF – Migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-8. Refined Exposure Point Concentrations

Category	Name	Refined EPC (mg/kg)	Number of Detected Values	Distribution	Recommended UCL Type
Inorganic	Antimony	0.481	6	Normal	95% KM (t) UCL
	Barium	3369	37	Lognormal	95% Chebyshev(Mean, Sd) UCL
	Cadmium	0.231	10	Normal	95% KM (t) UCL
	Calcium	4866	27	NDD	95% Chebyshev (Mean, Sd) UCL
	Copper	32.03	25	NDD	95% KM (Chebyshev) UCL
	Lead	45.22	37	NDD	95% Chebyshev (Mean, Sd) UCL
	Nitrate	3.04	11	Gamma	95% Adjusted Gamma UCL
	Perchlorate	0.000679	7	Approx. Gamma	95% KM Adjusted Gamma UCL
	Selenium	0.968	13	Normal	95% KM (t) UCL
	Silver	1.848	33	Lognormal	KM H-UCL
	Zinc	58.43	27	Gamma	95% Adjusted Gamma UCL
Organic	2,3,7,8-TCDD TEQ	0.000106	37	NDD	97.5% Chebyshev (Mean, Sd) UCL
	3,5-Dinitroaniline	1.33	1	NA	Maximum Detected Value
	Amino-2,6-dinitrotoluene[4-]	0.573	7	Gamma	95% Gamma Adjusted KM-UCL (use when n<50)
	Amino-4,6-dinitrotoluene[2-]	0.382	7	Approx. Normal	95% Gamma Adjusted KM-UCL (use when n<50)
	Anthracene	0.262	2	NA	Median of Detected Values
	Benzoic Acid	0.487	2	NA	Median of Detected Values
	Bis(2-ethylhexyl)phthalate	16.35	9	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)
	Dinitrotoluene[2,4-]	0.17	1	NA	Maximum Detected Value
	HMX	25.57	14	Lognormal	95% KM (Chebyshev) UCL
	Isopropyltoluene[4-]	0.000737	2	NA	Median of Detected Values
	Methylene Chloride	0.00473	1	NA	Maximum Detected Value
	Methylnaphthalene[2-]	0.0131	1	NA	Maximum Detected Value
	PETN	38.80	1	NA	Maximum Detected Value
	RDX	14.98	15	Gamma	95% Gamma Adjusted KM-UCL (use when n<50)
	TATB	10.51	19	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)
	Total Petroleum Hydrocarbons Diesel Range Organics	27.33	13	Gamma	95% Adjusted Gamma UCL
	Trinitrobenzene[1,3,5-]	0.429	2	NA	Median of Detected Values
	Trinitrotoluene[2,4,6-]	2.064	6	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

Notes:
Per NMED (2019), UCLs not calculated unless there were >5 detected values and 8 total samples
EPCs represent all detected analytes and for inorganics, all detected analytes with maxima greater than the BTV
Data represent the higher of the duplicate pairs.
KM – Kaplan- Meier
NDD – No discernable distribution
Sd – Standard deviation
UCL – Upper Confidence Limit

Table 2-9. Human Health Risk Assessment with Refined EPCs

Category	Name	Refined EPC (mg/kg)	Residential Cancer Risk	Residential HQ	Industrial Worker Cancer Risk	Industrial Worker HQ	Construction Worker Cancer Risk	Construction Worker HQ	SL-SSL DAF 20 Ratio
Inorganic	Antimony	0.481	-	2E-02	-	9E-04	-	3E-03	7E-02
	Barium	3369	-	2E-01	-	1E-02	-	8E-01	1E+00
	Cadmium	0.231	3E-11	3E-03	6E-12	2E-04	6E-10	3E-03	2E-02
	Calcium	4866	-	4E-04	-	1E-04	-	5E-04	-
	Copper	32.03	-	1E-02	-	6E-04	-	2E-03	4E-02
	Nitrate	3.04	-	2E-05	-	1E-06	-	5E-06	7E-03
	Perchlorate	0.000679	-	1E-05	-	7E-07	-	3E-06	6E-03
	Selenium	0.968	-	2E-03	-	1E-04	-	6E-04	9E-02
	Silver	1.848	-	5E-03	-	3E-04	-	1E-03	1E-01
	Zinc	58.43	-	2E-03	-	2E-04	-	6E-04	8E-03
Organic	3,5-Dinitroaniline	1.33	-	2E-01	-	1E-02	-	1E-02	-
	Amino-2,6-dinitrotoluene[4-]	0.573	-	7E-02	-	5E-03	-	5E-03	-
	Amino-4,6-dinitrotoluene[2-]	0.382	-	5E-02	-	3E-03	-	3E-03	-
	Anthracene	0.262	-	2E-05	-	1E-06	-	3E-06	3E-04
	Benzoic Acid	0.487	-	2E-06	-	1E-07	-	1E-07	-
	Bis(2-ethylhexyl)phthalate	16.35	4E-07	1E-02	9E-08	9E-04	1E-08	3E-03	8E-02
	Dinitrotoluene[2,4-]	0.17	1E-07	1E-03	2E-08	9E-05	3E-09	3E-04	3E+00
	HMX	25.57	-	7E-03	-	4E-04	-	1E-03	1E+00
	Isopropyltoluene[4-]	0.000737	-	1E-07	-	1E-08	-	5E-08	6E-05
	Methylene Chloride	0.00473	6E-11	1E-05	3E-12	9E-07	5E-13	4E-06	1E-02
	Methylnaphthalene[2-]	0.0131	-	6E-05	-	4E-06	-	1E-05	5E-03
	PETN	38.80	3E-07	3E-01	7E-08	2E-02	7E-08	2E-02	-
	RDX	14.98	2E-06	5E-02	4E-07	3E-03	5E-08	1E-02	3E+02
	TATB	10.51	-	5E-03	-	3E-04	-	3E-04	-
	2,3,7,8-TCDD TEQ	0.000106	2E-05	2E+00	4E-06	1E-01	6E-07	5E-01	5E-01
	TPH DRO	27.33	-	1E-02	-	9E-03	-	-	5E-03
	Trinitrobenzene[1,3,5-]	0.429	-	2E-04	-	1E-05	-	1E-05	-
	Trinitrotoluene[2,4,6-]	2.064	1E-07	6E-02	2E-08	4E-03	3E-09	1E-02	2E+00
CCR or Hazard Index			2E-05	3E+00	5E-06	2E-01	8E-07	1E+00	NA

Notes:
" - " – Indicates there was no SL for the analyte
CCR – Cumulative cancer risk
EPC – Exposure point concentration
HQ – Hazard quotient
SL – Screening level
TPH DRO - Total Petroleum Hydrocarbons Diesel Range Organics
SL-SSL DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-10. Comparison of MDLs to NMSSLs for Nondetected Analytes.

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
2,4-Diamino-6-nitrotoluene	5.08E-01	2E-07	7E-03	3E-08	5E-04	3E-08	5E-04
2,6-Diamino-4-nitrotoluene	6.70E-01	2E-07	1E-02	4E-08	6E-04	4E-08	6E-04
Acenaphthene	3.05E-01	NA	9E-05	NA	6E-06	NA	2E-05
Acenaphthylene	3.05E-01	NA	9E-05	NA	6E-06	NA	2E-05
Acetone	2.04E-03	NA	3E-08	NA	2E-09	NA	8E-09
Aniline	3.05E+00	3E-08	7E-03	8E-09	5E-04	8E-09	5E-04
Azobenzene	3.05E+00	5E-07	NA	1E-07	NA	1E-07	NA
Benzene	4.07E-04	2E-10	4E-06	5E-11	6E-07	1E-11	3E-06
Benzo(a)anthracene	3.05E-01	2E-06	NA	9E-08	NA	1E-08	NA
Benzo(a)pyrene	3.05E-01	3E-06	2E-02	1E-07	1E-03	2E-08	2E-02
Benzo(b)fluoranthene	3.05E-01	2E-06	NA	9E-08	NA	1E-08	NA
Benzo(g,h,i)perylene	3.05E-01	3E-06	2E-02	1E-07	1E-03	2E-08	2E-02
Benzo(k)fluoranthene	3.05E-01	2E-07	NA	9E-09	NA	1E-09	NA
Benzyl Alcohol	3.05E+00	NA	5E-04	NA	4E-05	NA	4E-05
Bis(2-chloroethoxy)methane	3.05E+00	NA	2E-02	NA	1E-03	NA	1E-03
Bis(2-chloroethyl)ether	3.05E+00	1E-05	NA	2E-06	NA	2E-05	NA
Bromobenzene	4.07E-04	NA	1E-06	NA	2E-07	NA	2E-07
Bromochloromethane	4.07E-04	NA	3E-06	NA	6E-07	NA	6E-07
Bromodichloromethane	4.07E-04	7E-10	3E-07	1E-10	2E-08	3E-11	6E-08
Bromoform	4.07E-04	6E-12	3E-07	2E-12	2E-08	2E-13	8E-08
Bromomethane	4.07E-04	NA	2E-05	NA	4E-06	NA	2E-05
Bromophenyl-phenylether[4-]	3.05E+00	NA	2E-02	NA	1E-03	NA	1E-03
Butanone[2-]	2.04E-03	NA	5E-08	NA	5E-09	NA	2E-08
Butylbenzene[n-]	4.07E-04	NA	1E-07	NA	7E-09	NA	7E-09
Butylbenzene[sec-]	4.07E-04	NA	5E-08	NA	3E-09	NA	3E-09
Butylbenzene[tert-]	4.07E-04	NA	5E-08	NA	3E-09	NA	3E-09
Butylbenzylphthalate	3.05E-01	1E-09	2E-05	3E-10	2E-06	3E-10	2E-06
Carbon Disulfide	2.04E-03	NA	1E-06	NA	2E-07	NA	1E-06
Carbon Tetrachloride	4.07E-04	4E-10	3E-06	8E-11	4E-07	2E-11	2E-06
Chloro-3-methylphenol[4-]	4.07E+00	NA	6E-04	NA	5E-05	NA	5E-05
Chloroaniline[4-]	3.05E+00	1E-06	1E-02	3E-07	9E-04	3E-07	9E-04
Chlorobenzene	4.07E-04	NA	1E-06	NA	2E-07	NA	1E-06
Chlorodibromomethane	4.07E-04	3E-10	3E-07	6E-11	2E-08	1E-11	8E-08
Chloroethane	4.07E-04	NA	2E-08	NA	5E-09	NA	2E-08
Chloroform	4.07E-04	7E-10	1E-06	1E-10	2E-07	3E-11	1E-06
Chloromethane	4.07E-04	1E-10	2E-06	2E-11	3E-07	4E-12	2E-06
Chloronaphthalene[2-]	3.05E-01	NA	5E-05	NA	3E-06	NA	1E-05
Chlorophenol[2-]	3.05E+00	NA	8E-03	NA	5E-04	NA	2E-03
Chlorophenyl-phenyl[4-] Ether	3.05E+00	NA	NA	NA	NA	NA	NA
Chlorotoluene[2-]	4.07E-04	NA	3E-07	NA	2E-08	NA	6E-08
Chlorotoluene[4-]	4.07E-04	NA	3E-07	NA	2E-08	NA	6E-08

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
Chrysene	3.05E-01	2E-08	NA	9E-10	NA	1E-10	NA
Dibenz(a,h)anthracene	3.05E-01	2E-05	NA	9E-07	NA	1E-07	NA
Dibenzofuran	3.05E+00	NA	4E-02	NA	3E-03	NA	3E-03
Dibromo-3-Chloropropane[1,2-]	6.10E-04	7E-08	1E-04	5E-09	1E-05	1E-09	7E-05
Dibromoethane[1,2-]	4.07E-04	6E-09	3E-06	1E-09	6E-07	2E-10	3E-06
Dibromomethane	4.07E-04	NA	7E-06	NA	1E-06	NA	8E-06
Dichlorobenzene[1,2-]	3.05E+00	NA	1E-03	NA	2E-04	NA	1E-03
Dichlorobenzene[1,3-]	3.05E+00	2E-08	6E-04	5E-09	3E-05	7E-10	1E-04
Dichlorobenzene[1,4-]	3.05E+00	2E-08	6E-04	5E-09	3E-05	7E-10	1E-04
Dichlorobenzidine[3,3'-]	3.05E+00	3E-06	NA	5E-07	NA	7E-08	NA
Dichlorodifluoromethane	4.07E-04	NA	2E-06	NA	5E-07	NA	3E-06
Dichloroethane[1,1-]	4.07E-04	5E-11	3E-08	1E-11	2E-09	2E-12	6E-09
Dichloroethane[1,2-]	4.07E-04	5E-10	7E-06	1E-10	1E-06	2E-11	8E-06
Dichloroethene[1,1-]	4.07E-04	NA	9E-07	NA	2E-07	NA	1E-06
Dichloroethene[cis-1,2-]	4.07E-04	NA	3E-06	NA	2E-07	NA	6E-07
Dichloroethene[trans-1,2-]	4.07E-04	NA	1E-06	NA	3E-07	NA	1E-06
Dichlorophenol[2,4-]	3.05E+00	NA	2E-02	NA	1E-03	NA	4E-03
Dichloropropane[1,2-]	4.07E-04	2E-10	1E-05	5E-11	3E-06	1E-11	2E-05
Dichloropropane[1,3-]	4.07E-04	2E-10	1E-05	5E-11	3E-06	1E-11	2E-05
Dichloropropane[2,2-]	4.07E-04	2E-10	1E-05	5E-11	3E-06	1E-11	2E-05
Dichloropropene[1,1-]	4.07E-04	1E-10	3E-06	3E-11	6E-07	5E-12	3E-06
Dichloropropene[cis-1,3-]	4.07E-04	1E-10	3E-06	3E-11	6E-07	5E-12	3E-06
Dichloropropene[trans-1,3-]	4.07E-04	1E-10	3E-06	3E-11	6E-07	5E-12	3E-06
Diethylphthalate	3.05E-01	NA	6E-06	NA	4E-07	NA	1E-06
Dimethyl Phthalate	3.05E-01	NA	6E-06	NA	4E-07	NA	1E-06
Dimethylphenol[2,4-]	3.05E+00	NA	2E-03	NA	2E-04	NA	6E-04
Di-n-butylphthalate	3.05E-01	NA	5E-05	NA	3E-06	NA	1E-05
Dinitro-2-methylphenol[4,6-]	3.05E+00	NA	6E-01	NA	4E-02	NA	1E-01
Dinitrobenzene[1,3-]	1.52E-01	NA	NA	NA	2E-03	NA	2E-03
Dinitrophenol[2,4-]	3.05E+00	NA	2E-02	NA	2E-03	NA	6E-03
Dinitrotoluene[2,6-]	3.05E+00	9E-06	2E-01	2E-06	1E-02	2E-07	4E-02
Di-n-octylphthalate	3.05E-01	NA	5E-04	NA	4E-05	NA	4E-05
Diphenylamine	3.05E+00	NA	5E-04	NA	4E-05	NA	4E-05
Ethylbenzene	4.07E-04	5E-11	1E-07	1E-11	1E-08	2E-12	7E-08
Fluoranthene	3.05E-01	NA	1E-04	NA	9E-06	NA	3E-05
Fluorene	3.05E-01	NA	1E-04	NA	9E-06	NA	3E-05
Hexachlorobenzene	3.05E+00	9E-06	6E-02	2E-06	4E-03	3E-07	1E-02
Hexachlorobutadiene	3.05E+00	4E-07	5E-02	6E-07	3E-03	1E-08	1E-02
Hexachlorocyclopentadiene	3.05E+00	NA	1E+00	NA	6E-04	NA	4E-03
Hexachloroethane	3.05E+00	2E-07	7E-02	5E-08	5E-03	7E-09	2E-02
Hexanone[2-]	2.04E-03	NA	1E-05	NA	2E-06	NA	2E-06
Indeno(1,2,3-cd)pyrene	3.05E-01	2E-06	NA	9E-08	NA	1E-08	NA
Iodomethane	2.04E-03	NA	NA	NA	NA	NA	NA

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
Isophorone	3.05E+00	5E-09	2E-04	1E-09	2E-05	2E-10	6E-05
Isopropylbenzene	4.07E-04	NA	2E-07	NA	3E-08	NA	1E-07
Methyl-2-pentanone[4-]	2.04E-03	NA	4E-07	NA	2E-08	NA	1E-07
Methylphenol[2-]	3.05E+00	NA	1E-03	NA	7E-05	NA	7E-05
Methylphenol[3-,4-]	3.05E+00	NA	1E-03	NA	7E-05	NA	7E-05
Methylphenol[4-]	1.08E-01	NA	2E-05	NA	1E-06	NA	1E-06
Naphthalene	3.05E-01	6E-08	2E-03	1E-08	4E-04	3E-09	2E-03
Nitroaniline[2-]	3.36E+00	NA	5E-03	NA	4E-04	NA	4E-04
Nitroaniline[3-]	3.05E+00	1E-07	1E-02	3E-08	9E-04	3E-08	9E-04
Nitroaniline[4-]	3.05E+00	1E-07	1E-02	3E-08	9E-04	3E-08	9E-04
Nitrobenzene	3.05E+00	5E-07	2E-02	1E-07	2E-03	2E-08	9E-03
Nitrophenol[2-]	3.05E+00	NA	2E-04	NA	1E-05	NA	4E-05
Nitrophenol[4-]	3.05E+00	NA	2E-04	NA	1E-05	NA	4E-05
Nitrosodimethylamine[N-]	3.05E+00	1E-03	6E+00	6E-05	4E-01	8E-06	1E+00
Nitroso-di-n-propylamine[N-]	3.05E+00	4E-05	NA	9E-06	NA	9E-06	NA
Nitrotoluene[2-]	1.52E-01	5E-08	2E-03	9E-09	1E-04	1E-09	5E-04
Nitrotoluene[3-]	1.52E-01	NA	2E-02	NA	2E-03	NA	6E-03
Nitrotoluene[4-]	1.52E-01	5E-09	6E-04	9E-10	4E-05	1E-10	1E-04
Oxybis(1-chloropropane)[2,2'-]	3.05E+00	3E-07	NA	6E-08	NA	9E-09	NA
Pentachlorophenol	3.05E+00	3E-06	1E-02	7E-07	1E-03	9E-08	3E-03
Phenanthrene	3.05E-01	NA	2E-04	NA	1E-05	NA	4E-05
Phenol	3.05E+00	NA	2E-04	NA	1E-05	NA	4E-05
Propylbenzene[1-]	4.07E-04	NA	1E-07	NA	2E-08	NA	2E-08
Pyrene	3.05E-01	NA	2E-04	NA	1E-05	NA	4E-05
Pyridine	3.05E+00	NA	4E-02	NA	3E-03	NA	3E-03
Styrene	4.07E-04	NA	6E-08	NA	8E-09	NA	4E-08
Tetrachloroethane[1,1,1,2-]	4.07E-04	1E-10	2E-07	3E-11	1E-08	6E-12	4E-08
Tetrachloroethane[1,1,2,2-]	4.07E-04	5E-10	3E-07	1E-10	2E-08	2E-11	6E-08
Tetrachloroethene	4.07E-04	1E-11	4E-06	2E-12	6E-07	5E-13	3E-06
Tetryl	1.52E-01	NA	1E-03	NA	6E-05	NA	2E-04
Toluene	4.07E-04	NA	8E-08	NA	7E-09	NA	3E-08
Total Petroleum Hydrocarbons Gasoline Range Org.	2.31E-02	NA	2E-04	NA	5E-05	NA	NA
Trichloro-1,2,2-trifluoroethane [1,1,2-]	2.04E-03	NA	4E-08	NA	8E-09	NA	5E-08
Trichlorobenzene[1,2,4-]	3.05E+00	1E-07	4E-02	2E-08	7E-03	4E-09	4E-02
Trichloroethane[1,1,1-]	4.07E-04	NA	3E-08	NA	6E-09	NA	3E-08
Trichloroethane[1,1,2-]	4.07E-04	2E-10	2E-04	4E-11	3E-05	9E-13	2E-04
Trichloroethene	4.07E-04	3E-10	6E-05	4E-11	1E-05	8E-13	6E-05
Trichlorofluoromethane	4.07E-04	NA	3E-07	NA	7E-08	NA	4E-07
Trichlorophenol[2,4,5-]	3.05E+00	NA	5E-04	NA	3E-05	NA	1E-04
Trichlorophenol[2,4,6-]	3.05E+00	6E-08	5E-02	1E-08	3E-03	2E-09	1E-02
Trichloropropane[1,2,3-]	4.07E-04	8E-08	6E-05	3E-09	1E-05	5E-10	6E-05

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
Trimethylbenzene[1,2,4-]	4.07E-04	NA	1E-06	NA	2E-07	NA	2E-07
Trimethylbenzene[1,3,5-]	4.07E-04	NA	2E-06	NA	3E-07	NA	3E-07
Tris (o-cresyl) phosphate	3.05E-01	2E-09	5E-05	4E-10	4E-06	4E-10	4E-06
Vinyl Chloride	4.07E-04	5E-09	4E-06	1E-10	5E-07	3E-11	3E-06
Xylene[1,2-]	4.07E-04	NA	5E-07	NA	1E-07	NA	6E-07
Xylene[1,3-]+Xylene[1,4-]	8.14E-04	NA	9E-07	NA	2E-07	NA	1E-06

Notes:
CR – Cancer risk
HQ = Hazard Quotient
mgkg –milligram per kilogram
SL-SSL,DAF20 – Migration to groundwater screening level with a dilution attenuation factor of 20

Table 2-11. Summary Statistics for the Risk Assessment Soil Data from within the SWMU Boundary Only

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Inorganics							
Aluminum	7429-90-5	19	1.45E+03	1.25E+04	6.23E+00	8.08E+00	19
Antimony	7440-36-0	19	4.18E-01	1.22E+00	3.02E-01	3.92E-01	6
Arsenic	7440-38-2	21	6.56E-01	3.67E+00	1.79E-01	3.89E-01	21
Barium	7440-39-3	21	6.99E+01	1.26E+04	9.16E-02	1.20E+01	21
Beryllium	7440-41-7	19	1.43E-01	1.13E+00	1.79E-02	2.30E-02	19
Cadmium	7440-43-9	21	4.25E-01	4.53E-01	2.10E-02	1.19E-01	2
Calcium	Ca	19	9.63E+02	1.61E+04	7.33E+00	9.59E+00	19
Chromium	16065-83-1	21	4.38E+00	9.01E+00	1.37E-01	2.40E-01	21
Cobalt	7440-48-4	19	1.02E+00	3.40E+00	1.37E-01	1.62E+00	10
Copper	7440-50-8	19	6.35E+00	1.13E+02	2.75E-01	3.56E-01	18
Iron	7439-89-6	19	3.06E+03	1.70E+04	7.33E+00	9.59E+00	19
Lead	7439-92-1	21	5.19E+00	2.28E+02	1.10E-01	3.92E-01	21
Magnesium	Mg	19	7.60E+02	2.24E+03	7.78E+00	1.01E+01	19
Manganese	7439-96-5	19	6.36E+01	5.38E+02	1.83E-01	2.40E-01	19
Mercury	7487-94-7	21	3.86E-03	4.00E-02	3.64E-03	4.60E-03	16
Nickel	7440-02-0	19	3.30E+00	1.07E+01	8.95E-02	1.15E-01	19
Nitrate	14797-55-8	10	5.14E-01	4.02E+00	3.14E-01	3.67E-01	10
Perchlorate	14797-73-0	19	5.94E-04	8.39E-04	5.02E-04	6.10E-04	4
Potassium	K	19	2.47E+02	1.80E+03	5.86E+00	7.60E+00	19
Selenium	7782-49-2	21	1.07E+00	3.05E+00	2.95E-01	5.90E-01	11
Silver	7440-22-4	21	3.00E-01	7.95E+00	9.16E-02	1.20E-01	19
Sodium	Na	19	5.85E+01	1.54E+02	6.41E+00	8.31E+00	19
Thallium	7440-28-0	19	7.72E-02	4.55E-01	5.37E-02	1.61E-01	11
Vanadium	7440-62-2	19	8.02E+00	1.90E+01	9.16E-02	1.19E-01	19
Zinc	7440-66-6	19	2.64E+01	1.15E+02	3.66E-01	4.75E-01	19
Organics							
2,3,7,8-TCDD TEQ	1746-01-6	21	8.62E-08	6.27E-05	9.12E-08	3.18E-07	21
2,4-Diamino-6-nitrotoluene	6629-29-4	29	-	-	4.78E-01	5.08E-01	0
2,6-Diamino-4-nitrotoluene	59229-75-3	29	-	-	6.32E-01	6.70E-01	0
3,5-Dinitroaniline	618-87-1	29	1.33E+00	1.33E+00	2.87E-01	3.05E-01	1
Acenaphthene	83-32-9	19	-	-	1.01E-02	3.05E-01	0
Acenaphthylene	208-96-8	19	-	-	1.01E-02	3.05E-01	0
Acetone	67-64-1	19	-	-	1.53E-03	2.04E-03	0
Amino-2,6-dinitrotoluene[4-]	19406-51-0	29	2.10E-01	3.24E+00	1.44E-01	1.52E-01	8
Amino-4,6-dinitrotoluene[2-]	35572-78-2	29	2.77E-01	1.49E+00	1.44E-01	1.52E-01	8

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Aniline	62-53-3	19	-	-	1.01E-01	3.05E+00	0
Anthracene	120-12-7	19	1.42E-02	5.09E-01	1.01E-02	3.05E-01	3
Azobenzene	103-33-3	19	-	-	1.01E-01	3.05E+00	0
Benzene	71-43-2	19	-	-	3.05E-04	4.07E-04	0
Benzo(a)anthracene	56-55-3	19	-	-	1.01E-02	3.05E-01	0
Benzo(a)pyrene	50-32-8	19	-	-	1.01E-02	3.05E-01	0
Benzo(b)fluoranthene	205-99-2	19	-	-	1.01E-02	3.05E-01	0
Benzo(g,h,i)perylene	191-24-2	19	-	-	1.01E-02	3.05E-01	0
Benzo(k)fluoranthene	207-08-9	19	-	-	1.01E-02	3.05E-01	0
Benzoic Acid	65-85-0	19	-	-	1.69E-01	5.09E+00	0
Benzyl Alcohol	100-51-6	19	-	-	1.01E-01	3.05E+00	0
Bis(2-chloroethoxy)methane	111-91-1	19	-	-	1.01E-01	3.05E+00	0
Bis(2-chloroethyl)ether	111-44-4	19	-	-	1.01E-01	3.05E+00	0
Bis(2-ethylhexyl)phthalate	117-81-7	19	1.11E-02	5.66E+01	1.01E-02	3.05E-01	9
Bromobenzene	108-86-1	19	-	-	3.05E-04	4.07E-04	0
Bromochloromethane	74-97-5	19	-	-	3.05E-04	4.07E-04	0
Bromodichloromethane	75-27-4	19	-	-	3.05E-04	4.07E-04	0
Bromoform	75-25-2	19	-	-	3.05E-04	4.07E-04	0
Bromomethane	74-83-9	19	-	-	3.05E-04	4.07E-04	0
Bromophenyl-phenylether[4-]	101-55-3	19	-	-	1.01E-01	3.05E+00	0
Butanone[2-]	78-93-3	19	-	-	1.53E-03	2.04E-03	0
Butylbenzene[n-]	104-51-8	19	-	-	3.05E-04	4.07E-04	0
Butylbenzene[sec-]	135-98-8	19	-	-	3.05E-04	4.07E-04	0
Butylbenzene[tert-]	98-06-6	19	-	-	3.05E-04	4.07E-04	0
Butylbenzylphthalate	85-68-7	19	-	-	1.01E-02	3.05E-01	0
Carbon Disulfide	75-15-0	19	-	-	1.53E-03	2.04E-03	0
Carbon Tetrachloride	56-23-5	19	-	-	3.05E-04	4.07E-04	0
Chloro-3-methylphenol[4-]	59-50-7	19	-	-	1.35E-01	4.07E+00	0
Chloroaniline[4-]	106-47-8	19	-	-	1.01E-01	3.05E+00	0
Chlorobenzene	108-90-7	19	-	-	3.05E-04	4.07E-04	0
Chlorodibromomethane	124-48-1	19	-	-	3.05E-04	4.07E-04	0
Chloroethane	75-00-3	19	-	-	3.05E-04	4.07E-04	0
Chloroform	67-66-3	19	-	-	3.05E-04	4.07E-04	0
Chloromethane	74-87-3	19	-	-	3.05E-04	4.07E-04	0
Chloronaphthalene[2-]	91-58-7	19	-	-	1.01E-02	3.05E-01	0
Chlorophenol[2-]	95-57-8	19	-	-	1.01E-01	3.05E+00	0
Chlorophenyl-phenyl[4-] Ether	7005-72-3	19	-	-	1.01E-01	3.05E+00	0
Chlorotoluene[2-]	95-49-8	19	-	-	3.05E-04	4.07E-04	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Chlorotoluene[4-]	106-43-4	19	-	-	3.05E-04	4.07E-04	0
Chrysene	218-01-9	19	-	-	1.01E-02	3.05E-01	0
Dibenz(a,h)anthracene	53-70-3	19	-	-	1.01E-02	3.05E-01	0
Dibenzofuran	132-64-9	19	-	-	1.01E-01	3.05E+00	0
Dibromo-3-Chloropropane[1,2-]	96-12-8	19	-	-	5.07E-04	6.10E-04	0
Dibromoethane[1,2-]	106-93-4	19	-	-	3.05E-04	4.07E-04	0
Dibromomethane	74-95-3	19	-	-	3.05E-04	4.07E-04	0
Dichlorobenzene[1,2-]	95-50-1	38	-	-	3.05E-04	3.05E+00	0
Dichlorobenzene[1,3-]	541-73-1	38	-	-	3.05E-04	3.05E+00	0
Dichlorobenzene[1,4-]	106-46-7	38	-	-	3.05E-04	3.05E+00	0
Dichlorobenzidine[3,3'-]	91-94-1	19	-	-	1.01E-01	3.05E+00	0
Dichlorodifluoromethane	75-71-8	19	-	-	3.05E-04	4.07E-04	0
Dichloroethane[1,1-]	75-34-3	19	-	-	3.05E-04	4.07E-04	0
Dichloroethane[1,2-]	107-06-2	19	-	-	3.05E-04	4.07E-04	0
Dichloroethene[1,1-]	75-35-4	19	-	-	3.05E-04	4.07E-04	0
Dichloroethene[cis-1,2-]	156-59-2	19	-	-	3.05E-04	4.07E-04	0
Dichloroethene[trans-1,2-]	156-60-5	19	-	-	3.05E-04	4.07E-04	0
Dichlorophenol[2,4-]	120-83-2	19	-	-	1.01E-01	3.05E+00	0
Dichloropropane[1,2-]	78-87-5	19	-	-	3.05E-04	4.07E-04	0
Dichloropropane[1,3-]	142-28-9	19	-	-	3.05E-04	4.07E-04	0
Dichloropropane[2,2-]	594-20-7	19	-	-	3.05E-04	4.07E-04	0
Dichloropropene[1,1-]	563-58-6	19	-	-	3.05E-04	4.07E-04	0
Dichloropropene[cis-1,3-]	10061-01-5	19	-	-	3.05E-04	4.07E-04	0
Dichloropropene[trans-1,3-]	10061-02-6	19	-	-	3.05E-04	4.07E-04	0
Diethylphthalate	84-66-2	19	-	-	1.01E-02	3.05E-01	0
Dimethyl Phthalate	131-11-3	19	-	-	1.01E-02	3.05E-01	0
Dimethylphenol[2,4-]	105-67-9	19	-	-	1.01E-01	3.05E+00	0
Di-n-butylphthalate	84-74-2	19	-	-	1.01E-02	3.05E-01	0
Dinitro-2-methylphenol[4,6-]	534-52-1	19	-	-	1.01E-01	3.05E+00	0
Dinitrobenzene[1,3-]	99-65-0	29	-	-	1.44E-01	1.52E-01	0
Dinitrophenol[2,4-]	51-28-5	19	-	-	1.01E-01	3.05E+00	0
Dinitrotoluene[2,4-]	121-14-2	48	1.72E-01	1.72E-01	1.01E-01	3.05E+00	1
Dinitrotoluene[2,6-]	606-20-2	48	-	-	1.01E-01	3.05E+00	0
Di-n-octylphthalate	117-84-0	19	-	-	1.01E-02	3.05E-01	0
Diphenylamine	122-39-4	19	-	-	1.01E-01	3.05E+00	0
Ethylbenzene	100-41-4	19	-	-	3.05E-04	4.07E-04	0
Fluoranthene	206-44-0	19	-	-	1.01E-02	3.05E-01	0
Fluorene	86-73-7	19	-	-	1.01E-02	3.05E-01	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Hexachlorobenzene	118-74-1	19	-	-	1.01E-01	3.05E+00	0
Hexachlorobutadiene	87-68-3	19	-	-	1.01E-01	3.05E+00	0
Hexachlorocyclopentadiene	77-47-4	19	-	-	1.01E-01	3.05E+00	0
Hexachloroethane	67-72-1	19	-	-	1.01E-01	3.05E+00	0
Hexanone[2-]	591-78-6	19	-	-	1.53E-03	2.04E-03	0
HMX	2691-41-0	29	1.82E-01	1.60E+02	1.44E-01	3.73E+01	17
Indeno(1,2,3-cd)pyrene	193-39-5	19	-	-	1.01E-02	3.05E-01	0
Iodomethane	74-88-4	19	-	-	1.53E-03	2.04E-03	0
Isophorone	78-59-1	19	-	-	1.01E-01	3.05E+00	0
Isopropylbenzene	98-82-8	19	-	-	3.05E-04	4.07E-04	0
Isopropyltoluene[4-]	99-87-6	19	4.24E-04	4.24E-04	3.05E-04	4.07E-04	1
Methyl-2-pentanone[4-]	108-10-1	19	-	-	1.53E-03	2.04E-03	0
Methylene Chloride	75-09-2	19	2.62E-03	4.73E-03	1.69E-03	2.16E-03	2
Methylnaphthalene[2-]	91-57-6	19	-	-	1.01E-02	3.05E-01	0
Methylphenol[2-]	95-48-7	19	-	-	1.01E-01	3.05E+00	0
Methylphenol[3-,4-]	65794-96-9	11	-	-	1.01E-01	3.05E+00	0
Methylphenol[4-]	106-44-5	8	-	-	1.01E-01	1.08E-01	0
Naphthalene	91-20-3	19	-	-	1.01E-02	3.05E-01	0
Nitroaniline[2-]	88-74-4	19	-	-	1.11E-01	3.36E+00	0
Nitroaniline[3-]	99-09-2	19	-	-	1.01E-01	3.05E+00	0
Nitroaniline[4-]	100-01-6	19	-	-	1.01E-01	3.05E+00	0
Nitrobenzene	98-95-3	48	-	-	1.01E-01	3.05E+00	0
Nitrophenol[2-]	88-75-5	19	-	-	1.01E-01	3.05E+00	0
Nitrophenol[4-]	100-02-7	19	-	-	1.01E-01	3.05E+00	0
Nitrosodimethylamine[N-]	62-75-9	19	-	-	1.01E-01	3.05E+00	0
Nitroso-di-n-propylamine[N-]	621-64-7	19	-	-	1.01E-01	3.05E+00	0
Nitrotoluene[2-]	88-72-2	29	-	-	1.44E-01	1.52E-01	0
Nitrotoluene[3-]	99-08-1	29	-	-	1.44E-01	1.52E-01	0
Nitrotoluene[4-]	99-99-0	29	-	-	1.44E-01	1.52E-01	0
Oxybis(1-chloropropane)[2,2'-]	108-60-1	19	-	-	1.01E-01	3.05E+00	0
Pentachlorophenol	87-86-5	19	-	-	1.01E-01	3.05E+00	0
PETN	78-11-5	29	3.88E+01	3.88E+01	2.39E-01	6.25E+00	1
Phenanthrene	85-01-8	19	-	-	1.01E-02	3.05E-01	0
Phenol	108-95-2	19	-	-	1.01E-01	3.05E+00	0
Propylbenzene[1-]	103-65-1	19	-	-	3.05E-04	4.07E-04	0
Pyrene	129-00-0	19	-	-	1.01E-02	3.05E-01	0
Pyridine	110-86-1	19	-	-	1.01E-01	3.05E+00	0
RDX	121-82-4	29	1.56E-01	7.24E+01	1.46E-01	3.75E+00	17

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Styrene	100-42-5	19	-	-	3.05E-04	4.07E-04	0
TATB	3058-38-6	28	3.65E-01	4.32E+01	2.87E-01	3.00E+00	19
Tetrachloroethane[1,1,1,2-]	630-20-6	19	-	-	3.05E-04	4.07E-04	0
Tetrachloroethane[1,1,2,2-]	79-34-5	19	-	-	3.05E-04	4.07E-04	0
Tetrachloroethene	127-18-4	19	-	-	3.05E-04	4.07E-04	0
Tetryl	479-45-8	18	-	-	1.44E-01	1.52E-01	0
Toluene	108-88-3	19	-	-	3.05E-04	4.07E-04	0
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	11	3.54E+00	7.91E+01	2.19E+00	2.64E+00	11
Total Petroleum Hydrocarbons Gasoline Range Org.	TPH-GRO	11	-	-	1.41E-02	2.31E-02	0
Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	19	-	-	1.53E-03	2.04E-03	0
Trichlorobenzene[1,2,4-]	120-82-1	19	-	-	1.01E-01	3.05E+00	0
Trichloroethane[1,1,1-]	71-55-6	19	-	-	3.05E-04	4.07E-04	0
Trichloroethane[1,1,2-]	79-00-5	19	-	-	3.05E-04	4.07E-04	0
Trichloroethene	79-01-6	19	-	-	3.05E-04	4.07E-04	0
Trichlorofluoromethane	75-69-4	19	-	-	3.05E-04	4.07E-04	0
Trichlorophenol[2,4,5-]	95-95-4	19	-	-	1.01E-01	3.05E+00	0
Trichlorophenol[2,4,6-]	88-06-2	19	-	-	1.01E-01	3.05E+00	0
Trichloropropane[1,2,3-]	96-18-4	19	-	-	3.05E-04	4.07E-04	0
Trimethylbenzene[1,2,4-]	95-63-6	19	-	-	3.05E-04	4.07E-04	0
Trimethylbenzene[1,3,5-]	108-67-8	19	-	-	3.05E-04	4.07E-04	0
Trinitrobenzene[1,3,5-]	99-35-4	29	3.97E-01	4.60E-01	1.44E-01	1.52E-01	3
Trinitrotoluene[2,4,6-]	118-96-7	29	2.42E-01	1.27E+01	1.44E-01	1.49E+00	7
Tris (o-cresyl) phosphate	78-30-8	29	-	-	2.87E-01	3.05E-01	0
Vinyl Chloride	75-01-4	19	-	-	3.05E-04	4.07E-04	0
Xylene[1,2-]	95-47-6	19	-	-	3.05E-04	4.07E-04	0
Xylene[1,3-]+Xylene[1,4-]	Xylene[m+p]	19	-	-	3.05E-04	8.14E-04	0

Note: Data are for soils depths from 0 to 12” from samples collected within the SWMU boundary.

Data as shown contain duplicates.

2,3,7,8-TCDD – See Table 2-6 for raw dioxin data. At least one dioxin/furan isomer detected in each sample. The minimum and maximum TEQs are presented above, with the minimum and maximum MDLs for 2,3,7,8-TCDD. Only detected data are used in the TEQ calculation.

ND – Not detected

Table 2-12. Comparison of Maximum Detected Values to Background for Samples from Within the SWMU Boundary

Parameter Category	Parameter Name	CAS No.	Sample Size (n)	Maximum Detected Value (mg/kg)	Number of Detected Values	BV (mg/kg)	Maximum BV Ratio
Inorganic	Aluminum	7429-90-5	19	1.25E+04	19	2.92E+04	4.28E-01
	Antimony	7440-36-0	19	1.22E+00	6	8.30E-01	1.47E+00
	Arsenic	7440-38-2	21	3.67E+00	21	8.17E+00	4.49E-01
	Barium	7440-39-3	21	1.26E+04	21	2.95E+02	4.27E+01
	Beryllium	7440-41-7	19	1.13E+00	19	1.83E+00	6.17E-01
	Cadmium	7440-43-9	21	4.53E-01	2	4.00E-01	1.13E+00
	Calcium	Ca	19	1.61E+04	19	6.12E+03	2.63E+00
	Chromium	16065-83-1	21	9.01E+00	21	1.93E+01	4.67E-01
	Cobalt	7440-48-4	19	3.40E+00	10	8.64E+00	3.94E-01
	Copper	7440-50-8	19	1.13E+02	18	1.47E+01	7.69E+00
	Iron	7439-89-6	19	1.70E+04	19	2.15E+04	7.91E-01
	Lead	7439-92-1	21	2.28E+02	21	2.23E+01	1.02E+01
	Magnesium	Mg	19	2.24E+03	19	4.61E+03	4.86E-01
	Manganese	7439-96-5	19	5.38E+02	19	6.71E+02	8.02E-01
	Mercury	7487-94-7	21	4.00E-02	16	1.00E-01	4.00E-01
	Nickel	7440-02-0	19	1.07E+01	19	1.54E+01	6.95E-01
	Nitrate	14797-55-8	10	4.02E+00	10	NA	NA
	Perchlorate	14797-73-0	19	8.39E-04	4	NA	NA
	Potassium	K	19	1.80E+03	19	3.46E+03	5.20E-01
	Selenium	7782-49-2	21	3.05E+00	11	1.52E+00	2.01E+00
	Silver	7440-22-4	21	7.95E+00	19	1.00E+00	7.95E+00
	Sodium	Na	19	1.54E+02	19	9.15E+02	1.68E-01
	Thallium	7440-28-0	19	4.55E-01	11	7.30E-01	6.23E-01
	Vanadium	7440-62-2	19	1.90E+01	19	3.96E+01	4.80E-01
	Zinc	7440-66-6	19	1.15E+02	19	4.88E+01	2.36E+00

Notes: Shaded cells indicate maximum exceeds background
Analytes indicated as NA are carried forward

BV – Background value
mg/kg – Milligram per kilogram
NA – Not applicable
NV – No value

Table 2-13. Human Health Screening Results for Maximum Detected Exposure Point Concentrations Greater than Background for Samples from Within the SWMU Boundary

Parameter Category	Name	Maximum Detected Value (mg/kg)	Resident Cancer Risk	Resident HQ	Industrial Worker Cancer Risk	Industrial Worker HQ	CW Cancer Risk	CW HQ	SL-SSL, DAF 20 Ratio
Inorganic	Antimony	1.22E+00	NA	4E-02	NA	2E-03	NA	9E-03	2E-01
	Barium	1.26E+04	NA	8E-01	NA	5E-02	NA	3E+00	5E+00
	Cadmium	4.53E-01	5E-11	6E-03	1E-06	4E-04	1E-09	6E-03	5E-02
	Calcium	1.61E+04	NA	1E-03	NA	5E-04	NA	2E-03	NA
	Copper	1.13E+02	NA	4E-02	NA	2E-03	NA	8E-03	1E-01
	Nitrate	4.02E+00	NA	3E-05	NA	2E-06	NA	7E-06	9E-03
	Perchlorate	8.39E-04	NA	2E-05	NA	9E-07	NA	3E-06	7E-03
	Selenium	3.05E+00	NA	8E-03	NA	5E-04	NA	2E-03	3E-01
	Silver	7.95E+00	NA	2E-02	NA	1E-03	NA	4E-03	6E-01
	Zinc	1.15E+02	NA	5E-03	NA	3E-04	NA	1E-03	2E-02
Organic	2,3,7,8 TCDD TEQ	6.27E-05	1E-05	1E+00	3E-06	8E-02	4E-07	3E-01	3E-01
	3,5-Dinitroaniline	1.33E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Amino-2,6-dinitrotoluene[4-]	3.24E+00	NA	4E-01	NA	3E-02	NA	3E-02	NA
	Amino-4,6-dinitrotoluene[2-]	1.49E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Anthracene	5.09E-01	NA	3E-05	NA	2E-06	NA	7E-06	6E-04
	Bis(2-ethylhexyl)phthalate	5.66E+01	1E-06	5E-02	3E-02	3E-03	4E-08	1E-02	3E-01
	Dinitrotoluene[2,4-]	1.72E-01	1E-07	1E-03	2E-03	9E-05	3E-09	3E-04	3E+00
	HMX	1.60E+02	NA	4E-02	NA	3E-03	NA	9E-03	8E+00
	Isopropyltoluene[4-]	4.24E-04	NA	8E-08	NA	7E-09	NA	3E-08	3E-05
	Methylene Chloride	4.73E-03	6E-11	1E-05	3E-07	9E-07	5E-13	4E-06	1E-02
	PETN	3.88E+01	3E-07	3E-01	7E-03	2E-02	7E-08	2E-02	NA
	RDX	7.24E+01	9E-06	2E-01	2E-01	1E-02	2E-07	5E-02	1E+03
	TATB	4.32E+01	NA	2E-02	NA	1E-03	NA	1E-03	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	7.91E+01	NA	4E-02	NA	3E-02	NA	NA	1E-02
	Trinitrobenzene[1,3,5-]	4.60E-01	NA	2E-04	NA	1E-05	NA	1E-05	NA
	Trinitrotoluene[2,4,6-]	1.27E+01	6E-07	4E-01	1E-02	2E-02	2E-08	8E-02	1E+01
Cumulative Cancer Risk (CCR)			1E-05		2E-06		4E-07		NA
Hazard Index (HI)				4E+00		3E-01		3E+00	NA

Notes: The maximum detected value and the ratios of the maximum detected value to the NMSSLs (Table 2-1) are shown in this table. Shaded cells indicate cancer risk (CR) or noncancer hazard (HQ) exceeds target levels of 1E-05 or 1, respectively.

CW – Construction worker
HQ – Noncancer hazard quotient
mg/kg – milligram per kilogram
NA – Not applicable
SL-SSL, DAF 20 – Ratio of the maximum to the NMED migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-14. Dioxin and Furan Soil Data and TEQ Calculations for Samples from Within the SWMU Boundary

Parameter name	CAS NO.	09RCRA709 Result (mg/kg)	DC	09RCRA711 Result (mg/kg)	DC	RE16-12-17673 Result (mg/kg)	DC	RE16-12-17674 Result (mg/kg)	DC	RE16-12-17675 Result (mg/kg)	DC	RE16-12-17676 Result (mg/kg)	DC	RE16-12-17677 Result (mg/kg)	DC	RE16-12-17678 Result (mg/kg)	DC	RE16-12-17679 Result (mg/kg)	DC	RE16-12-17680 Result (mg/kg)	DC
1,2,3,4,5,6,7,8-OCDD	3268-87-9	1.85E-04	1	4.80E-03	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1		
1,2,3,4,5,6,7,8-OCDF	39001-02-0	2.19E-05	1	6.57E-04	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-05	1	9.00E-04	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-06	1	2.88E-04	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-07	1	1.92E-05	1	1.39E-06	1	0.00E+00	0	8.79E-07	1	1.17E-06	1	0.00E+00	0	0.00E+00	0	1.50E-06	1	3.30E-05	1
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-07	1	1.79E-05	1	1.20E-06	1	0.00E+00	0	7.40E-07	1	8.66E-07	1	0.00E+00	0	0.00E+00	0	1.61E-06	1	3.08E-05	1
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-07	1	1.21E-05	1	1.75E-06	1	0.00E+00	0	7.33E-07	1	8.23E-07	1	0.00E+00	0	0.00E+00	0	9.85E-07	1	1.69E-05	1
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-06	1	3.33E-05	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	0.00E+00	0	7.55E-07	1	3.69E-06	1	7.18E-05	1
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-07	1	1.44E-05	1	1.10E-06	1	0.00E+00	0	7.05E-07	1	7.81E-07	1	0.00E+00	0	0.00E+00	0	1.32E-06	1	2.23E-05	1
1,2,3,7,8,9-HxCDD	19408-74-3			4.07E-05	1	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	0.00E+00	0	6.99E-07	1	4.34E-06	1	8.71E-05	1
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00	0	2.02E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.88E-06	1
1,2,3,7,8-PeCDD	40321-76-4			6.99E-06	1	7.45E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.39E-07	1	1.11E-05	1
1,2,3,7,8-PeCDF	57117-41-6	4.76E-07	1	1.65E-06	1	1.61E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.50E-07	1	1.77E-06	1
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-07	1	1.78E-05	1	1.49E-06	1	0.00E+00	0	9.09E-07	1	7.41E-07	1	0.00E+00	0	0.00E+00	0	1.57E-06	1	2.66E-05	1
2,3,4,7,8-PeCDF	57117-31-4			1.97E-06	1	8.97E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.00E-06	1
2,3,7,8-TCDD	1746-01-6	5.49E-07	1	1.34E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.17E-07	1	1.49E-06	1
2,3,7,8-TCDF	51207-31-9	5.95E-07	1	1.51E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	5.55E-08		1.44E-06		1.14E-07		3.24E-08		7.20E-08		9.96E-08		1.13E-08		3.27E-08		1.44E-07		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	39001-02-0	6.57E-09		1.97E-07		1.36E-08		3.54E-09		8.46E-09		1.09E-08		1.07E-09		3.03E-09		1.48E-08		3.84E-07	
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-07		9.00E-06		5.27E-07		1.81E-07		3.48E-07		4.21E-07		5.33E-08		1.49E-07		8.02E-07		1.70E-05	
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-08		2.88E-06		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06	
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-09		1.92E-07		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07	
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-08		1.79E-06		1.20E-07		0.00E+00		7.40E-08		8.66E-08		0.00E+00		0.00E+00		1.61E-07		3.08E-06	
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-08		1.21E-06		1.75E-07		0.00E+00		7.33E-08		8.23E-08		0.00E+00		0.00E+00		9.85E-08		1.69E-06	
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-07		3.33E-06		2.52E-07		1.04E-07		1.58E-07		1.75E-07		0.00E+00		7.55E-08		3.69E-07		7.18E-06	
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-08		1.44E-06		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06	
1,2,3,7,8,9-HxCDD	19408-74-3	0.00E+00		4.07E-06		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06	
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00		2.02E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07	
1,2,3,7,8-PeCDD	40321-76-4	0.00E+00		6.99E-06		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05	
1,2,3,7,8-PeCDF	57117-41-6	1.43E-08		4.95E-08		4.83E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.95E-08		5.31E-08	
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-08		1.78E-06		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06	
2,3,4,7,8-PeCDF	57117-31-4	0.00E+00		5.91E-07		2.69E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.00E-07	
2,3,7,8-TCDD	1746-01-6	5.49E-07		1.34E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06	
2,3,7,8-TCDF	51207-31-9	5.95E-08		1.51E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ		**1.54E-06**		**3.67E-05**		**2.97E-06**		**4.76E-07**		**1.21E-06**		**1.38E-06**		**8.62E-08**		**3.60E-07**		**3.86E-06**		**6.27E-05**	

Table 2-14. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

	WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358		WST16-19-181359		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366	
Parameter name	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
1,2,3,4,5,6,7,8-OCDD	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1	6.50E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1
1,2,3,4,5,6,7,8-OCDF	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1	8.35E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1
1,2,3,4,6,7,8-HpCDD	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1	1.05E-04	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1
1,2,3,4,6,7,8-HpCDF	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1	3.47E-05	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1
1,2,3,4,7,8,9-HpCDF	1.89E-06	1	9.85E-07	1	0.00E+00	0	7.85E-07	1	1.07E-06	1	2.20E-06	1	0.00E+00	0	0.00E+00	0	3.26E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDD	9.07E-07	1	1.14E-06	1	0.00E+00	0	6.78E-07	1	8.31E-07	1	1.95E-06	1	5.72E-07	1	0.00E+00	0	4.13E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDF	2.44E-06	1	8.29E-07	1	0.00E+00	0	7.14E-07	1	1.42E-06	1	1.64E-06	1	8.57E-07	1	0.00E+00	0	2.06E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,6,7,8-HxCDD	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1	4.06E-06	1	8.53E-07	1	0.00E+00	0	7.10E-06	1	7.06E-07	1	0.00E+00	0
1,2,3,6,7,8-HxCDF	1.71E-06	1	9.81E-07	1	0.00E+00	0	6.89E-07	1	1.04E-06	1	1.56E-06	1	0.00E+00	0	0.00E+00	0	2.57E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8,9-HxCDD	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1	4.20E-06	1	7.43E-07	1	0.00E+00	0	8.50E-06	1	1.13E-06	1	5.09E-07	1
1,2,3,7,8,9-HxCDF	4.96E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDD	4.88E-07	1	5.71E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.70E-07	1	0.00E+00	0	0.00E+00	0	1.53E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDF	2.03E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.99E-07	1	5.68E-07	1	8.34E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,4,6,7,8-HxCDF	2.45E-06	1	1.14E-06	1	0.00E+00	0	8.59E-07	1	1.55E-06	1	1.91E-06	1	0.00E+00	0	0.00E+00	0	3.56E-06	1	0.00E+00	0	0.00E+00	0
2,3,4,7,8-PeCDF	1.43E-06	1	0.00E+00	0	0.00E+00	0	4.69E-07	1	1.06E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDD	2.15E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.03E-07	1	2.10E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDF	1.66E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																						
1,2,3,4,5,6,7,8-OCDD	9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08		1.95E-07		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08	
1,2,3,4,5,6,7,8-OCDF	1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09		2.51E-08		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09	
1,2,3,4,6,7,8-HpCDD	4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07		1.05E-06		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07	
1,2,3,4,6,7,8-HpCDF	1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07		3.47E-07		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08	
1,2,3,4,7,8,9-HpCDF	1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08		2.20E-08		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDD	9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08		1.95E-07		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDF	2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07		1.64E-07		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00	
1,2,3,6,7,8-HxCDD	1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07		4.06E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00	
1,2,3,6,7,8-HxCDF	1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07		1.56E-07		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00	
1,2,3,7,8,9-HxCDD	1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07		4.20E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08	
1,2,3,7,8,9-HxCDF	4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00		6.70E-07		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08		1.70E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,4,6,7,8-HxCDF	2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07		1.91E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDD	2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.03E-07		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**		**4.06E-06**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**	

Notes: The TECi are summed in each column to obtain the TEQ
Detect Code (DC) = 1 is detected, 0 is not detected
Shaded cells indicate a duplicate pair

Table 2-15. Dioxin Furan Cancer Risk and Hazard Quotients by Receptor for Samples within the SWMU Boundary

Sample ID	TCDD TEQ (mg/kg)	Resident Cancer Risk	Resident HQ	Industrial Worker Cancer Risk	Industrial Worker HQ	CW Cancer Risk	CW HQ	SL-SSL, DAF 20 Ratio
09RCRA709	1.54E-06	3E-07	3E-02	6E-08	2E-03	9E-09	7E-03	7E-03
09RCRA711	3.67E-05	7E-06	7E-01	2E-06	5E-02	2E-07	2E-01	2E-01
RE16-12-17673	2.97E-06	6E-07	6E-02	1E-07	4E-03	2E-08	1E-02	1E-02
RE16-12-17674	4.76E-07	1E-07	9E-03	2E-08	6E-04	3E-09	2E-03	2E-03
RE16-12-17676	1.38E-06	3E-07	3E-02	6E-08	2E-03	8E-09	6E-03	6E-03
RE16-12-17677	8.62E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
RE16-12-17678	3.60E-07	7E-08	7E-03	2E-08	4E-04	2E-09	2E-03	2E-03
RE16-12-17679	3.86E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
RE16-12-17680	**6.27E-05**	**1E-05**	**1E+00**	**3E-06**	**8E-02**	**4E-07**	**3E-01**	**3E-01**
WST16-19-181353	3.29E-06	7E-07	7E-02	1E-07	4E-03	2E-08	1E-02	1E-02
WST16-19-181354	2.27E-06	5E-07	4E-02	1E-07	3E-03	1E-08	1E-02	1E-02
WST16-19-181355	2.69E-07	5E-08	5E-03	1E-08	3E-04	2E-09	1E-03	1E-03
WST16-19-181358	1.70E-06	3E-07	3E-02	7E-08	2E-03	1E-08	8E-03	8E-03
WST16-19-181359	4.06E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
WST16-19-181362	8.89E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
WST16-19-181363	8.94E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
WST16-19-181364	7.31E-06	1E-06	1E-01	3E-07	9E-03	4E-08	3E-02	3E-02
WST16-19-181365	5.00E-07	1E-07	1E-02	2E-08	6E-04	3E-09	2E-03	2E-03
WST16-19-181366	2.07E-07	4E-08	4E-03	9E-09	3E-04	1E-09	9E-04	9E-04

Notes:
No samples exceeded target CR of 1E-05 or HQ of 1. Only maximum of each duplicate pair (Table 2-6) used for risk calculations.
Bold indicates the maximum detected TEQ
CW – Construction worker
HQ – Hazard quotient
SL-SSL, DAF – Migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-16. Refined Exposure Point Concentrations for Samples from Within the SWMU Boundary

Category	Name	Refined EPC (mg/kg)	Number of Detected Values	Distribution	Recommended UCL Type
Inorganic	Antimony	0.56	5	Normal	95% KM (t) UCL
	Barium	4423	19	Lognormal	95% Adjusted Gamma UCL
	Cadmium	0.439	2	NA	Median of Detected Values
	Calcium	6628	17	NDD	95% Chebyshev (Mean, Sd) UCL
	Copper	45.41	16	NDD	95% KM (Chebyshev) UCL
	Lead	76.88	19	NDD	95% Chebyshev (Mean, Sd) UCL
	Nitrate	3.468	9	Gamma	95% Adjusted Gamma UCL
	Perchlorate	6.98E-04	4	NA	Median of Detected Values
	Selenium	1.403	10	Normal	95% KM (t) UCL
	Silver	3.136	17	Gamma	95% KM Adjusted Gamma UCL
	Zinc	66.99	17	Normal	95% Student's-t UCL
Organic	2,3,7,8-TCDD TEQ	0.000043	19	Lognormal	99% Chebyshev (Mean, Sd) UCL
	3,5-Dinitroaniline	1.33	1	NA	Maximum Detected Value
	Amino-2,6-dinitrotoluene[4-]	0.773	7	Gamma*	95% Gamma Adjusted KM-UCL (use when n<50)
	Amino-4,6-dinitrotoluene[2-]	0.487	7	Gamma*	95% Gamma Adjusted KM-UCL (use when n<50)
	Anthracene	0.262	2	NA	Median of Detected Values
	Bis(2-ethylhexyl)phthalate	29.44	8	Gamma	95% Adjusted Gamma UCL
	Dinitrotoluene[2,4-]	0.172	1	NA	Maximum Detected Value
	HMX	35.1	14	Lognormal	95% KM (Chebyshev) UCL
	Isopropyltoluene[4-]	0.000424	1	NA	Maximum Detected Value
	Methylene Chloride	0.00473	2	NA	Maximum Detected Value from One Duplicate Pair
	PETN	38.80	1	NA	Maximum Detected Value
	RDX	20.49	15	Gamma*	95% Gamma Adjusted KM-UCL (use when n<50)
	TATB	14.37	16	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)
	Total Petroleum Hydrocarbons Diesel Range Organics	34.47	10	Lognormal*	95% Chebyshev (MVUE) UCL
	Trinitrobenzene[1,3,5-]	0.429	2	NA	Median of Detected Values
	Trinitrotoluene[2,4,6-]	3.015	6	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

Notes:
Per NMED (2019), UCLs not calculated unless there were >5 detected values and 8 total samples
EPCs represent all detected analytes and for inorganics, all detected analytes with maxima greater than the BTV
Data represent the higher of the duplicate pairs.
Recommended values from ProUCL used unless the distribution was identified by ProUCL as approximate
* Recommended distribution was approximate and met only one goodness of fit test. The UCL95 closest to the recommended value from a distribution meeting both goodness of fit tests was used. See Appendix A.
KM – Kaplan- Meier
NDD – No discernable distribution
Sd – Standard deviation
UCL – Upper Confidence Limit

Table 2-17. Human Health Risk Assessment with Refined EPCs for Samples from Within the SWMU Boundary

Category	Name	Refined EPC (mg/kg)	Residential Cancer Risk	Residential HQ	Industrial Worker Cancer Risk	Industrial Worker HQ	Construction Worker Cancer Risk	Construction Worker HQ	SL-SSL DAF 20 Ratio
Inorganic	Antimony	0.56	NO SL	2E-02	NO SL	1E-03	NO SL	4E-03	9E-02
	Barium	4423	NO SL	3E-01	NO SL	2E-02	NO SL	1E+00	2E+00
	Cadmium	0.439	5E-11	6E-03	1E-11	4E-04	1E-09	6E-03	5E-02
	Calcium	6628	NO SL	5E-04	NO SL	2E-04	NO SL	7E-04	NO SL
	Copper	45.41	NO SL	1E-02	NO SL	9E-04	NO SL	3E-03	5E-02
	Nitrate	3.468	NO SL	3E-05	NO SL	2E-06	NO SL	6E-06	8E-03
	Perchlorate	6.98E-04	NO SL	1E-05	NO SL	8E-07	NO SL	3E-06	6E-03
	Selenium	1.403	NO SL	4E-03	NO SL	2E-04	NO SL	8E-04	1E-01
	Silver	3.136	NO SL	8E-03	NO SL	5E-04	NO SL	2E-03	2E-01
	Zinc	66.99	NO SL	3E-03	NO SL	2E-04	NO SL	6E-04	9E-03
Organic	2,3,7,8-TCDD TEQ	0.000043	9E-06	8E-01	2E-06	5E-02	2E-07	2E-01	2E-01
	3,5-Dinitroaniline	1.33	NO SL	2E-01	NO SL	1E-02	NO SL	1E-02	NO SL
	Amino-2,6-dinitrotoluene[4-]	0.773	NO SL	1E-01	NO SL	7E-03	NO SL	7E-03	NO SL
	Amino-4,6-dinitrotoluene[2-]	0.487	NO SL	6E-02	NO SL	4E-03	NO SL	4E-03	NO SL
	Anthracene	0.262	NO SL	2E-05	NO SL	1E-06	NO SL	3E-06	3E-04
	Bis(2-ethylhexyl)phthalate	29.44	8E-07	2E-02	2E-07	2E-03	2E-08	5E-03	1E-01
	Dinitrotoluene[2,4-]	0.172	1E-07	1E-03	2E-08	9E-05	3E-09	3E-04	3E+00
	HMX	35.1	NO SL	9E-03	NO SL	6E-04	NO SL	2E-03	2E+00
	Isopropyltoluene[4-]	0.000424	NO SL	8E-08	NO SL	7E-09	NO SL	3E-08	3E-05
	Methylene Chloride	0.00473	6E-11	1E-05	3E-12	9E-07	5E-13	4E-06	1E-02
	PETN	38.80	3E-07	3E-01	7E-08	2E-02	7E-08	2E-02	NO SL
	RDX	20.49	2E-06	7E-02	5E-07	4E-03	7E-08	2E-02	3E+02
	TATB	14.37	NO SL	7E-03	NO SL	4E-04	NO SL	4E-04	NO SL
	Total Petroleum Hydrocarbons Diesel Range Organics	34.47	NO SL	2E-02	NO SL	1E-02	NO SL	NO SL	6E-03
	Trinitrobenzene[1,3,5-]	0.429	NO SL	2E-04	NO SL	1E-05	NO SL	1E-05	NO SL
	Trinitrotoluene[2,4,6-]	3.015	1E-07	8E-02	3E-08	5E-03	4E-09	2E-02	4E+00
CCR or Hazard Index			1E-05	2E+00	3E-06	2E-01	4E-07	1E+00	NA

Notes:
CCR – Cumulative cancer risk
EPC – Exposure point concentration
HQ – Hazard quotient
NA – Not applicable
SL – Screening level
TPH DRO - Total Petroleum Hydrocarbons Diesel Range Organics
SL-SSL DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of 2

Table 3-1. LANL ESLs Used in the Ecological Risk Assessment

Analyte Group	Analyte Name	No Effect ESL										
		Am. Kestrel (TC)	**Am. Kestrel (IC)**	**Am. Robin (H)**	**Am. Robin (I)**	**Am. Robin (O)**	**Deer Mouse (O)**	**Earth-worm (Soil fauna)**	**Generic Plant**	**Gray Fox (C)**	**Montane Shrew (I)**	**Mountain Cottontail (H)**
Inorganic	Aluminum											
	Antimony						2.3	78	11	46	7.9	2.7
	Arsenic	740	100	34	15	21	32	6.8	18	820	19	110
	Barium	24000	7500	720	820	770	1800	330	110	41000	2100	2900
	Beryllium						56	40	2.5	420	35	89
	Cadmium	430	1.3	4.3	0.29	0.54	0.5	140	32	550	0.27	10
	Chromium (total)	860	170	51	23	32	110			1800	63	410
	Cobalt	2300	620	130	76	97	400		13	5400	240	1000
	Copper	1100	80	34	14	20	63	80	70	4000	42	260
	Fluoride	2200	910	170	120	140	1100			13000	870	2600
	Lead	540	83	18	11	14	120	1700	120	3700	93	310
	Manganese	60000	24000	1300	2200	1600	1400	450	220	40000	2800	2000
	Mercury (inorganic)	0.32	0.058	0.067	0.013	0.022	3	0.05	34	76	1.7	23
	Nickel	2000	110	120	20	35	20	280	38	1200	10	270
	Perchlorate	2	3.9	0.12	31	0.24	0.21	3.5	40	3.3	31	0.26
	Selenium	74	3.7	0.98	0.71	0.83	0.82	4.1	0.52	92	0.7	2.2
	Silver	600	13	10	2.6	4.1	24		560	4400	14	150
	Thallium	100	48	6.9	4.5	5.5	0.72		0.05	5	0.42	1.2
	Vanadium	110	56	6.8	4.7	5.5	470		60	3200	290	740
	Zinc	2600	220	330	47	83	170	120	160	9600	99	1800
Dioxin/ Furan	Tetrachlorodibenzodioxin[2,3,7,8-]	0.0000041	0.0000041	0.0000041	0.0000041	0.0000041	0.00000058	5		0.0001	0.00000029	0.00004
High Explosive	Amino-2,6-dinitrotoluene[4-]						23	18	33	6700	12	320
	Amino-4,6-dinitrotoluene[2-]						23	43	14	9700	16	110
	3,5-Dinitroaniline						23	18	33	6700	12	320
	Dinitrobenzene[1,3-]	120	9.3	0.079	1.6	0.15	0.072			82	0.95	0.091
	Dinitrotoluene[2,4-]						20	18	6	2000	14	74
	Dinitrotoluene[2,6-]	18000	680	52	130	74	4	30		1300	7.6	6.7
	HMX						290	16	2700	59000	1100	410
	Nitroglycerine						70	13	21	69000	1200	88
	Nitrotoluene[2-]						9.8			6000	22	15
	Nitrotoluene[3-]						12			7000	19	21
	Nitrotoluene[4-]						21			13000	41	36
	PETN						100			47000	1000	120
	RDX	780	11	2.3	2.4	2.3	16	8.4		7000	16	38
	TATB						110	10		10000	720	150
	Tetryl						1.5			960	60	1.8

Analyte Group	Analyte Name	No Effect ESL										
		Am. Kestrel (TC)	**Am. Kestrel (IC)**	**Am. Robin (H)**	**Am. Robin (I)**	**Am. Robin (O)**	**Deer Mouse (O)**	**Earth-worm (Soil fauna)**	**Generic Plant**	**Gray Fox (C)**	**Montane Shrew (I)**	**Mountain Cottontail (H)**
	Trinitrobenzene[1,3,5-]						110	10		10000	720	150
	Trinitrotoluene[2,4,6-]	3100	1300	7.5	120	14	95	32	62	26000	1900	110
Petroleum Hydrocarbons	Total Petroleum Hydrocarbon DRO							198	81.2			
Polyaromatic Hydrocarbon	Acenaphthene						160		0.25	29000	130	530
	Acenaphthylene						160			28000	120	540
	Anthracene						300		6.8	38000	210	1200
	Benzo(a)anthracene	28	6.4	0.73	0.88	0.8	3.4		18	110	4	6.1
	Benzo(a)pyrene						84			3400	62	260
	Benzo(b)fluoranthene						51		18	2400	44	130
	Benzo(g,h,i)perylene						46			3600	25	470
	Benzo(k)fluoranthene						99			4300	71	330
	Chrysene						3.1			110	3.1	6.3
	Dibenzo(a,h)anthracene						22			850	14	84
	Fluoranthene						38	10		3900	22	270
	Fluorene						340	3.7		50000	250	1100
	Indeno(1,2,3-cd)pyrene						110			4600	71	510
	Methylnaphthalene[2-]						24			4900	16	110
	Naphthalene	2100	78	3.4	15	5.7	9.6		1	5800	28	14
	Phenanthrene						15	5.5		1900	11	62
	Pyrene	3000	160	68	33	44	31	10		3100	23	110
Semivolatile Organic compound	Benzoic Acid						1.3			2000	1	4.6
	Bis(2-ethylhexyl)phthalate	9.3	0.096	16	0.02	0.04	1.1			500	0.6	1900
	Butyl Benzyl Phthalate						160			23000	90	2400
	Carbazole						79			13000	110	140
	Chlorobenzene						53	2.4		25000	43	170
	Chlorophenol[2-]	310	14	0.39	2.6	0.68	0.54			340	2.3	0.74
	Dibenzofuran								6.1			
	Diethyl Phthalate						3600		100	2500000	3600	8800
	Dimethyl Phthalate						38	10		48000	80	60
	Di-n-Butyl Phthalate	2	0.052	0.38	0.011	0.021	360		160	62000	180	17000
	Di-n-octylphthalate						1.8			1300	0.91	8400
	Methylphenol[2-]						580		0.67	160000	1500	880
	Methylphenol[3-]								0.69			
	Nitroaniline[2-]						5.3			2200	6.5	11
	Nitrobenzene						4.8	2.2		4100	21	6.7
	Pentachloronitrobenzene	110	3.3	21	0.7	1.3	22			3500	11	930
	Pentachlorophenol	57	1.7	29	0.36	0.72	1.5	31	5	230	0.81	180
	Phenol						37	1.8	0.79	43000	640	47
	Acetone	66000	840	7.5	170	14	1.2			7800	15	1.6

Analyte Group	Analyte Name	No Effect ESL										
		Am. Kestrel (TC)	**Am. Kestrel (IC)**	**Am. Robin (H)**	**Am. Robin (I)**	**Am. Robin (O)**	**Deer Mouse (O)**	**Earth-worm (Soil fauna)**	**Generic Plant**	**Gray Fox (C)**	**Montane Shrew (I)**	**Mountain Cottontail (H)**
Volatile Organic Compound	Benzene						24			18000	49	38
	Benzyl Alcohol						120			110000	270	190
	Butanone[2-]						350			1300000	2700	470
	Carbon Disulfide						0.81			190	1.2	1.4
	Chloroaniline[4-]							1.8	1			
	Chloroform						8			8900	8.2	19
	Dichlorobenzene[1,2-]						1.5			480	0.92	12
	Dichlorobenzene[1,3-]						1.2			380	0.74	13
	Dichlorobenzene[1,4-]						1.5	1.2		470	0.89	12
	Dichloroethane[1,1-]						210			250000	290	410
	Dichloroethane[1,2-]	1300	22	0.85	4.5	1.4	27			36000	91	39
	Dichloroethene[1,1-]						14			14000	11	44
	Dichloroethene[cis/trans-1,2-]						25			25000	24	64
	Diphenylamine	3900	49	78	10	17						
	Hexachlorobenzene	12	0.37	83	0.079	0.15	0.39	10	10	59	0.2	910
	Hexanone[2-]	290	1.7	0.47	0.36	0.41	6.1			5900	5.4	17
	Iodomethane	46	0.29	0.038	0.062	0.047						
	Isopropyltoluene[4-]						25		200	12000	23	66
	Methyl-2-pentanone[4-]						9.7			18000	15	17
	Methylene Chloride						2.6		1600	4300	9.2	3.8
	Styrene							1.2	3.2			
	Tetrachloroethene						0.35		10	120	0.18	9.5
	Toluene						25		200	12000	23	66
	Trichlorobenzene[1,2,4-]						0.51	1.2		110	0.27	12
	Trichloroethane[1,1,1-]						400			310000	260	2000
	Trichloroethene						54			42000	42	190
	Trichlorofluoromethane						97			62000	52	1800
	Vinyl Chloride						0.13			110	0.12	0.34
	Xylene (Total)	13000	190	89	41	56	1.9		100	750	1.4	7.6

Notes: Aluminum is only evaluated if soil pH<5.5; soils in area expected to be alkaline
ESLs are in units of milligram per kilogram (mg/kg)
C - Carnivore
TC – Top carnivore
IC – Insectivore/carnivore
H – Herbivore
I – Insectivore
O – Omnivore

Table 3-2. Ecological Screening Evaluation with Maximum Detected Soil Concentrations.

Parameter Category	Parameter name	Maximum Detected Value (mg/kg)	Am. Kestrel (TC) NE HQ	Am. Kestrel (IC) NE HQ	Am. Robin (H) NE HQ	Am. Robin (I) NE HQ	Am. Robin (O) NE HQ	Deer Mouse (O) NE HQ	Earthworm (Soil fauna) NE HQ	Generic Plant (producer) NE HQ	Gray Fox (TC) NE HQ	Montane Shrew (I) NE HQ	Mountain Cottontail (H) NE HQ
Inorganic	Antimony	1.22	NA	NA	NA	NA	NA	5E-01	2E-02	1E-01	3E-02	2E-01	5E-01
	Barium	12600	5E-01	2E+00	2E+01	2E+01	2E+01	7E+00	4E+01	1E+02	3E-01	6E+00	4E+00
	Cadmium	0.562	1E-03	4E-01	1E-01	2E+00	1E+00	1E+00	4E-03	2E-02	1E-03	2E+00	6E-02
	Calcium	16100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Copper	113	1E-01	1E+00	3E+00	8E+00	6E+00	2E+00	1E+00	2E+00	3E-02	3E+00	4E-01
	Lead	228	4E-01	3E+00	1E+01	2E+01	2E+01	2E+00	1E-01	2E+00	6E-02	2E+00	7E-01
	Nitrate	4.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Perchlorate	0.00173	9E-04	4E-04	1E-02	6E-05	7E-03	8E-03	5E-04	4E-05	5E-04	6E-05	7E-03
	Selenium	3.05	4E-02	8E-01	3E+00	4E+00	4E+00	4E+00	7E-01	6E+00	3E-02	4E+00	1E+00
	Silver	7.95	1E-02	6E-01	8E-01	3E+00	2E+00	3E-01	NA	1E-02	2E-03	6E-01	5E-02
	Zinc	115	4E-02	5E-01	3E-01	2E+00	1E+00	7E-01	1E+00	7E-01	1E-02	1E+00	6E-02
Organic	2,3,7,8 TCDD Mammal TEQ	6.27E-05	NA	NA	NA	NA	NA	1E+02	1E-05	NA	6E-01	2E+02	2E+00
	2,3,7,8 TCDD Avian TEQ	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	NA	NA	NA	NA	NA	NA
	3,5-Dinitroaniline	1.33	NA	NA	NA	NA	NA	6E-02	7E-02	4E-02	2E-04	1E-01	4E-03
	Amino-2,6-dinitrotoluene[4-]	3.24	NA	NA	NA	NA	NA	1E-01	2E-01	1E-01	5E-04	3E-01	1E-02
	Amino-4,6-dinitrotoluene[2-]	1.49	NA	NA	NA	NA	NA	6E-02	3E-02	1E-01	2E-04	9E-02	1E-02
	Anthracene	0.509	NA	NA	NA	NA	NA	2E-03	NA	7E-02	1E-05	2E-03	4E-04
	Benzoic Acid	0.49	NA	NA	NA	NA	NA	4E-01	NA	NA	2E-04	5E-01	1E-01
	Bis(2-ethylhexyl)phthalate	56.6	6E+00	6E+02	4E+00	3E+03	1E+03	5E+01	NA	NA	1E-01	9E+01	3E-02
	Dinitrotoluene[2,4-]	0.172	NA	NA	NA	NA	NA	9E-03	1E-02	3E-02	9E-05	1E-02	2E-03
	HMX	160	NA	NA	NA	NA	NA	6E-01	1E+01	6E-02	3E-03	1E-01	4E-01
	Isopropyltoluene[4-]	0.00105	NA	NA	NA	NA	NA	4E-05	NA	5E-06	9E-08	5E-05	2E-05
	Methylene Chloride	0.00473	NA	NA	NA	NA	NA	2E-03	NA	3E-06	1E-06	5E-04	1E-03
	Methylnaphthalene[2-]	0.0131	NA	NA	NA	NA	NA	5E-04	NA	NA	3E-06	8E-04	1E-04
	PETN	38.8	NA	NA	NA	NA	NA	4E-01	NA	NA	8E-04	4E-02	3E-01
	RDX	72.4	9E-02	7E+00	3E+01	3E+01	3E+01	5E+00	9E+00	NA	1E-02	5E+00	2E+00
	TATB	43.2	NA	NA	NA	NA	NA	4E-01	4E+00	NA	4E-03	6E-02	3E-01
	Total Petroleum Hydrocarbons Diesel Range Organics	79.1	NA	NA	NA	NA	NA	NA	4E-01	1E+00	NA	NA	NA
	Trinitrobenzene[1,3,5-]	0.46	NA	NA	NA	NA	NA	4E-03	5E-02	NA	5E-05	6E-04	3E-03
	Trinitrotoluene[2,4,6-]	12.7	4E-03	1E-02	2E+00	1E-01	9E-01	1E-01	4E-01	2E-01	5E-04	7E-03	1E-01
Hazard Index			2E+01	6E+02	9E+01	3E+03	2E+03	2E+02	7E+01	1E+02	1E+00	3E+02	1E+01

Notes: Analytes shown in this table are above background and have at least one detected value.
Shaded cells indicate the initial screening ratio > 0.1
Only detected data are screened; only inorganics above BV are carried forward as COPECs to this table

Abbreviations:

BV – Background Value (see Table 2-3)
ESL – Ecological Screening Value
EPC – Maximum Exposure Point Concentration
H – Herbivore
HQ – Hazard Quotient
I – Insectivore
IC – Insectivore/carnivore
mg/kg – milligram per kilogram
O – Omnivore
NA – Not available
NE – No Effect
TC – Top carnivore

Table 3-3. Ecological Risk Evaluation Low Effect ESLs for COPCs.

Category	Name	Low Effect ESL										
		Am. Kestrel (TC)	**Am. Kestrel (IC)**	**Am. Robin (H)**	**Am. Robin (I)**	**Am. Robin (O)**	**Deer Mouse (O)**	**Earth-worm (Soil fauna)**	**Generic Plant**	**Gray Fox (C)**	**Montane Shrew (I)**	**Mountain Cottontail (H)**
Inorganic	Antimony	-	-	-	-	-	23	780	58	460	79	27
	Barium	44000	13000	1200	1400	1300	8700	3200	260	190000	10000	14000
	Cadmium	2300	7.7	23	1.6	3	6.8	760	160	7400	3.6	140
	Calcium	-	-	-	-	-	-	-	-	-	-	-
	Copper	3500	240	100	43	60	100	530	490	6700	70	430
	Lead	1000	160	36	23	28	230	8400	570	7000	170	600
	Nitrate	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	4	8	0.24	64	0.49	1	35	80	16	150	1.3
	Selenium	140	7.5	1.9	1.4	1.6	1.2	41	3	130	1	3.4
	Silver	6000	130	100	26	41	240	-	2800	44000	140	1500
	Zinc	7000	590	120	120	220	1700	930	810	94000	980	18000
Organic	3,5-Dinitroaniline	-	-	-	-	-	230	180	330	67000	120	3200
	Amino-2,6-dinitrotoluene[4-]	-	-	-	-	-	230	180	330	67000	120	3200
	Amino-4,6-dinitrotoluene[2-]	-	-	-	-	-	230	430	140	97000	160	1100
	Anthracene	-	-	-	-	-	3000	-	9	380000	2100	12000
	Benzoic Acid	-	-	-	-	-	13	-	-	20000	10	46
	Bis(2-ethylhexyl)phthalate	93	0.96	160	0.2	0.4	11	-	-	5000	6	19000
	Dinitrotoluene[2,4-]	-	-	-	-	-	200	180	60	20000	140	740
	HMX	-	-	-	-	-	790	160	3500	150000	2900	1100
	Isopropyltoluene[4-]	-	-	-	-	-	250	-	2000	120000	230	660
	Methylene Chloride	-	-	-	-	-	22	-	16000	36000	79	32
	Methylnaphthalene[2-]	-	-	-	-	-	240	-	-	49000	160	1100
	PETN	-	-	-	-	-	1000	-	-	470000	10000	1200
	RDX	1400	22	4.3	4.5	4.4	51	15	-	22000	53	120
	TATB	-	-	-	-	-	1100	28	-	100000	7200	1500
	Tetrachlorodibenzodioxin[2,3,7,8-]	-	-	-	-	-	3.8E-06	10	-	0.00068	1.9E-06	0.00027
	Total Petroleum Hydrocarbon DRO	-	-	-	-	-	-	1977	419	-	-	-
	Trinitrobenzene[1,3,5-]	-	-	-	-	-	1100	28	-	100000	7200	1500
	Trinitrotoluene[2,4,6-]	5700	2400	13	220	26	440	58	120	120000	9100	540

Notes:
" - " – Indicates an ESL is not available
ESLs are in units of milligram per kilogram (mg/kg)
TC – Top carnivore
IC – Insectivore/carnivore
H – Herbivore
I – Insectivore
O – Omnivore

Table 3-4. Ecological Risk Evaluation Using Refined EPCs and LE ESLs.

Category	Name	Refined EPC (mg/kg)	Am. Kestrel (TC) LE HQ	Am. Kestrel (IC) LE HQ	Am. Robin (H) LE HQ	Am. Robin (I) LE HQ	Am. Robin (O) LE HQ	Deer Mouse (O) LE HQ	Earthworm (Soil Fauna) LE HQ	Generic Plant LE HQ	Gray Fox (C) LE HQ	Montane Shrew (I) LE HQ	Mountain Cottontail (H) LE HQ
Inorganic	Antimony	0.481	-	-	-	-	-	2E-02	6E-04	8E-03	1E-03	6E-03	2E-02
	Barium	3369	8E-02	3E-01	3E+00	2E+00	3E+00	4E-01	1E+00	1E+01	2E-02	3E-01	2E-01
	Cadmium	0.231	1E-04	3E-02	1E-02	1E-01	8E-02	3E-02	3E-04	1E-03	3E-05	6E-02	2E-03
	Calcium	4866	-	-	-	-	-	-	-	-	-	-	-
	Copper	32.03	9E-03	1E-01	3E-01	7E-01	5E-01	3E-01	6E-02	7E-02	5E-03	5E-01	7E-02
	Lead	45.22	5E-02	3E-01	1E+00	2E+00	2E+00	2E-01	5E-03	8E-02	6E-03	3E-01	8E-02
	Nitrate	3.04	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	0.000679	2E-04	8E-05	3E-03	1E-05	1E-03	7E-04	2E-05	8E-06	4E-05	5E-06	5E-04
	Selenium	0.968	7E-03	1E-01	5E-01	7E-01	6E-01	8E-01	2E-02	3E-01	7E-03	1E+00	3E-01
	Silver	1.848	3E-04	1E-02	2E-02	7E-02	5E-02	8E-03	-	7E-04	4E-05	1E-02	1E-03
	Zinc	58.43	8E-03	1E-01	5E-01	5E-01	3E-01	3E-02	6E-02	7E-02	6E-04	6E-02	3E-03
Organic	3,5-Dinitroaniline	1.33	-	-	-	-	-	6E-03	7E-03	4E-03	2E-05	1E-02	4E-04
	Amino-2,6-dinitrotoluene[4-]	0.573	-	-	-	-	-	2E-03	3E-03	2E-03	9E-06	5E-03	2E-04
	Amino-4,6-dinitrotoluene[2-]	0.382	-	-	-	-	-	2E-03	9E-04	3E-03	4E-06	2E-03	3E-04
	Anthracene	0.262	-	-	-	-	-	9E-05	-	3E-02	7E-07	1E-04	2E-05
	Benzoic Acid	0.487	-	-	-	-	-	4E-02	-	-	2E-05	5E-02	1E-02
	Bis(2-ethylhexyl)phthalate	16.35	2E-01	2E+01	1E-01	8E+01	4E+01	1E+00	-	-	3E-03	3E+00	9E-04
	Dinitrotoluene[2,4-]	0.17	-	-	-	-	-	9E-04	9E-04	3E-03	9E-06	1E-03	2E-04
	HMX	25.57	-	-	-	-	-	3E-02	2E-01	7E-03	2E-04	9E-03	2E-02
	Isopropyltoluene[4-]	0.000737	-	-	-	-	-	3E-06	-	4E-07	6E-09	3E-06	1E-06
	Methylene Chloride	0.00473	-	-	-	-	-	2E-04	-	3E-07	1E-07	6E-05	1E-04
	Methylnaphthalene[2-]	0.0131	-	-	-	-	-	5E-05	-	-	3E-07	8E-05	1E-05
	PETN	38.8	-	-	-	-	-	4E-02	-	-	8E-05	4E-03	3E-02
	RDX	14.98	1E-02	7E-01	3E+00	3E+00	3E+00	3E-01	1E+00	-	7E-04	3E-01	1E-01
	TATB	10.51	-	-	-	-	-	1E-02	4E-01	-	1E-04	1E-03	7E-03
	TCDD Mammal TEQ	1.06E-04	-	-	-	-	-	3E+01	1E-05	-	2E-01	6E+01	4E-01
	TCDD Avian TEQ	9.08E-05	-	-	-	-	-	NA	NA	NA	NA	NA	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	27.33	-	-	-	-	-	-	1E-02	7E-02	-	-	-
	Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	4E-04	2E-02	-	4E-06	6E-05	3E-04
	Trinitrotoluene[2,4,6-]	2.064	4E-04	9E-04	2E-01	9E-03	8E-02	5E-03	4E-02	2E-02	2E-05	2E-04	4E-03
Hazard Index			3E-01	2E+01	9E+00	9E+01	5E+01	3E+01	3E+00	1E+01	2E-01	6E+01	1E+00

Notes: Shaded cells represent HQs>0.1 or Hazard Index >1. " - " indicates an ESL was not available and an HQ cannot be calculated.
Hazard Index is the sum of all HQs
See Tables 3-5 to 3-8 for dioxin/furan calculations and Table 2-8 for information regarding the UCL95 values for other organics

EPC – Exposure Point Concentration
IC – Insectivore/carnivore
H – Herbivore
HQ – Hazard Quotient
I – Insectivore
O – Omnivore
LE – Low Effect
mg/kg – milligram per kilogram
NA – Not applicable
TC – Top carnivore
UCL95 – Upper 95th percent confidence limit

Table 3-5. Toxic Equivalency Factors (TEFs) Used for Calculating TCDD Equivalent Concentrations for Mammals and Birds

Name	**CAS**	**Mammalian TEF[a]**	**Avian TEF[b]**
Chlorinated dibenzo-p-dioxins			
2,3,7,8-TCDD	1746-01-6	1	1
1,2,3,7,8-PeCDD	40321-76-4	1	1
1,2,3,4,7,8-HxCDD	39227-28-6	0.1	0.05
1,2,3,6,7,8-HxCDD	57653-85-7	0.1	0.01
1,2,3,7,8,9-HxCDD	19408-74-3	0.1	0.1
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.01	0.001
OCDD	3268-87-9	0.0003	0.0001
Chlorinated dibenzofurans			
2,3,7,8-TCDF	51207-31-9	0.1	1
1,2,3,7,8-PeCDF	57117-41-6	0.03	0.1
2,3,4,7,8-PeCDF	57117-31-4	0.3	0.1
1,2,3,4,7,8-HxCDF	70648-26-9	0.1	1
1,2,3,6,7,8-HxCDF	57117-44-9	0.1	0.1
1,2,3,7,8,9-HxCDF	72918-21-9	0.1	0.1
2,3,4,6,7,8-HxCDF	60851-34-5	0.1	0.1
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.01	0.01
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.01	0.01
OCDF	39001-02-0	0.0003	0.0001

Notes:
TEF – Toxicity Equivalency Factor
[a] EPA (2010b); WHO (2009)
[b] Van den Berg et al. (1998).

Table 3-6. Dioxin-Furan Concentrations, TECs, and TEQs for Mammals by Sample

Parameter name	09RCRA695		09RCRA697		09RCRA699		09RCRA701		09RCRA703		09RCRA705		09RCRA707		09RCRA709		09RCRA711		09RCRA731	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	3.41E-05	1	8.61E-05	1	1.02E-04	1	5.06E-05	1	2.09E-04	1	2.08E-04	1	1.29E-04	1	1.85E-04	1	4.80E-03	1	3.18E-05	1
1,2,3,4,5,6,7,8-OCDF	3.98E-06	1	1.25E-05	1	1.27E-05	1	5.82E-06	1	2.93E-05	1	2.79E-05	1	1.95E-05	1	2.19E-05	1	6.57E-04	1	3.64E-06	1
1,2,3,4,6,7,8-HpCDD	4.50E-06	1	8.35E-06	1	1.31E-05	1	8.37E-06	1	3.67E-05	1	3.66E-05	1	2.01E-05	1	3.23E-05	1	9.00E-04	1	5.93E-06	1
1,2,3,4,6,7,8-HpCDF	2.33E-06	1	3.50E-06	1	4.30E-06	1	3.05E-06	1	1.27E-05	1	1.13E-05	1	7.27E-06	1	8.71E-06	1	2.88E-04	1	2.02E-06	1
1,2,3,4,7,8,9-HpCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	1.02E-06	1	9.20E-07	1	7.30E-07	1	7.41E-07	1	1.92E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	7.33E-07	1	7.41E-07	1	4.44E-07	0	7.71E-07	1	1.79E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDF	6.73E-07	1	5.88E-07	1	5.83E-07	1	4.66E-07	0	9.55E-07	1	7.64E-07	1	7.87E-07	1	7.66E-07	1	1.21E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDD	4.36E-07	0	4.67E-07	1	5.61E-07	1	4.66E-07	0	1.58E-06	1	1.40E-06	1	7.53E-07	1	1.28E-06	1	3.33E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDF	4.36E-07	0	4.53E-07	1	4.82E-07	1	4.66E-07	0	8.90E-07	1	0.00E+00	1	7.41E-07	1	7.37E-07	1	1.44E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDD	4.36E-07	0	0.00E+00	1	0.00E+00	1	4.66E-07	0	1.65E-06	1	1.49E-06	1	8.03E-07	1	0.00E+00	1	4.07E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	4.44E-07	0	2.02E-06	1	4.42E-07	0
1,2,3,7,8-PeCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	0.00E+00	1	6.99E-06	1	4.42E-07	0
1,2,3,7,8-PeCDF	1.59E-06	1	4.83E-07	1	8.30E-07	1	4.66E-07	0	4.64E-07	0	4.60E-07	0	5.72E-07	1	4.76E-07	1	1.65E-06	1	4.42E-07	0
2,3,4,6,7,8-HxCDF	4.36E-07	0	6.30E-07	1	5.67E-07	1	4.66E-07	0	1.13E-06	1	9.33E-07	1	0.00E+00	1	8.63E-07	1	1.78E-05	1	4.42E-07	0
2,3,4,7,8-PeCDF	4.36E-07	0	5.13E-07	1	4.48E-07	0	4.66E-07	0	4.66E-07	1	4.60E-07	0	6.77E-07	1	0.00E+00	1	1.97E-06	1	4.42E-07	0
2,3,7,8-TCDD	9.11E-08	0	1.03E-07	1	1.33E-07	1	9.37E-08	0	6.18E-07	1	1.11E-07	0	0.00E+00	1	5.49E-07	1	1.34E-06	1	4.61E-07	1
2,3,7,8-TCDF	3.14E-06	1	6.59E-07	1	0.00E+00	1	1.14E-06	1	1.82E-07	0	5.45E-07	1	0.00E+00	1	5.95E-07	1	1.51E-06	2	2.45E-07	1
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.02E-08		2.58E-08		3.06E-08		1.52E-08		6.27E-08		6.24E-08		3.87E-08		5.55E-08		1.44E-06		9.54E-09	
1,2,3,4,5,6,7,8-OCDF	1.19E-09		3.75E-09		3.81E-09		1.75E-09		8.79E-09		8.37E-09		5.85E-09		6.57E-09		1.97E-07		1.09E-09	
1,2,3,4,6,7,8-HpCDD	4.50E-08		8.35E-08		1.31E-07		8.37E-08		3.67E-07		3.66E-07		2.01E-07		3.23E-07		9.00E-06		5.93E-08	
1,2,3,4,6,7,8-HpCDF	2.33E-08		3.50E-08		4.30E-08		3.05E-08		1.27E-07		1.13E-07		7.27E-08		8.71E-08		2.88E-06		2.02E-08	
1,2,3,4,7,8,9-HpCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.02E-08		9.20E-09		7.30E-09		7.41E-09		1.92E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.33E-08		7.41E-08		0.00E+00		7.71E-08		1.79E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	6.73E-08		5.88E-08		5.83E-08		0.00E+00		9.55E-08		7.64E-08		7.87E-08		7.66E-08		1.21E-06		0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00		4.67E-08		5.61E-08		0.00E+00		1.58E-07		1.40E-07		7.53E-08		1.28E-07		3.33E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00		4.53E-08		4.82E-08		0.00E+00		8.90E-08		0.00E+00		7.41E-08		7.37E-08		1.44E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.65E-07		1.49E-07		8.03E-08		0.00E+00		4.07E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.02E-07		0.00E+00	
1,2,3,7,8-PeCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.99E-06		0.00E+00	
1,2,3,7,8-PeCDF	4.77E-08		1.45E-08		2.49E-08		0.00E+00		0.00E+00		0.00E+00		1.72E-08		1.43E-08		4.95E-08		0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00		6.30E-08		5.67E-08		0.00E+00		1.13E-07		9.33E-08		0.00E+00		8.63E-08		1.78E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		1.54E-07		0.00E+00		0.00E+00		1.40E-07		0.00E+00		2.03E-07		0.00E+00		5.91E-07		0.00E+00	
2,3,7,8-TCDD	0.00E+00		1.03E-07		1.33E-07		0.00E+00		6.18E-07		0.00E+00		0.00E+00		5.49E-07		1.34E-06		4.61E-07	
2,3,7,8-TCDF	3.14E-07		6.59E-08		0.00E+00		1.14E-07		0.00E+00		5.45E-08		0.00E+00		5.95E-08		1.51E-07		2.45E-08	
TEQ	**5.09E-07**		**6.99E-07**		**5.86E-07**		**2.45E-07**		**2.03E-06**		**1.15E-06**		**8.54E-07**		**1.54E-06**		**3.67E-05**		**5.76E-07**	

Parameter name	RE16-12-17672		RE16-12-17673		RE16-12-17674		RE16-12-17675		RE16-12-17676		RE16-12-17677		RE16-12-17678		RE16-12-17679		RE16-12-17680		RE16-12-17681	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	6.68E-05	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1				
1,2,3,4,5,6,7,8-OCDF	8.05E-06	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1	6.32E-03	1
1,2,3,4,6,7,8-HpCDD	1.20E-05	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1	8.77E-03	1
1,2,3,4,6,7,8-HpCDF	5.75E-06	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1	2.35E-03	1
1,2,3,4,7,8,9-HpCDF	1.73E-06	0	1.39E-06	1	1.81E-06	0	8.79E-07	1	1.17E-06	1	1.74E-06	0	1.71E-06	0	1.50E-06	1	3.30E-05	1	1.59E-04	1
1,2,3,4,7,8-HxCDD	1.73E-06	0	1.20E-06	1	1.81E-06	0	7.40E-07	1	8.66E-07	1	1.74E-06	0	1.71E-06	0	1.61E-06	1	3.08E-05	1	1.52E-04	1
1,2,3,4,7,8-HxCDF	9.68E-07	1	1.75E-06	1	1.81E-06	0	7.33E-07	1	8.23E-07	1	1.74E-06	0	1.71E-06	0	9.85E-07	1	1.69E-05	1	8.36E-05	1
1,2,3,6,7,8-HxCDD	8.23E-07	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	1.74E-06	0	7.55E-07	1	3.69E-06	1	7.18E-05	1	3.33E-04	1
1,2,3,6,7,8-HxCDF	9.02E-07	1	1.10E-06	1	1.81E-06	0	7.05E-07	1	7.81E-07	1	1.74E-06	0	1.71E-06	0	1.32E-06	1	2.23E-05	1	1.07E-04	1
1,2,3,7,8,9-HxCDD	1.73E-06	0	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	1.74E-06	0	6.99E-07	1	4.34E-06	1	8.71E-05	1	3.71E-04	1
1,2,3,7,8,9-HxCDF	1.73E-06	0	1.67E-06	0	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	2.88E-06	1	1.41E-05	1
1,2,3,7,8-PeCDD	1.73E-06	0	7.45E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	8.39E-07	1	1.11E-05	1	5.63E-05	1
1,2,3,7,8-PeCDF	7.01E-07	1	1.61E-06	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	6.50E-07	1	1.77E-06	1	7.35E-06	1
2,3,4,6,7,8-HxCDF	7.80E-07	1	1.49E-06	1	1.81E-06	0	9.09E-07	1	7.41E-07	1	1.74E-06	0	1.71E-06	0	1.57E-06	1	2.66E-05	1	1.37E-04	1
2,3,4,7,8-PeCDF	1.73E-06	0	8.97E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	3.00E-06	1	1.25E-05	1
2,3,7,8-TCDD	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	4.17E-07	1	1.49E-06	1	3.09E-06	1
2,3,7,8-TCDF	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	3.43E-07	0	3.43E-07	0	3.45E-06	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	2.00E-08		1.14E-07		3.24E-08		7.20E-08		9.96E-08		1.13E-08		3.27E-08		1.44E-07		0.00E+00		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	2.42E-09		1.36E-08		3.54E-09		8.46E-09		1.09E-08		1.07E-09		3.03E-09		1.48E-08		3.84E-07		1.90E-06	
1,2,3,4,6,7,8-HpCDD	1.20E-07		5.27E-07		1.81E-07		3.48E-07		4.21E-07		5.33E-08		1.49E-07		8.02E-07		1.70E-05		8.77E-05	
1,2,3,4,6,7,8-HpCDF	5.75E-08		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06		2.35E-05	
1,2,3,4,7,8,9-HpCDF	0.00E+00		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07		1.59E-06	
1,2,3,4,7,8-HxCDD	0.00E+00		1.20E-07		0.00E+00		7.40E-08		8.66E-08		0.00E+00		0.00E+00		1.61E-07		3.08E-06		1.52E-05	
1,2,3,4,7,8-HxCDF	9.68E-08		1.75E-07		0.00E+00		7.33E-08		8.23E-08		0.00E+00		0.00E+00		9.85E-08		1.69E-06		8.36E-06	
1,2,3,6,7,8-HxCDD	8.23E-08		2.52E-07		1.04E-07		1.58E-07		1.75E-07		0.00E+00		7.55E-08		3.69E-07		7.18E-06		3.33E-05	
1,2,3,6,7,8-HxCDF	9.02E-08		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06		1.07E-05	
1,2,3,7,8,9-HxCDD	0.00E+00		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06		3.71E-05	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07		1.41E-06	
1,2,3,7,8-PeCDD	0.00E+00		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05		5.63E-05	
1,2,3,7,8-PeCDF	2.10E-08		4.83E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.95E-08		5.31E-08		2.21E-07	
2,3,4,6,7,8-HxCDF	7.80E-08		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06		1.37E-05	
2,3,4,7,8-PeCDF	0.00E+00		2.69E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.00E-07		3.75E-06	
2,3,7,8-TCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06		3.09E-06	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**5.68E-07**		**2.97E-06**		**4.76E-07**		**1.21E-06**		**1.38E-06**		**8.62E-08**		**3.60E-07**		**3.86E-06**		**6.27E-05**		**2.98E-04**	

Parameter name	WST16-13-29794		WST16-13-29795		WST16-13-29796		WST16-13-29797		WST16-13-29798		WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	5.63E-04	1	5.51E-02	1	6.70E-03	1	5.06E-02	1	6.65E-03	1	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1
1,2,3,4,5,6,7,8-OCDF	6.17E-05	1	7.03E-03	1	7.40E-04	1	7.63E-03	1	8.40E-04	1	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1
1,2,3,4,6,7,8-HpCDD	9.21E-05	1	7.44E-03	1	1.11E-03	1	6.81E-03	1	9.64E-04	1	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1
1,2,3,4,6,7,8-HpCDF	3.96E-05	1	2.51E-03	1	4.11E-04	1	2.22E-03	1	3.37E-04	1	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1
1,2,3,4,7,8,9-HpCDF	1.97E-06	1	1.49E-04	1	1.78E-05	1	1.44E-04	1	2.01E-05	1	1.89E-06	1	9.85E-07	1	1.55E-06	0	7.85E-07	1	1.07E-06	1
1,2,3,4,7,8-HxCDD	2.45E-06	1	1.41E-04	1	2.48E-05	1	1.24E-04	1	1.89E-05	1	9.07E-07	1	1.14E-06	1	1.55E-06	0	6.78E-07	1	8.31E-07	1
1,2,3,4,7,8-HxCDF	1.15E-06	1	8.96E-05	1	1.27E-05	1	7.31E-05	1	1.18E-05	1	2.44E-06	1	8.29E-07	1	1.55E-06	0	7.14E-07	1	1.42E-06	1
1,2,3,6,7,8-HxCDD	4.76E-06	1	3.02E-04	1	5.18E-05	1	2.74E-04	1	4.40E-05	1	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1
1,2,3,6,7,8-HxCDF	1.87E-06	1	9.84E-05	1	1.93E-05	1	8.49E-05	1	1.47E-05	1	1.71E-06	1	9.81E-07	1	1.55E-06	0	6.89E-07	1	1.04E-06	1
1,2,3,7,8,9-HxCDD	5.94E-06	1	3.23E-04	1	6.26E-05	1	2.82E-04	1	5.09E-05	1	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1
1,2,3,7,8,9-HxCDF	1.69E-06	0	1.68E-05	0	1.93E-06	1	1.67E-05	0	1.87E-06	1	4.96E-07	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDD	6.20E-07	1	3.83E-05	1	7.93E-06	1	3.22E-05	1	5.83E-06	1	4.88E-07	1	5.71E-07	1	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDF	1.69E-06	0	1.68E-05	0	1.18E-06	1	1.67E-05	0	8.73E-07	1	2.03E-06	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	5.99E-07	1
2,3,4,6,7,8-HxCDF	2.21E-06	1	1.37E-04	1	2.41E-05	1	1.10E-04	1	1.84E-05	1	2.45E-06	1	1.14E-06	1	1.55E-06	0	8.59E-07	1	1.55E-06	1
2,3,4,7,8-PeCDF	1.69E-06	0	1.05E-05	1	1.81E-06	1	7.67E-06	1	1.42E-06	1	1.43E-06	1	1.59E-06	0	1.55E-06	0	4.69E-07	1	1.06E-06	1
2,3,7,8-TCDD	3.38E-07	0	3.36E-06	0	3.44E-07	1	3.35E-06	0	3.34E-07	0	2.15E-07	1	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
2,3,7,8-TCDF	3.38E-07	0	3.36E-06	0	3.34E-07	0	3.35E-06	0	3.34E-07	0	1.66E-06	2	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.69E-07		1.65E-05		2.01E-06		1.52E-05		2.00E-06		9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08	
1,2,3,4,5,6,7,8-OCDF	1.85E-08		2.11E-06		2.22E-07		2.29E-06		2.52E-07		1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09	
1,2,3,4,6,7,8-HpCDD	9.21E-07		7.44E-05		1.11E-05		6.81E-05		9.64E-06		4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07	
1,2,3,4,6,7,8-HpCDF	3.96E-07		2.51E-05		4.11E-06		2.22E-05		3.37E-06		1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07	
1,2,3,4,7,8,9-HpCDF	1.97E-08		1.49E-06		1.78E-07		1.44E-06		2.01E-07		1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08	
1,2,3,4,7,8-HxCDD	2.45E-07		1.41E-05		2.48E-06		1.24E-05		1.89E-06		9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08	
1,2,3,4,7,8-HxCDF	1.15E-07		8.96E-06		1.27E-06		7.31E-06		1.18E-06		2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07	
1,2,3,6,7,8-HxCDD	4.76E-07		3.02E-05		5.18E-06		2.74E-05		4.40E-06		1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07	
1,2,3,6,7,8-HxCDF	1.87E-07		9.84E-06		1.93E-06		8.49E-06		1.47E-06		1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07	
1,2,3,7,8,9-HxCDD	5.94E-07		3.23E-05		6.26E-06		2.82E-05		5.09E-06		1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		1.93E-07		0.00E+00		1.87E-07		4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	6.20E-07		3.83E-05		7.93E-06		3.22E-05		5.83E-06		4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	0.00E+00		0.00E+00		3.54E-08		0.00E+00		2.62E-08		6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08	
2,3,4,6,7,8-HxCDF	2.21E-07		1.37E-05		2.41E-06		1.10E-05		1.84E-06		2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07	
2,3,4,7,8-PeCDF	0.00E+00		3.15E-06		5.43E-07		2.30E-06		4.26E-07		4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07	
2,3,7,8-TCDD	0.00E+00		0.00E+00		3.44E-07		0.00E+00		0.00E+00		2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.98E-06**		**2.70E-04**		**4.62E-05**		**2.39E-04**		**3.78E-05**		**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**	

Parameter name	WST16-19-181359		WST16-19-181361		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	Result (mg/kg)	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
Sample Data																		
1,2,3,4,5,6,7,8-OCDD	6.50E-04	1	1.26E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1			1.70E-05	1
1,2,3,4,5,6,7,8-OCDF	8.35E-05	1	1.45E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1	8.31E-04	1	3.31E-06	1
1,2,3,4,6,7,8-HpCDD	1.05E-04	1	2.15E-05	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1	1.40E-03	1	2.98E-06	1
1,2,3,4,6,7,8-HpCDF	3.47E-05	1	9.10E-06	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1	4.66E-04	1	2.60E-06	1
1,2,3,4,7,8,9-HpCDF	2.20E-06	1	5.71E-07	1	1.58E-06	0	1.57E-06	0	3.26E-06	1	1.62E-06	0	1.50E-06	0	2.38E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDD	1.95E-06	1	7.03E-07	1	5.72E-07	1	1.57E-06	0	4.13E-06	1	1.62E-06	0	1.50E-06	0	3.20E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDF	1.64E-06	1	8.72E-07	1	8.57E-07	1	1.57E-06	0	2.06E-06	1	1.62E-06	0	1.50E-06	0	1.70E-05	1	6.08E-07	1
1,2,3,6,7,8-HxCDD	4.06E-06	1	1.13E-06	1	8.53E-07	1	1.57E-06	0	7.10E-06	1	7.06E-07	1	1.50E-06	0	6.02E-05	1	1.61E-06	0
1,2,3,6,7,8-HxCDF	1.56E-06	1	7.59E-07	1	1.58E-06	0	1.57E-06	0	2.57E-06	1	1.62E-06	0	1.50E-06	0	2.54E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDD	4.20E-06	1	1.04E-06	1	7.43E-07	1	1.57E-06	0	8.50E-06	1	1.13E-06	1	5.09E-07	1	7.04E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	1.79E-06	1	1.61E-06	0
1,2,3,7,8-PeCDD	6.70E-07	1	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.53E-06	1	1.62E-06	0	1.50E-06	0	1.23E-05	1	1.61E-06	0
1,2,3,7,8-PeCDF	5.68E-07	1	6.81E-07	1	8.34E-07	1	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	2.27E-06	1	6.14E-07	1
2,3,4,6,7,8-HxCDF	1.91E-06	1	1.03E-06	1	1.58E-06	0	1.57E-06	0	3.56E-06	1	1.62E-06	0	1.50E-06	0	3.19E-05	1	1.61E-06	0
2,3,4,7,8-PeCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	3.11E-06	1	1.61E-06	0
2,3,7,8-TCDD	2.03E-07	1	3.10E-07	0	2.10E-07	1	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	7.57E-07	1	3.20E-07	0
2,3,7,8-TCDF	3.20E-07	0	3.10E-07	0	3.16E-07	0	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	3.24E-07	0	3.20E-07	0
TECs																		
1,2,3,4,5,6,7,8-OCDD	1.95E-07		3.78E-08		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08		0.00E+00		5.10E-09	
1,2,3,4,5,6,7,8-OCDF	2.51E-08		4.35E-09		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09		2.49E-07		9.93E-10	
1,2,3,4,6,7,8-HpCDD	1.05E-06		2.15E-07		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07		1.40E-05		2.98E-08	
1,2,3,4,6,7,8-HpCDF	3.47E-07		9.10E-08		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08		4.66E-06		2.60E-08	
1,2,3,4,7,8,9-HpCDF	2.20E-08		5.71E-09		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00		2.38E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	1.95E-07		7.03E-08		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00		3.20E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	1.64E-07		8.72E-08		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00		1.70E-06		6.08E-08	
1,2,3,6,7,8-HxCDD	4.06E-07		1.13E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00		6.02E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	1.56E-07		7.59E-08		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00		2.54E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	4.20E-07		1.04E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08		7.04E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.79E-07		0.00E+00	
1,2,3,7,8-PeCDD	6.70E-07		0.00E+00		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00		1.23E-05		0.00E+00	
1,2,3,7,8-PeCDF	1.70E-08		2.04E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.81E-08		1.84E-08	
2,3,4,6,7,8-HxCDF	1.91E-07		1.03E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00		3.19E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.33E-07		0.00E+00	
2,3,7,8-TCDD	2.03E-07		0.00E+00		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.57E-07		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**4.06E-06**		**9.28E-07**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**		**5.71E-05**		**1.41E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.

Duplicate pairs are shaded

DC – Detect code (1=detect, 0=nondetect)

TEQ – Toxicity Equivalent Quotient, the sum of the TECs

TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF

TEF – Toxicity Equivalency Factor

Table 3-7. Dioxin-Furan Concentrations, TECs, and TEQs for Birds by Sample

Parameter name	09RCRA695		09RCRA697		09RCRA699		09RCRA701		09RCRA703		09RCRA705		09RCRA707		09RCRA709		09RCRA711		09RCRA731	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	3.41E-05	1	8.61E-05	1	1.02E-04	1	5.06E-05	1	2.09E-04	1	2.08E-04	1	1.29E-04	1	1.85E-04	1	4.80E-03	1	3.18E-05	1
1,2,3,4,5,6,7,8-OCDF	3.98E-06	1	1.25E-05	1	1.27E-05	1	5.82E-06	1	2.93E-05	1	2.79E-05	1	1.95E-05	1	2.19E-05	1	6.57E-04	1	3.64E-06	1
1,2,3,4,6,7,8-HpCDD	4.50E-06	1	8.35E-06	1	1.31E-05	1	8.37E-06	1	3.67E-05	1	3.66E-05	1	2.01E-05	1	3.23E-05	1	9.00E-04	1	5.93E-06	1
1,2,3,4,6,7,8-HpCDF	2.33E-06	1	3.50E-06	1	4.30E-06	1	3.05E-06	1	1.27E-05	1	1.13E-05	1	7.27E-06	1	8.71E-06	1	2.88E-04	1	2.02E-06	1
1,2,3,4,7,8,9-HpCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	1.02E-06	1	9.20E-07	1	7.30E-07	1	7.41E-07	1	1.92E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	7.33E-07	1	7.41E-07	1	4.44E-07	0	7.71E-07	1	1.79E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDF	6.73E-07	1	5.88E-07	1	5.83E-07	1	4.66E-07	0	9.55E-07	1	7.64E-07	1	7.87E-07	1	7.66E-07	1	1.21E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDD	4.36E-07	0	4.67E-07	1	5.61E-07	1	4.66E-07	0	1.58E-06	1	1.40E-06	1	7.53E-07	1	1.28E-06	1	3.33E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDF	4.36E-07	0	4.53E-07	1	4.82E-07	1	4.66E-07	0	8.90E-07	1	0.00E+00	1	7.41E-07	1	7.37E-07	1	1.44E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDD	4.36E-07	0	0.00E+00	1	0.00E+00	1	4.66E-07	0	1.65E-06	1	1.49E-06	1	8.03E-07	1	0.00E+00	1	4.07E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	4.44E-07	0	2.02E-06	1	4.42E-07	0
1,2,3,7,8-PeCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	0.00E+00	1	6.99E-06	1	4.42E-07	0
1,2,3,7,8-PeCDF	1.59E-06	1	4.83E-07	1	8.30E-07	1	4.66E-07	0	4.64E-07	0	4.60E-07	0	5.72E-07	1	4.76E-07	1	1.65E-06	1	4.42E-07	0
2,3,4,6,7,8-HxCDF	4.36E-07	0	6.30E-07	1	5.67E-07	1	4.66E-07	0	1.13E-06	1	9.33E-07	1	0.00E+00	1	8.63E-07	1	1.78E-05	1	4.42E-07	0
2,3,4,7,8-PeCDF	4.36E-07	0	5.13E-07	1	4.48E-07	0	4.66E-07	0	4.66E-07	1	4.60E-07	0	6.77E-07	1	0.00E+00	1	1.97E-06	1	4.42E-07	0
2,3,7,8-TCDD	9.11E-08	0	1.03E-07	1	1.33E-07	1	9.37E-08	0	6.18E-07	1	1.11E-07	0	0.00E+00	1	5.49E-07	1	1.34E-06	1	4.61E-07	1
2,3,7,8-TCDF	3.14E-06	1	6.59E-07	1	0.00E+00	1	1.14E-06	1	1.82E-07	0	5.45E-07	1	0.00E+00	1	5.95E-07	1	1.51E-06	2	2.45E-07	1
TECs																				
1,2,3,4,5,6,7,8-OCDD	3.41E-09		8.61E-09		1.02E-08		5.06E-09		2.09E-08		2.08E-08		1.29E-08		1.85E-08		4.80E-07		3.18E-09	
1,2,3,4,5,6,7,8-OCDF	3.98E-10		1.25E-09		1.27E-09		5.82E-10		2.93E-09		2.79E-09		1.95E-09		2.19E-09		6.57E-08		3.64E-10	
1,2,3,4,6,7,8-HpCDD	4.50E-09		8.35E-09		1.31E-08		8.37E-09		3.67E-08		3.66E-08		2.01E-08		3.23E-08		9.00E-07		5.93E-09	
1,2,3,4,6,7,8-HpCDF	2.33E-08		3.50E-08		4.30E-08		3.05E-08		1.27E-07		1.13E-07		7.27E-08		8.71E-08		2.88E-06		2.02E-08	
1,2,3,4,7,8,9-HpCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.02E-08		9.20E-09		7.30E-09		7.41E-09		1.92E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		3.67E-08		3.71E-08		0.00E+00		3.86E-08		8.95E-07		0.00E+00	
1,2,3,4,7,8-HxCDF	6.73E-07		5.88E-07		5.83E-07		0.00E+00		9.55E-07		7.64E-07		7.87E-07		7.66E-07		1.21E-05		0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00		4.67E-09		5.61E-09		0.00E+00		1.58E-08		1.40E-08		7.53E-09		1.28E-08		3.33E-07		0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00		4.53E-08		4.82E-08		0.00E+00		8.90E-08		0.00E+00		7.41E-08		7.37E-08		1.44E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.65E-07		1.49E-07		8.03E-08		0.00E+00		4.07E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.02E-07		0.00E+00	
1,2,3,7,8-PeCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.99E-06		0.00E+00	
1,2,3,7,8-PeCDF	1.59E-07		4.83E-08		8.30E-08		0.00E+00		0.00E+00		0.00E+00		5.72E-08		4.76E-08		1.65E-07		0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00		6.30E-08		5.67E-08		0.00E+00		1.13E-07		9.33E-08		0.00E+00		8.63E-08		1.78E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		5.13E-08		0.00E+00		0.00E+00		4.66E-08		0.00E+00		6.77E-08		0.00E+00		1.97E-07		0.00E+00	
2,3,7,8-TCDD	0.00E+00		1.03E-07		1.33E-07		0.00E+00		6.18E-07		0.00E+00		0.00E+00		5.49E-07		1.34E-06		4.61E-07	
2,3,7,8-TCDF	3.14E-06		6.59E-07		0.00E+00		1.14E-06		0.00E+00		5.45E-07		0.00E+00		5.95E-07		1.51E-06		2.45E-07	
TEQ	**4.00E-06**		**1.62E-06**		**9.77E-07**		**1.18E-06**		**2.24E-06**		**1.78E-06**		**1.19E-06**		**2.32E-06**		**3.55E-05**		**7.36E-07**	

Parameter name	RE16-12-17672		RE16-12-17673		RE16-12-17674		RE16-12-17675		RE16-12-17676		RE16-12-17677		RE16-12-17678		RE16-12-17679		RE16-12-17680		RE16-12-17681	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	6.68E-05	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1				
1,2,3,4,5,6,7,8-OCDF	8.05E-06	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1	6.32E-03	1
1,2,3,4,6,7,8-HpCDD	1.20E-05	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1	8.77E-03	1
1,2,3,4,6,7,8-HpCDF	5.75E-06	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1	2.35E-03	1
1,2,3,4,7,8,9-HpCDF	1.73E-06	0	1.39E-06	1	1.81E-06	0	8.79E-07	1	1.17E-06	1	1.74E-06	0	1.71E-06	0	1.50E-06	1	3.30E-05	1	1.59E-04	1
1,2,3,4,7,8-HxCDD	1.73E-06	0	1.20E-06	1	1.81E-06	0	7.40E-07	1	8.66E-07	1	1.74E-06	0	1.71E-06	0	1.61E-06	1	3.08E-05	1	1.52E-04	1
1,2,3,4,7,8-HxCDF	9.68E-07	1	1.75E-06	1	1.81E-06	0	7.33E-07	1	8.23E-07	1	1.74E-06	0	1.71E-06	0	9.85E-07	1	1.69E-05	1	8.36E-05	1
1,2,3,6,7,8-HxCDD	8.23E-07	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	1.74E-06	0	7.55E-07	1	3.69E-06	1	7.18E-05	1	3.33E-04	1
1,2,3,6,7,8-HxCDF	9.02E-07	1	1.10E-06	1	1.81E-06	0	7.05E-07	1	7.81E-07	1	1.74E-06	0	1.71E-06	0	1.32E-06	1	2.23E-05	1	1.07E-04	1
1,2,3,7,8,9-HxCDD	1.73E-06	0	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	1.74E-06	0	6.99E-07	1	4.34E-06	1	8.71E-05	1	3.71E-04	1
1,2,3,7,8,9-HxCDF	1.73E-06	0	1.67E-06	0	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	2.88E-06	1	1.41E-05	1
1,2,3,7,8-PeCDD	1.73E-06	0	7.45E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	8.39E-07	1	1.11E-05	1	5.63E-05	1
1,2,3,7,8-PeCDF	7.01E-07	1	1.61E-06	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	6.50E-07	1	1.77E-06	1	7.35E-06	1
2,3,4,6,7,8-HxCDF	7.80E-07	1	1.49E-06	1	1.81E-06	0	9.09E-07	1	7.41E-07	1	1.74E-06	0	1.71E-06	0	1.57E-06	1	2.66E-05	1	1.37E-04	1
2,3,4,7,8-PeCDF	1.73E-06	0	8.97E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	3.00E-06	1	1.25E-05	1
2,3,7,8-TCDD	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	4.17E-07	1	1.49E-06	1	3.09E-06	1
2,3,7,8-TCDF	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	3.43E-07	0	3.43E-07	0	3.45E-06	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	6.68E-09		3.81E-08		1.08E-08		2.40E-08		3.32E-08		3.77E-09		1.09E-08		4.81E-08		0.00E+00		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	8.05E-10		4.53E-09		1.18E-09		2.82E-09		3.63E-09		3.56E-10		1.01E-09		4.94E-09		1.28E-07		6.32E-07	
1,2,3,4,6,7,8-HpCDD	1.20E-08		5.27E-08		1.81E-08		3.48E-08		4.21E-08		5.33E-09		1.49E-08		8.02E-08		1.70E-06		8.77E-06	
1,2,3,4,6,7,8-HpCDF	5.75E-08		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06		2.35E-05	
1,2,3,4,7,8,9-HpCDF	0.00E+00		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07		1.59E-06	
1,2,3,4,7,8-HxCDD	0.00E+00		6.00E-08		0.00E+00		3.70E-08		4.33E-08		0.00E+00		0.00E+00		8.05E-08		1.54E-06		7.60E-06	
1,2,3,4,7,8-HxCDF	9.68E-07		1.75E-06		0.00E+00		7.33E-07		8.23E-07		0.00E+00		0.00E+00		9.85E-07		1.69E-05		8.36E-05	
1,2,3,6,7,8-HxCDD	8.23E-09		2.52E-08		1.04E-08		1.58E-08		1.75E-08		0.00E+00		7.55E-09		3.69E-08		7.18E-07		3.33E-06	
1,2,3,6,7,8-HxCDF	9.02E-08		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06		1.07E-05	
1,2,3,7,8,9-HxCDD	0.00E+00		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06		3.71E-05	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07		1.41E-06	
1,2,3,7,8-PeCDD	0.00E+00		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05		5.63E-05	
1,2,3,7,8-PeCDF	7.01E-08		1.61E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.50E-08		1.77E-07		7.35E-07	
2,3,4,6,7,8-HxCDF	7.80E-08		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06		1.37E-05	
2,3,4,7,8-PeCDF	0.00E+00		8.97E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		3.00E-07		1.25E-06	
2,3,7,8-TCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06		3.09E-06	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**1.29E-06**		**3.63E-06**		**1.95E-07**		**1.32E-06**		**1.47E-06**		**3.00E-08**		**1.34E-07**		**3.55E-06**		**5.39E-05**		**2.53E-04**	

Parameter name	WST16-13-29794		WST16-13-29795		WST16-13-29796		WST16-13-29797		WST16-13-29798		WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358	
	Result (mg/kg)	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	5.63E-04	1	5.51E-02	1	6.70E-03	1	5.06E-02	1	6.65E-03	1	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1
1,2,3,4,5,6,7,8-OCDF	6.17E-05	1	7.03E-03	1	7.40E-04	1	7.63E-03	1	8.40E-04	1	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1
1,2,3,4,6,7,8-HpCDD	9.21E-05	1	7.44E-03	1	1.11E-03	1	6.81E-03	1	9.64E-04	1	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1
1,2,3,4,6,7,8-HpCDF	3.96E-05	1	2.51E-03	1	4.11E-04	1	2.22E-03	1	3.37E-04	1	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1
1,2,3,4,7,8,9-HpCDF	1.97E-06	1	1.49E-04	1	1.78E-05	1	1.44E-04	1	2.01E-05	1	1.89E-06	1	9.85E-07	1	1.55E-06	0	7.85E-07	1	1.07E-06	1
1,2,3,4,7,8-HxCDD	2.45E-06	1	1.41E-04	1	2.48E-05	1	1.24E-04	1	1.89E-05	1	9.07E-07	1	1.14E-06	1	1.55E-06	0	6.78E-07	1	8.31E-07	1
1,2,3,4,7,8-HxCDF	1.15E-06	1	8.96E-05	1	1.27E-05	1	7.31E-05	1	1.18E-05	1	2.44E-06	1	8.29E-07	1	1.55E-06	0	7.14E-07	1	1.42E-06	1
1,2,3,6,7,8-HxCDD	4.76E-06	1	3.02E-04	1	5.18E-05	1	2.74E-04	1	4.40E-05	1	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1
1,2,3,6,7,8-HxCDF	1.87E-06	1	9.84E-05	1	1.93E-05	1	8.49E-05	1	1.47E-05	1	1.71E-06	1	9.81E-07	1	1.55E-06	0	6.89E-07	1	1.04E-06	1
1,2,3,7,8,9-HxCDD	5.94E-06	1	3.23E-04	1	6.26E-05	1	2.82E-04	1	5.09E-05	1	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1
1,2,3,7,8,9-HxCDF	1.69E-06	0	1.68E-05	0	1.93E-06	1	1.67E-05	0	1.87E-06	1	4.96E-07	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDD	6.20E-07	1	3.83E-05	1	7.93E-06	1	3.22E-05	1	5.83E-06	1	4.88E-07	1	5.71E-07	1	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDF	1.69E-06	0	1.68E-05	0	1.18E-06	1	1.67E-05	0	8.73E-07	1	2.03E-06	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	5.99E-07	1
2,3,4,6,7,8-HxCDF	2.21E-06	1	1.37E-04	1	2.41E-05	1	1.10E-04	1	1.84E-05	1	2.45E-06	1	1.14E-06	1	1.55E-06	0	8.59E-07	1	1.55E-06	1
2,3,4,7,8-PeCDF	1.69E-06	0	1.05E-05	1	1.81E-06	1	7.67E-06	1	1.42E-06	1	1.43E-06	1	1.59E-06	0	1.55E-06	0	4.69E-07	1	1.06E-06	1
2,3,7,8-TCDD	3.38E-07	0	3.36E-06	0	3.44E-07	1	3.35E-06	0	3.34E-07	0	2.15E-07	1	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
2,3,7,8-TCDF	3.38E-07	0	3.36E-06	0	3.34E-07	0	3.35E-06	0	3.34E-07	0	1.66E-06	2	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	5.63E-08		5.51E-06		6.70E-07		5.06E-06		6.65E-07		3.01E-08		3.50E-08		5.32E-09		1.48E-08		2.19E-08	
1,2,3,4,5,6,7,8-OCDF	6.17E-09		7.03E-07		7.40E-08		7.63E-07		8.40E-08		4.39E-09		3.27E-09		5.67E-10		1.85E-09		2.88E-09	
1,2,3,4,6,7,8-HpCDD	9.21E-08		7.44E-06		1.11E-06		6.81E-06		9.64E-07		4.52E-08		5.55E-08		1.00E-08		2.24E-08		3.34E-08	
1,2,3,4,6,7,8-HpCDF	3.96E-07		2.51E-05		4.11E-06		2.22E-05		3.37E-06		1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07	
1,2,3,4,7,8,9-HpCDF	1.97E-08		1.49E-06		1.78E-07		1.44E-06		2.01E-07		1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08	
1,2,3,4,7,8-HxCDD	1.23E-07		7.05E-06		1.24E-06		6.20E-06		9.45E-07		4.54E-08		5.70E-08		0.00E+00		3.39E-08		4.16E-08	
1,2,3,4,7,8-HxCDF	1.15E-06		8.96E-05		1.27E-05		7.31E-05		1.18E-05		2.44E-06		8.29E-07		0.00E+00		7.14E-07		1.42E-06	
1,2,3,6,7,8-HxCDD	4.76E-08		3.02E-06		5.18E-07		2.74E-06		4.40E-07		1.87E-08		2.08E-08		5.40E-09		1.16E-08		1.58E-08	
1,2,3,6,7,8-HxCDF	1.87E-07		9.84E-06		1.93E-06		8.49E-06		1.47E-06		1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07	
1,2,3,7,8,9-HxCDD	5.94E-07		3.23E-05		6.26E-06		2.82E-05		5.09E-06		1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		1.93E-07		0.00E+00		1.87E-07		4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	6.20E-07		3.83E-05		7.93E-06		3.22E-05		5.83E-06		4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	0.00E+00		0.00E+00		1.18E-07		0.00E+00		8.73E-08		2.03E-07		0.00E+00		0.00E+00		0.00E+00		5.99E-08	
2,3,4,6,7,8-HxCDF	2.21E-07		1.37E-05		2.41E-06		1.10E-05		1.84E-06		2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07	
2,3,4,7,8-PeCDF	0.00E+00		1.05E-06		1.81E-07		7.67E-07		1.42E-07		1.43E-07		0.00E+00		0.00E+00		4.69E-08		1.06E-07	
2,3,7,8-TCDD	0.00E+00		0.00E+00		3.44E-07		0.00E+00		0.00E+00		2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.66E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.51E-06**		**2.35E-04**		**4.00E-05**		**1.99E-04**		**3.31E-05**		**6.15E-06**		**2.19E-06**		**1.18E-07**		**1.21E-06**		**2.27E-06**	

Parameter name	WST16-19-181359		WST16-19-181361		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	Result (mg/kg)	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
Sample Data																		
1,2,3,4,5,6,7,8-OCDD	6.50E-04	1	1.26E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1			1.70E-05	1
1,2,3,4,5,6,7,8-OCDF	8.35E-05	1	1.45E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1	8.31E-04	1	3.31E-06	1
1,2,3,4,6,7,8-HpCDD	1.05E-04	1	2.15E-05	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1	1.40E-03	1	2.98E-06	1
1,2,3,4,6,7,8-HpCDF	3.47E-05	1	9.10E-06	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1	4.66E-04	1	2.60E-06	1
1,2,3,4,7,8,9-HpCDF	2.20E-06	1	5.71E-07	1	1.58E-06	0	1.57E-06	0	3.26E-06	1	1.62E-06	0	1.50E-06	0	2.38E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDD	1.95E-06	1	7.03E-07	1	5.72E-07	1	1.57E-06	0	4.13E-06	1	1.62E-06	0	1.50E-06	0	3.20E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDF	1.64E-06	1	8.72E-07	1	8.57E-07	1	1.57E-06	0	2.06E-06	1	1.62E-06	0	1.50E-06	0	1.70E-05	1	6.08E-07	1
1,2,3,6,7,8-HxCDD	4.06E-06	1	1.13E-06	1	8.53E-07	1	1.57E-06	0	7.10E-06	1	7.06E-07	1	1.50E-06	0	6.02E-05	1	1.61E-06	0
1,2,3,6,7,8-HxCDF	1.56E-06	1	7.59E-07	1	1.58E-06	0	1.57E-06	0	2.57E-06	1	1.62E-06	0	1.50E-06	0	2.54E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDD	4.20E-06	1	1.04E-06	1	7.43E-07	1	1.57E-06	0	8.50E-06	1	1.13E-06	1	5.09E-07	1	7.04E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	1.79E-06	1	1.61E-06	0
1,2,3,7,8-PeCDD	6.70E-07	1	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.53E-06	1	1.62E-06	0	1.50E-06	0	1.23E-05	1	1.61E-06	0
1,2,3,7,8-PeCDF	5.68E-07	1	6.81E-07	1	8.34E-07	1	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	2.27E-06	1	6.14E-07	1
2,3,4,6,7,8-HxCDF	1.91E-06	1	1.03E-06	1	1.58E-06	0	1.57E-06	0	3.56E-06	1	1.62E-06	0	1.50E-06	0	3.19E-05	1	1.61E-06	0
2,3,4,7,8-PeCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	3.11E-06	1	1.61E-06	0
2,3,7,8-TCDD	2.03E-07	1	3.10E-07	0	2.10E-07	1	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	7.57E-07	1	3.20E-07	0
2,3,7,8-TCDF	3.20E-07	0	3.10E-07	0	3.16E-07	0	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	3.24E-07	0	3.20E-07	0
TECs																		
1,2,3,4,5,6,7,8-OCDD	6.50E-08		1.26E-08		1.71E-08		4.61E-09		1.13E-07		1.28E-08		6.72E-09		0.00E+00		1.70E-09	
1,2,3,4,5,6,7,8-OCDF	8.35E-09		1.45E-09		1.93E-09		4.89E-10		1.17E-08		1.28E-09		7.18E-10		8.31E-08		3.31E-10	
1,2,3,4,6,7,8-HpCDD	1.05E-07		2.15E-08		2.40E-08		6.19E-09		1.99E-07		2.10E-08		1.01E-08		1.40E-06		2.98E-09	
1,2,3,4,6,7,8-HpCDF	3.47E-07		9.10E-08		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08		4.66E-06		2.60E-08	
1,2,3,4,7,8,9-HpCDF	2.20E-08		5.71E-09		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00		2.38E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	9.75E-08		3.52E-08		2.86E-08		0.00E+00		2.07E-07		0.00E+00		0.00E+00		1.60E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	1.64E-06		8.72E-07		8.57E-07		0.00E+00		2.06E-06		0.00E+00		0.00E+00		1.70E-05		6.08E-07	
1,2,3,6,7,8-HxCDD	4.06E-08		1.13E-08		8.53E-09		0.00E+00		7.10E-08		7.06E-09		0.00E+00		6.02E-07		0.00E+00	
1,2,3,6,7,8-HxCDF	1.56E-07		7.59E-08		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00		2.54E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	4.20E-07		1.04E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08		7.04E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.79E-07		0.00E+00	
1,2,3,7,8-PeCDD	6.70E-07		0.00E+00		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00		1.23E-05		0.00E+00	
1,2,3,7,8-PeCDF	5.68E-08		6.81E-08		8.34E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.27E-07		6.14E-08	
2,3,4,6,7,8-HxCDF	1.91E-07		1.03E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00		3.19E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		3.11E-07		0.00E+00	
2,3,7,8-TCDD	2.03E-07		0.00E+00		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.57E-07		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**4.02E-06**		**1.40E-06**		**1.36E-06**		**2.35E-08**		**6.28E-06**		**2.19E-07**		**1.01E-07**		**5.21E-05**		**7.00E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.
Duplicate pairs are shaded
DC – Detect code (1=detect, 0=nondetect)
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

Table 3-8. Calculation of Maximum Dioxin/Furan Hazard Quotients for All Ecological Receptors

Sample ID	Mammalian TEQ	Avian TEQ	Maximum Am. Kestrel (TC) NE HQ	Maximum Am. Kestrel (IC) NE HQ	Maximum Am. Robin (H) NE HQ	Maximum Am. Robin (I) NE HQ	Maximum Am. Robin (O) NE HQ	Maximum Deer Mouse (O) NE HQ	Maximum Earthworm (Soil Fauna) NE HQ	Maximum Generic Plant NE HQ	Maximum Gray Fox (C) NE HQ	Maximum Montane Shrew (I) NE HQ	Maximum Mountain Cottontail (H) NE HQ
09RCRA695	5.09E-07	4.00E-06	1E+00	1E+00	1E+00	1E+00	1E+00	9E-01	1E-07	No ESL	5E-03	2E+00	1E-02
09RCRA697	6.99E-07	1.62E-06	4E-01	4E-01	4E-01	4E-01	4E-01	1E+00	1E-07	No ESL	7E-03	2E+00	2E-02
09RCRA699	5.86E-07	9.77E-07	2E-01	2E-01	2E-01	2E-01	2E-01	1E+00	1E-07	No ESL	6E-03	2E+00	1E-02
09RCRA701	2.45E-07	1.18E-06	3E-01	3E-01	3E-01	3E-01	3E-01	4E-01	5E-08	No ESL	2E-03	8E-01	6E-03
09RCRA703	2.03E-06	2.24E-06	5E-01	5E-01	5E-01	5E-01	5E-01	3E+00	4E-07	No ESL	2E-02	7E+00	5E-02
09RCRA705	1.15E-06	1.78E-06	4E-01	4E-01	4E-01	4E-01	4E-01	2E+00	2E-07	No ESL	1E-02	4E+00	3E-02
09RCRA707	8.54E-07	1.19E-06	3E-01	3E-01	3E-01	3E-01	3E-01	1E+00	2E-07	No ESL	9E-03	3E+00	2E-02
09RCRA709	1.54E-06	2.32E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	5E+00	4E-02
09RCRA711	3.67E-05	3.55E-05	9E+00	9E+00	9E+00	9E+00	9E+00	6E+01	7E-06	No ESL	4E-01	1E+02	9E-01
09RCRA731	5.76E-07	7.36E-07	2E-01	2E-01	2E-01	2E-01	2E-01	1E+00	1E-07	No ESL	6E-03	2E+00	1E-02
RE16-12-17672	5.68E-07	1.29E-06	3E-01	3E-01	3E-01	3E-01	3E-01	1E+00	1E-07	No ESL	6E-03	2E+00	1E-02
RE16-12-17673	2.97E-06	3.63E-06	9E-01	9E-01	9E-01	9E-01	9E-01	5E+00	6E-07	No ESL	3E-02	1E+01	7E-02
RE16-12-17674	4.76E-07	1.95E-07	5E-02	5E-02	5E-02	5E-02	5E-02	8E-01	1E-07	No ESL	5E-03	2E+00	1E-02
RE16-12-17675			0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	No ESL	0E+00	0E+00	0E+00
RE16-12-17676	1.38E-06	1.47E-06	4E-01	4E-01	4E-01	4E-01	4E-01	2E+00	3E-07	No ESL	1E-02	5E+00	3E-02
RE16-12-17677	8.62E-08	3.00E-08	7E-03	7E-03	7E-03	7E-03	7E-03	1E-01	2E-08	No ESL	9E-04	3E-01	2E-03
RE16-12-17678	3.60E-07	1.34E-07	3E-02	3E-02	3E-02	3E-02	3E-02	6E-01	7E-08	No ESL	4E-03	1E+00	9E-03
RE16-12-17679	3.86E-06	3.55E-06	9E-01	9E-01	9E-01	9E-01	9E-01	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
RE16-12-17680	6.27E-05	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	1E+02	1E-05	No ESL	6E-01	2E+02	2E+00
RE16-12-17681	2.98E-04	2.53E-04	6E+01	6E+01	6E+01	6E+01	6E+01	5E+02	6E-05	No ESL	3E+00	1E+03	7E+00
WST16-13-29794	3.98E-06	3.51E-06	9E-01	9E-01	9E-01	9E-01	9E-01	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
WST16-13-29795	2.70E-04	2.35E-04	6E+01	6E+01	6E+01	6E+01	6E+01	5E+02	5E-05	No ESL	3E+00	9E+02	7E+00
WST16-13-29796	4.62E-05	4.00E-05	1E+01	1E+01	1E+01	1E+01	1E+01	8E+01	9E-06	No ESL	5E-01	2E+02	1E+00
WST16-13-29797	2.39E-04	1.99E-04	5E+01	5E+01	5E+01	5E+01	5E+01	4E+02	5E-05	No ESL	2E+00	8E+02	6E+00
WST16-13-29798	3.78E-05	3.31E-05	8E+00	8E+00	8E+00	8E+00	8E+00	7E+01	8E-06	No ESL	4E-01	1E+02	9E-01
WST16-19-181353	3.29E-06	6.15E-06	1E+00	1E+00	1E+00	1E+00	1E+00	6E+00	7E-07	No ESL	3E-02	1E+01	8E-02
WST16-19-181354	2.27E-06	2.19E-06	5E-01	5E-01	5E-01	5E-01	5E-01	4E+00	5E-07	No ESL	2E-02	8E+00	6E-02
WST16-19-181355	2.69E-07	1.18E-07	3E-02	3E-02	3E-02	3E-02	3E-02	5E-01	5E-08	No ESL	3E-03	9E-01	7E-03
WST16-19-181357			0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	No ESL	0E+00	0E+00	0E+00
WST16-19-181358	1.70E-06	2.27E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	6E+00	4E-02
WST16-19-181359	4.06E-06	4.02E-06	1E+00	1E+00	1E+00	1E+00	1E+00	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
WST16-19-181361	9.28E-07	1.40E-06	3E-01	3E-01	3E-01	3E-01	3E-01	2E+00	2E-07	No ESL	9E-03	3E+00	2E-02
WST16-19-181362	8.89E-07	1.36E-06	3E-01	3E-01	3E-01	3E-01	3E-01	2E+00	2E-07	No ESL	9E-03	3E+00	2E-02
WST16-19-181363	8.94E-08	2.35E-08	6E-03	6E-03	6E-03	6E-03	6E-03	2E-01	2E-08	No ESL	9E-04	3E-01	2E-03
WST16-19-181364	7.31E-06	6.28E-06	2E+00	2E+00	2E+00	2E+00	2E+00	1E+01	1E-06	No ESL	7E-02	3E+01	2E-01
WST16-19-181365	5.00E-07	2.19E-07	5E-02	5E-02	5E-02	5E-02	5E-02	9E-01	1E-07	No ESL	5E-03	2E+00	1E-02
WST16-19-181366	2.07E-07	1.01E-07	2E-02	2E-02	2E-02	2E-02	2E-02	4E-01	4E-08	No ESL	2E-03	7E-01	5E-03
WST16-19-181367	5.71E-05	5.21E-05	1E+01	1E+01	1E+01	1E+01	1E+01	1E+02	1E-05	No ESL	6E-01	2E+02	1E+00
WST16-19-181368	1.41E-07	7.00E-07	2E-01	2E-01	2E-01	2E-01	2E-01	2E-01	3E-08	No ESL	1E-03	5E-01	4E-03
Max TEQ	**2.98E-04**	**2.53E-04**	6E+01	6E+01	6E+01	6E+01	6E+01	5E+02	**6E-05**	**NA**	3E+00	1E+03	7E+00

Notes: Shaded cells indicate HQs exceed the target of 0.1
Minimum of duplicate pair removed

NE HQ – HQ based on No effect ESL
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

Table 3-9. Low Effect Hazard Index Analysis by Receptor for Exposure Adjusted with Population Area Use Factors

Name	CAS	Low Effect Ecological Screening Levels (ESLs) for Terrestrial Receptors (mg/kg)										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Antimony	7440-36-0	-	-	-	-	-	23	780	58	460	79	27
Barium	7440-39-3	44000	13000	1200	1400	1300	8700	3200	260	190000	10000	14000
Cadmium	7440-43-9	2300	7.7	23	1.6	3	6.8	760	160	7400	3.6	140
Calcium	Ca	-	-	-	-	-	-	-	-	-	-	-
Copper	7440-50-8	3500	240	100	43	60	100	530	490	6700	70	430
Lead	7439-92-1	1000	160	36	23	28	230	8400	570	7000	170	600
Nitrate	14797-55-8	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	14797-73-0	4	8	0.24	64	0.49	1	35	80	16	150	1.3
Selenium	7782-49-2	140	7.5	1.9	1.4	1.6	1.2	41	3	130	1	3.4
Silver	7440-22-4	6000	130	100	26	41	240	-	2800	44000	140	1500
Zinc	7440-66-6	7000	590	120	120	220	1700	930	810	94000	980	18000
3,5-Dinitroaniline	618-87-1	-	-	-	-	-	230	180	330	67000	120	3200
Amino-2,6-dinitrotoluene[4-]	19406-51-0	-	-	-	-	-	230	180	330	67000	120	3200
Amino-4,6-dinitrotoluene[2-]	35572-78-2	-	-	-	-	-	230	430	140	97000	160	1100
Anthracene	120-12-7	-	-	-	-	-	3000	-	9	380000	2100	12000
Benzoic Acid	65-85-0	-	-	-	-	-	13	-	-	20000	10	46
Bis(2-ethylhexyl)phthalate	117-81-7	93	0.96	160	0.2	0.4	11	-	-	5000	6	19000
Dinitrotoluene[2,4-]	121-14-2	-	-	-	-	-	200	180	60	20000	140	740
HMX	2691-41-0	-	-	-	-	-	790	160	3500	150000	2900	1100
Isopropyltoluene[4-]	99-87-6	-	-	-	-	-	250	-	2000	120000	230	660
Methylene Chloride	75-09-2	-	-	-	-	-	22	-	16000	36000	79	32
Methylnaphthalene[2-]	91-57-6	-	-	-	-	-	240	-	-	49000	160	1100
PETN	78-11-5	-	-	-	-	-	1000	-	-	470000	10000	1200
RDX	121-82-4	1400	22	4.3	4.5	4.4	51	15	-	22000	53	120
TATB	3058-38-6	-	-	-	-	-	1100	28	-	100000	7200	1500
TCDD, 2,3,6,8	1746-01-6	-	-	-	-	-	3.8E-06	10	-	0.00068	1.9E-06	0.00027
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	-	-	-	-	-	-	1977	419	-	-	-
Trinitrobenzene[1,3,5-]	99-35-4	-	-	-	-	-	1100	28	-	100000	7200	1500
Trinitrotoluene[2,4,6-]	118-96-7	5700	2400	13	220	26	440	58	120	120000	9100	540
HR (ha)a		106	106	0.42	0.42	0.42	0.077	NA	NA	1038	0.39	3.1
Population Areab		4240	4240	16.8	16.8	16.8	3.08	NA	NA	41520	15.6	124
PAUFc		0.00019	0.00019	0.048	0.048	0.048	0.263	NA	NA	0.000019	0.052	0.007
AUFd		0.0076	0.0076	1.0000	1.0000	1.0000	1.0000	NA	NA	0.0008	1.0000	0.2611

COPC Name	Refined EPC (mg/kg)	Population Area Use Adjusted LE ESL Hazard Quotients										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Inorganics												
Antimony	0.481	-	-	-	-	-	5E-03	6E-04	8E-03	2E-08	3E-04	1E-04
Barium	3369	1E-05	5E-05	1E-01	1E-01	1E-01	1E-01	1E+00	1E+01	3E-07	2E-02	2E-03
Cadmium	0.231	2E-08	6E-06	5E-04	7E-03	4E-03	9E-03	3E-04	1E-03	6E-10	3E-03	1E-05
Calcium	4866	-	-	-	-	-	-	-	-	-	-	-
Copper	32.03	2E-06	3E-05	2E-02	4E-02	3E-02	8E-02	6E-02	7E-02	9E-08	2E-02	5E-04
Lead	45.22	9E-06	5E-05	6E-02	9E-02	8E-02	5E-02	5E-03	8E-02	1E-07	1E-02	5E-04
Nitrate	3.04	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	0.000679	3E-08	2E-08	1E-04	5E-07	7E-05	2E-04	2E-05	8E-06	8E-10	2E-07	3E-06
Selenium	0.968	1E-06	2E-05	2E-02	3E-02	3E-02	2E-01	2E-02	3E-01	1E-07	5E-02	2E-03
Silver	1.848	6E-08	3E-06	9E-04	3E-03	2E-03	2E-03	-	7E-04	8E-10	7E-04	8E-06
Zinc	58.43	2E-06	2E-05	2E-02	2E-02	1E-02	9E-03	6E-02	7E-02	1E-08	3E-03	2E-05
Organics												
3,5-Dinitroaniline	1.33	-	-	-	-	-	2E-03	7E-03	4E-03	4E-10	6E-04	3E-06
Amino-2,6-dinitrotoluene[4-]	0.573	-	-	-	-	-	7E-04	3E-03	2E-03	2E-10	2E-04	1E-06
Amino-4,6-dinitrotoluene[2-]	0.382	-	-	-	-	-	4E-04	9E-04	3E-03	8E-11	1E-04	2E-06
Anthracene	0.262	-	-	-	-	-	2E-05	-	3E-02	1E-11	6E-06	1E-07
Benzoic Acid	0.487	-	-	-	-	-	1E-02	-	-	5E-10	3E-03	7E-05
Bis(2-ethylhexyl)phthalate	16.35	3E-05	3E-03	5E-03	4E+00	2E+00	4E-01	-	-	6E-08	1E-01	6E-06
Dinitrotoluene[2,4-]	0.17	-	-	-	-	-	2E-04	9E-04	3E-03	2E-10	6E-05	1E-06
HMX	25.57	-	-	-	-	-	9E-03	2E-01	7E-03	3E-09	5E-04	2E-04
Isopropyltoluene[4-]	0.000737	-	-	-	-	-	8E-07	-	4E-07	1E-13	2E-07	7E-09
Methylene Chloride	0.00473	-	-	-	-	-	6E-05	-	3E-07	3E-12	3E-06	1E-06
Methylnaphthalene[2-]	0.0131	-	-	-	-	-	1E-05	-	-	5E-12	4E-06	8E-08
PETN	38.8	-	-	-	-	-	1E-02	-	-	2E-09	2E-04	2E-04
RDX	14.98	2E-06	1E-04	2E-01	2E-01	2E-01	8E-02	1E+00	-	1E-08	1E-02	8E-04
TATB	10.51	-	-	-	-	-	3E-03	4E-01	-	2E-09	8E-05	5E-05
TCDD Mammal TEQ	1.06E-04	-	-	-	-	-	7E+00	1E-05	-	3E-06	3E+00	3E-03
Total Petroleum Hydrocarbons Diesel Range Organics	27.33	-	-	-	-	-	-	1E-02	7E-02	-	-	-
Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	1E-04	2E-02	-	8E-11	3E-06	2E-06
Trinitrotoluene[2,4,6-]	2.064	7E-08	2E-07	8E-03	5E-04	4E-03	1E-03	4E-02	2E-02	3E-10	1E-05	2E-05
Hazard Index		6E-05	4E-03	4E-01	4E+00	2E+00	8E+00	3E+00	1E+01	4E-06	3E+00	8E-03

Notes: . “ - ” indicates an ESL was not available and an HQ cannot be calculated.

Area of Site (ha): 0.81

AUF - Area use factor | NA - Not applicable

ESLs - Ecological screening level | PAUF - Population area use factor

HR - Home range

a - Values from USEPA (1993)

b - Derived as 40*HR

c - PAUF is the area of site divided by the Population Area

d - AUF is the area of the site divided by the HR; AUF cannot exceed 1 and value is set to 1 if calculation results in a higher value

Table 3-10. Ecological Screening Evaluation with Maximum Detected Soil Concentrations for Samples From Within the SWMU Boundary.

Category	Parameter name	Maximum Detected Value (mg/kg)	Maximum Am. Kestrel (TC) NE HQ	Maximum Am. Kestrel (IC) NE HQ	Maximum Am. Robin (H) NE HQ	Maximum Am. Robin (I) NE HQ	Maximum Am. Robin (O) NE HQ	Maximum Deer Mouse (O) NE HQ	Maximum Earthworm (Soil Fauna) NE HQ	Maximum Generic Plant NE HQ	Maximum Gray Fox (C) NE HQ	Maximum Montane Shrew (I) NE HQ	Maximum Mountain Cottontail (H) NE HQ
Inorganic	Antimony	1.22	-	-	-	-	-	5E-01	2E-02	1E-01	3E-02	2E-01	5E-01
	Barium	12600	5E-01	2E+00	2E+01	2E+01	2E+01	7E+00	4E+01	1E+02	3E-01	6E+00	4E+00
	Cadmium	0.453	1E-03	3E-01	1E-01	2E+00	8E-01	9E-01	3E-03	1E-02	8E-04	2E+00	5E-02
	Calcium	16100	-	-	-	-	-	-	-	-	-	-	-
	Copper	113	1E-01	1E+00	3E+00	8E+00	6E+00	2E+00	1E+00	2E+00	3E-02	3E+00	4E-01
	Lead	228	4E-01	3E+00	1E+01	2E+01	2E+01	2E+00	1E-01	2E+00	6E-02	2E+00	7E-01
	Nitrate	4.02	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	0.000839	4E-04	2E-04	7E-03	3E-05	3E-03	4E-03	2E-04	2E-05	3E-04	3E-05	3E-03
	Selenium	3.05	4E-02	8E-01	3E+00	4E+00	4E+00	4E+00	7E-01	6E+00	3E-02	4E+00	1E+00
	Silver	7.95	1E-02	6E-01	8E-01	3E+00	2E+00	3E-01	-	1E-02	2E-03	6E-01	5E-02
	Zinc	115	4E-02	5E-01	3E-01	2E+00	1E+00	7E-01	1E+00	7E-01	1E-02	1E+00	6E-02
Organic	3,5-Dinitroaniline	1.33	-	-	-	-	-	6E-02	7E-02	4E-02	2E-04	1E-01	4E-03
	Amino-2,6-dinitrotoluene[4-]	3.24	-	-	-	-	-	1E-01	2E-01	1E-01	5E-04	3E-01	1E-02
	Amino-4,6-dinitrotoluene[2-]	1.49	-	-	-	-	-	6E-02	3E-02	1E-01	2E-04	9E-02	1E-02
	Anthracene	0.509	-	-	-	-	-	2E-03	-	7E-02	1E-05	2E-03	4E-04
	Bis(2-ethylhexyl)phthalate	56.6	6E+00	6E+02	4E+00	3E+03	1E+03	5E+01	-	-	1E-01	9E+01	3E-02
	Dinitrotoluene[2,4-]	0.172	-	-	-	-	-	9E-03	1E-02	3E-02	9E-05	1E-02	2E-03
	HMX	160	-	-	-	-	-	6E-01	1E+01	6E-02	3E-03	1E-01	4E-01
	Isopropyltoluene[4-]	0.000424	-	-	-	-	-	2E-05	-	2E-06	4E-08	2E-05	6E-06
	Methylene Chloride	0.00473	-	-	-	-	-	2E-03	-	3E-06	1E-06	5E-04	1E-03
	PETN	38.8	-	-	-	-	-	4E-01	-	-	8E-04	4E-02	3E-01
	RDX	72.4	9E-02	7E+00	3E+01	3E+01	3E+01	5E+00	9E+00	-	1E-02	5E+00	2E+00
	TATB	43.2	-	-	-	-	-	4E-01	4E+00	-	4E-03	6E-02	3E-01
	TCDD Mammal TEQ	6.27E-05	NA	NA	NA	NA	NA	1E+02	1E-05	-	6E-01	2E+02	2E+00
	TCDD Avian TEQ	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	NA	NA	NA	NA	NA	NA
	Total Petroleum Hydrocarbons Diesel	79.1	-	-	-	-	-	-	4E-01	1E+00	-	-	-
	Trinitrobenzene[1,3,5-]	0.46	-	-	-	-	-	4E-03	5E-02	-	5E-05	6E-04	3E-03
	Trinitrotoluene[2,4,6-]	12.7	4E-03	1E-02	2E+00	1E-01	9E-01	1E-01	4E-01	2E-01	5E-04	7E-03	1E-01
Hazard Index			2E+01	6E+02	9E+01	3E+03	2E+03	2E+02	7E+01	1E+02	1E+00	3E+02	1E+01

Notes: Analytes shown in this table are above background and have at least one detected value.
Shaded cells indicate the initial screening HQs > 0.1, and HI >1. HQs and HIs are unitless. " - " – Indicates that an HQ cannot be calculated because there is no ESL
Only detected data are evaluated; only inorganics above BV are carried forward to this table

Abbreviations:
- BV – Background Value (see Table 2-3)
- ESL – Ecological Screening Value
- EPC – Maximum Exposure Point Concentration
- H – Herbivore
- HI – Hazard Index
- HQ – Hazard Quotient
- I – Insectivore
- IC – Insectivore/carnivore
- mg/kg – milligram per kilogram
- O – Omnivore
- NA – Not Applicable
- NE – No Effect
- TC – Top carnivore

Table 3-11. Ecological Risk Evaluation Using Refined EPCs and LE ESLs for Samples From Within the SWMU Boundary.

Category	Name	Refined EPC (mg/kg)	Am. Kestrel (TC) LE HQ	Am. Kestrel (IC) LE HQ	Am. Robin (H) LE HQ	Am. Robin (I) LE HQ	Am. Robin (O) LE HQ	Deer Mouse (O) LE HQ	Earthworm (Soil Fauna) LE HQ	Generic Plant LE HQ	Gray Fox (C) LE HQ	Montane Shrew (I) LE HQ	Mountain Cottontail (H) LE HQ
Inorganic	Antimony	0.56	-	-	-	-	-	2E-02	7E-04	1E-02	1E-03	7E-03	2E-02
	Barium	4423	1E-01	3E-01	4E+00	3E+00	3E+00	5E-01	1E+00	2E+01	2E-02	4E-01	3E-01
	Cadmium	0.439	2E-04	6E-02	2E-02	3E-01	1E-01	6E-02	6E-04	3E-03	6E-05	1E-01	3E-03
	Calcium	6628	-	-	-	-	-	-	-	-	-	-	-
	Copper	45.41	1E-02	2E-01	5E-01	1E+00	8E-01	5E-01	9E-02	9E-02	7E-03	6E-01	1E-01
	Lead	76.88	8E-02	5E-01	2E+00	3E+00	3E+00	3E-01	9E-03	1E-01	1E-02	5E-01	1E-01
	Nitrate	3.468	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	6.98E-04	2E-04	9E-05	3E-03	1E-05	1E-03	7E-04	2E-05	9E-06	4E-05	5E-06	5E-04
	Selenium	1.403	1E-02	2E-01	7E-01	1E+00	9E-01	1E+00	3E-02	5E-01	1E-02	1E+00	4E-01
	Silver	3.136	5E-04	2E-02	3E-02	1E-01	8E-02	1E-02	-	1E-03	7E-05	2E-02	2E-03
	Zinc	66.99	1E-02	1E-01	6E-01	6E-01	3E-01	4E-02	7E-02	8E-02	7E-04	7E-02	4E-03
Organic	3,5-Dinitroaniline	1.33	-	-	-	-	-	6E-03	7E-03	4E-03	2E-05	1E-02	4E-04
	Amino-2,6-dinitrotoluene[4-]	0.773	-	-	-	-	-	3E-03	4E-03	2E-03	1E-05	6E-03	2E-04
	Amino-4,6-dinitrotoluene[2-]	0.487	-	-	-	-	-	2E-03	1E-03	3E-03	5E-06	3E-03	4E-04
	Anthracene	0.262	-	-	-	-	-	9E-05	-	3E-02	7E-07	1E-04	2E-05
	Bis(2-ethylhexyl)phthalate	29.44	3E-01	3E+01	2E-01	1E+02	7E+01	3E+00	-	-	6E-03	5E+00	2E-03
	Dinitrotoluene[2,4-]	0.172	-	-	-	-	-	9E-04	1E-03	3E-03	9E-06	1E-03	2E-04
	HMX	35.1	-	-	-	-	-	4E-02	2E-01	1E-02	2E-04	1E-02	3E-02
	Isopropyltoluene[4-]	0.000424	-	-	-	-	-	2E-06	-	2E-07	4E-09	2E-06	6E-07
	Methylene Chloride	0.00473	-	-	-	-	-	2E-04	-	3E-07	1E-07	6E-05	1E-04
	PETN	38.80	-	-	-	-	-	4E-02	-	-	8E-05	4E-03	3E-02
	RDX	20.49	1E-02	9E-01	5E+00	5E+00	5E+00	4E-01	1E+00	-	9E-04	4E-01	2E-01
	TATB	14.37	-	-	-	-	-	1E-02	5E-01	-	1E-04	2E-03	1E-02
	TCDD Mammal TEQ	4.3E-05	NA	NA	NA	NA	NA	1E+01	4E-06	-	6E-02	2E+01	2E-01
	TCDD Avian TEQ	1.53E-05	-	-	-	-	-	NA	NA	NA	NA	NA	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	34.47	-	-	-	-	-	-	2E-02	8E-02	-	-	-
	Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	4E-04	2E-02	-	4E-06	6E-05	3E-04
	Trinitrotoluene[2,4,6-]	3.015	5E-04	1E-03	2E-01	1E-02	1E-01	7E-03	5E-02	3E-02	3E-05	3E-04	6E-03
Hazard Index			5E-01	3E+01	1E+01	2E+02	9E+01	2E+01	4E+00	2E+01	1E-01	3E+01	1E+00

Notes: LE ESLs are shown in Table 3-3. HQ is the EPC/LE ESL.
Shaded cells represent HQs>0.1 or Hazard Index >1 (unitless). Hazard Index is the sum of all HQs. . “ - ” – Indicates that an HQ cannot be calculated because there is no ESL
See Tables 3-5 to 3-8 for dioxin/furan calculations and Table 2-8 for information regarding the UCL95 values

EPC – Exposure Point Concentration
IC – Insectivore/carnivore
H – Herbivore
HQ – Hazard Quotient
I – Insectivore
Dashes (- -) indicates calculation does not apply as UCL is receptor group specific
O – Omnivore
LE – Low Effect
mg/kg – milligram per kilogram
NA – Not applicable
TC – Top carnivore
UCL95 – Upper 95th percent confidence limit

Table 3-12. Dioxin-Furan Concentrations, TECs, and TEQs for Mammals for Samples From Within the SWMU Boundary

Parameter name	CAS NO.	09RCRA709		09RCRA711		RE16-12-17673		RE16-12-17674		RE16-12-17675		RE16-12-17676		RE16-12-17677		RE16-12-17678		RE16-12-17679		RE16-12-17680	
		Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
1,2,3,4,5,6,7,8-OCDD	3268-87-9	1.85E-04	1	4.80E-03	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1		
1,2,3,4,5,6,7,8-OCDF	39001-02-0	2.19E-05	1	6.57E-04	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-05	1	9.00E-04	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-06	1	2.88E-04	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-07	1	1.92E-05	1	1.39E-06	1	0.00E+00	0	8.79E-07	1	1.17E-06	1	0.00E+00	0	0.00E+00	0	1.50E-06	1	3.30E-05	1
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-07	1	1.79E-05	1	1.20E-06	1	0.00E+00	0	7.40E-07	1	8.66E-07	1	0.00E+00	0	0.00E+00	0	1.61E-06	1	3.08E-05	1
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-07	1	1.21E-05	1	1.75E-06	1	0.00E+00	0	7.33E-07	1	8.23E-07	1	0.00E+00	0	0.00E+00	0	9.85E-07	1	1.69E-05	1
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-06	1	3.33E-05	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	0.00E+00	0	7.55E-07	1	3.69E-06	1	7.18E-05	1
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-07	1	1.44E-05	1	1.10E-06	1	0.00E+00	0	7.05E-07	1	7.81E-07	1	0.00E+00	0	0.00E+00	0	1.32E-06	1	2.23E-05	1
1,2,3,7,8,9-HxCDD	19408-74-3			4.07E-05	1	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	0.00E+00	0	6.99E-07	1	4.34E-06	1	8.71E-05	1
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00	0	2.02E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.88E-06	1
1,2,3,7,8-PeCDD	40321-76-4			6.99E-06	1	7.45E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.39E-07	1	1.11E-05	1
1,2,3,7,8-PeCDF	57117-41-6	4.76E-07	1	1.65E-06	1	1.61E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.50E-07	1	1.77E-06	1
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-07	1	1.78E-05	1	1.49E-06	1	0.00E+00	0	9.09E-07	1	7.41E-07	1	0.00E+00	0	0.00E+00	0	1.57E-06	1	2.66E-05	1
2,3,4,7,8-PeCDF	57117-31-4			1.97E-06	1	8.97E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.00E-06	1
2,3,7,8-TCDD	1746-01-6	5.49E-07	1	1.34E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.17E-07	1	1.49E-06	1
2,3,7,8-TCDF	51207-31-9	5.95E-07	1	1.51E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	5.55E-08		1.44E-06		1.14E-07		3.24E-08		7.20E-08		9.96E-08		1.13E-08		3.27E-08		1.44E-07		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	39001-02-0	6.57E-09		1.97E-07		1.36E-08		3.54E-09		8.46E-09		1.09E-08		1.07E-09		3.03E-09		1.48E-08		3.84E-07	
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-07		9.00E-06		5.27E-07		1.81E-07		3.48E-07		4.21E-07		5.33E-08		1.49E-07		8.02E-07		1.70E-05	
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-08		2.88E-06		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06	
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-09		1.92E-07		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07	
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-08		1.79E-06		1.20E-07		0.00E+00		7.40E-08		8.66E-08		0.00E+00		0.00E+00		1.61E-07		3.08E-06	
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-08		1.21E-06		1.75E-07		0.00E+00		7.33E-08		8.23E-08		0.00E+00		0.00E+00		9.85E-08		1.69E-06	
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-07		3.33E-06		2.52E-07		1.04E-07		1.58E-07		1.75E-07		0.00E+00		7.55E-08		3.69E-07		7.18E-06	
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-08		1.44E-06		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06	
1,2,3,7,8,9-HxCDD	19408-74-3	0.00E+00		4.07E-06		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06	
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00		2.02E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07	
1,2,3,7,8-PeCDD	40321-76-4	0.00E+00		6.99E-06		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05	
1,2,3,7,8-PeCDF	57117-41-6	1.43E-08		4.95E-08		4.83E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.95E-08		5.31E-08	
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-08		1.78E-06		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06	
2,3,4,7,8-PeCDF	57117-31-4	0.00E+00		5.91E-07		2.69E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.00E-07	
2,3,7,8-TCDD	1746-01-6	5.49E-07		1.34E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06	
2,3,7,8-TCDF	51207-31-9	5.95E-08		1.51E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ		**1.54E-06**		**3.67E-05**		**2.97E-06**		**4.76E-07**		**1.21E-06**		**1.38E-06**		**8.62E-08**		**3.60E-07**		**3.86E-06**		**6.27E-05**	

Parameter name	WST16-19-181353 Result (mg/kg)	DC	WST16-19-181354 Result (mg/kg)	DC	WST16-19-181355 Result (mg/kg)	DC	WST16-19-181357 Result (mg/kg)	DC	WST16-19-181358 Result (mg/kg)	DC	WST16-19-181359 Result (mg/kg)	DC	WST16-19-181362 Result (mg/kg)	DC	WST16-19-181363 Result (mg/kg)	DC	WST16-19-181364 Result (mg/kg)	DC	WST16-19-181365 Result (mg/kg)	DC	WST16-19-181366 Result (mg/kg)	DC
1,2,3,4,5,6,7,8-OCDD	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1	6.50E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1
1,2,3,4,5,6,7,8-OCDF	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1	8.35E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1
1,2,3,4,6,7,8-HpCDD	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1	1.05E-04	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1
1,2,3,4,6,7,8-HpCDF	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1	3.47E-05	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1
1,2,3,4,7,8,9-HpCDF	1.89E-06	1	9.85E-07	1	0.00E+00	0	7.85E-07	1	1.07E-06	1	2.20E-06	1	0.00E+00	0	0.00E+00	0	3.26E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDD	9.07E-07	1	1.14E-06	1	0.00E+00	0	6.78E-07	1	8.31E-07	1	1.95E-06	1	5.72E-07	1	0.00E+00	0	4.13E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDF	2.44E-06	1	8.29E-07	1	0.00E+00	0	7.14E-07	1	1.42E-06	1	1.64E-06	1	8.57E-07	1	0.00E+00	0	2.06E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,6,7,8-HxCDD	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1	4.06E-06	1	8.53E-07	1	0.00E+00	0	7.10E-06	1	7.06E-07	1	0.00E+00	0
1,2,3,6,7,8-HxCDF	1.71E-06	1	9.81E-07	1	0.00E+00	0	6.89E-07	1	1.04E-06	1	1.56E-06	1	0.00E+00	0	0.00E+00	0	2.57E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8,9-HxCDD	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1	4.20E-06	1	7.43E-07	1	0.00E+00	0	8.50E-06	1	1.13E-06	1	5.09E-07	1
1,2,3,7,8,9-HxCDF	4.96E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDD	4.88E-07	1	5.71E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.70E-07	1	0.00E+00	0	0.00E+00	0	1.53E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDF	2.03E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.99E-07	1	5.68E-07	1	8.34E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,4,6,7,8-HxCDF	2.45E-06	1	1.14E-06	1	0.00E+00	0	8.59E-07	1	1.55E-06	1	1.91E-06	1	0.00E+00	0	0.00E+00	0	3.56E-06	1	0.00E+00	0	0.00E+00	0
2,3,4,7,8-PeCDF	1.43E-06	1	0.00E+00	0	0.00E+00	0	4.69E-07	1	1.06E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDD	2.15E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.03E-07	1	2.10E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDF	1.66E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																						
1,2,3,4,5,6,7,8-OCDD	9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08		1.95E-07		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08	
1,2,3,4,5,6,7,8-OCDF	1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09		2.51E-08		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09	
1,2,3,4,6,7,8-HpCDD	4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07		1.05E-06		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07	
1,2,3,4,6,7,8-HpCDF	1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07		3.47E-07		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08	
1,2,3,4,7,8,9-HpCDF	1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08		2.20E-08		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDD	9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08		1.95E-07		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDF	2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07		1.64E-07		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00	
1,2,3,6,7,8-HxCDD	1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07		4.06E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00	
1,2,3,6,7,8-HxCDF	1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07		1.56E-07		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00	
1,2,3,7,8,9-HxCDD	1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07		4.20E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08	
1,2,3,7,8,9-HxCDF	4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00		6.70E-07		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08		1.70E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,4,6,7,8-HxCDF	2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07		1.91E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDD	2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.03E-07		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**		**4.06E-06**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.
Duplicate pairs are shaded
DC – Detect code (1=detect, 0=nondetect)
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

Table 3-13. Dioxin-Furan Concentrations, TECs, and TEQs for Birds for Samples From Within the SWMU Boundary

Parameter name	WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358		WST16-19-181359		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
1,2,3,4,5,6,7,8-OCDD	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1	6.50E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1
1,2,3,4,5,6,7,8-OCDF	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1	8.35E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1
1,2,3,4,6,7,8-HpCDD	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1	1.05E-04	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1
1,2,3,4,6,7,8-HpCDF	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1	3.47E-05	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1
1,2,3,4,7,8,9-HpCDF	1.89E-06	1	9.85E-07	1	0.00E+00	0	7.85E-07	1	1.07E-06	1	2.20E-06	1	0.00E+00	0	0.00E+00	0	3.26E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDD	9.07E-07	1	1.14E-06	1	0.00E+00	0	6.78E-07	1	8.31E-07	1	1.95E-06	1	5.72E-07	1	0.00E+00	0	4.13E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDF	2.44E-06	1	8.29E-07	1	0.00E+00	0	7.14E-07	1	1.42E-06	1	1.64E-06	1	8.57E-07	1	0.00E+00	0	2.06E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,6,7,8-HxCDD	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1	4.06E-06	1	8.53E-07	1	0.00E+00	0	7.10E-06	1	7.06E-07	1	0.00E+00	0
1,2,3,6,7,8-HxCDF	1.71E-06	1	9.81E-07	1	0.00E+00	0	6.89E-07	1	1.04E-06	1	1.56E-06	1	0.00E+00	0	0.00E+00	0	2.57E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8,9-HxCDD	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1	4.20E-06	1	7.43E-07	1	0.00E+00	0	8.50E-06	1	1.13E-06	1	5.09E-07	1
1,2,3,7,8,9-HxCDF	4.96E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDD	4.88E-07	1	5.71E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.70E-07	1	0.00E+00	0	0.00E+00	0	1.53E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDF	2.03E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.99E-07	1	5.68E-07	1	8.34E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,4,6,7,8-HxCDF	2.45E-06	1	1.14E-06	1	0.00E+00	0	8.59E-07	1	1.55E-06	1	1.91E-06	1	0.00E+00	0	0.00E+00	0	3.56E-06	1	0.00E+00	0	0.00E+00	0
2,3,4,7,8-PeCDF	1.43E-06	1	0.00E+00	0	0.00E+00	0	4.69E-07	1	1.06E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDD	2.15E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.03E-07	1	2.10E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDF	1.66E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																						
1,2,3,4,5,6,7,8-OCDD	3.01E-08		3.50E-08		5.32E-09		1.48E-08		2.19E-08		6.50E-08		1.71E-08		4.61E-09		1.13E-07		1.28E-08		6.72E-09	
1,2,3,4,5,6,7,8-OCDF	4.39E-09		3.27E-09		5.67E-10		1.85E-09		2.88E-09		8.35E-09		1.93E-09		4.89E-10		1.17E-08		1.28E-09		7.18E-10	
1,2,3,4,6,7,8-HpCDD	4.52E-08		5.55E-08		1.00E-08		2.24E-08		3.34E-08		1.05E-07		2.40E-08		6.19E-09		1.99E-07		2.10E-08		1.01E-08	
1,2,3,4,6,7,8-HpCDF	1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07		3.47E-07		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08	
1,2,3,4,7,8,9-HpCDF	1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08		2.20E-08		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDD	4.54E-08		5.70E-08		0.00E+00		3.39E-08		4.16E-08		9.75E-08		2.86E-08		0.00E+00		2.07E-07		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDF	2.44E-06		8.29E-07		0.00E+00		7.14E-07		1.42E-06		1.64E-06		8.57E-07		0.00E+00		2.06E-06		0.00E+00		0.00E+00	
1,2,3,6,7,8-HxCDD	1.87E-08		2.08E-08		5.40E-09		1.16E-08		1.58E-08		4.06E-08		8.53E-09		0.00E+00		7.10E-08		7.06E-09		0.00E+00	
1,2,3,6,7,8-HxCDF	1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07		1.56E-07		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00	
1,2,3,7,8,9-HxCDD	1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07		4.20E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08	
1,2,3,7,8,9-HxCDF	4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00		6.70E-07		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	2.03E-07		0.00E+00		0.00E+00		0.00E+00		5.99E-08		5.68E-08		8.34E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,4,6,7,8-HxCDF	2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07		1.91E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	1.43E-07		0.00E+00		0.00E+00		4.69E-08		1.06E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDD	2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.03E-07		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	1.66E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**6.15E-06**		**2.19E-06**		**1.18E-07**		**1.21E-06**		**2.27E-06**		**4.02E-06**		**1.36E-06**		**2.35E-08**		**6.28E-06**		**2.19E-07**		**1.01E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.
Duplicate pairs are shaded
DC – Detect code (1=detect, 0=nondetect)
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

Table 3-14. Calculation of Maximum Dioxin/Furan Hazard Quotients for All Ecological Receptors for Samples From Within the SWMU Boundary

Sample ID	Mammalian TEQ	Avian TEQ	Maximum Am. Kestrel (TC) NE HQ	Maximum Am. Kestrel (IC) NE HQ	Maximum Am. Robin (H) NE HQ	Maximum Am. Robin (I) NE HQ	Maximum Am. Robin (O) NE HQ	Maximum Deer Mouse (O) NE HQ	Maximum Earthworm (Soil Fauna) NE HQ	Maximum Generic Plant NE HQ	Maximum Gray Fox (C) NE HQ	Maximum Montane Shrew (I) NE HQ	Maximum Mountain Cottontail (H) NE HQ
09RCRA709	1.54E-06	2.32E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	5E+00	4E-02
09RCRA711	3.67E-05	3.55E-05	9E+00	9E+00	9E+00	9E+00	9E+00	6E+01	7E-06	No ESL	4E-01	1E+02	9E-01
RE16-12-17673	2.97E-06	3.63E-06	9E-01	9E-01	9E-01	9E-01	9E-01	5E+00	6E-07	No ESL	3E-02	1E+01	7E-02
RE16-12-17674	4.76E-07	1.95E-07	5E-02	5E-02	5E-02	5E-02	5E-02	8E-01	1E-07	No ESL	5E-03	2E+00	1E-02
RE16-12-17676	1.38E-06	1.47E-06	4E-01	4E-01	4E-01	4E-01	4E-01	2E+00	3E-07	No ESL	1E-02	5E+00	3E-02
RE16-12-17677	8.62E-08	3.00E-08	7E-03	7E-03	7E-03	7E-03	7E-03	1E-01	2E-08	No ESL	9E-04	3E-01	2E-03
RE16-12-17678	3.60E-07	1.34E-07	3E-02	3E-02	3E-02	3E-02	3E-02	6E-01	7E-08	No ESL	4E-03	1E+00	9E-03
RE16-12-17679	3.86E-06	3.55E-06	9E-01	9E-01	9E-01	9E-01	9E-01	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
RE16-12-17680	6.27E-05	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	1E+02	1E-05	No ESL	6E-01	2E+02	2E+00
WST16-19-181353	3.29E-06	6.15E-06	1E+00	1E+00	1E+00	1E+00	1E+00	6E+00	7E-07	No ESL	3E-02	1E+01	8E-02
WST16-19-181354	2.27E-06	2.19E-06	5E-01	5E-01	5E-01	5E-01	5E-01	4E+00	5E-07	No ESL	2E-02	8E+00	6E-02
WST16-19-181355	2.69E-07	1.18E-07	3E-02	3E-02	3E-02	3E-02	3E-02	5E-01	5E-08	No ESL	3E-03	9E-01	7E-03
WST16-19-181358	1.70E-06	2.27E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	6E+00	4E-02
WST16-19-181359	4.06E-06	4.02E-06	1E+00	1E+00	1E+00	1E+00	1E+00	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
WST16-19-181362	8.89E-07	1.36E-06	3E-01	3E-01	3E-01	3E-01	3E-01	2E+00	2E-07	No ESL	9E-03	3E+00	2E-02
WST16-19-181363	8.94E-08	2.35E-08	6E-03	6E-03	6E-03	6E-03	6E-03	2E-01	2E-08	No ESL	9E-04	3E-01	2E-03
WST16-19-181364	7.31E-06	6.28E-06	2E+00	2E+00	2E+00	2E+00	2E+00	1E+01	1E-06	No ESL	7E-02	3E+01	2E-01
WST16-19-181365	5.00E-07	2.19E-07	5E-02	5E-02	5E-02	5E-02	5E-02	9E-01	1E-07	No ESL	5E-03	2E+00	1E-02
WST16-19-181366	2.07E-07	1.01E-07	2E-02	2E-02	2E-02	2E-02	2E-02	4E-01	4E-08	No ESL	2E-03	7E-01	5E-03
Max TEQ	**6.27E-05**	**5.39E-05**	**1E+01**	**1E+01**	**1E+01**	**1E+01**	**1E+01**	**1E+02**	**1E-05**	**0E+00**	**6E-01**	**2E+02**	**2E+00**

Notes: Shaded cells indicate HQs exceed the target of 0.1
Minimum of duplicate pair removed
ESL – Ecological screening level
NE HQ – HQ based on No effect ESL
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

Table 3-15. Low Effect Hazard Index Analysis by Receptor for Exposure Adjusted with Area Use Factors for Samples From Within the SWMU Boundary

Name	CAS	Low Effect Ecological Screening Levels (ESLs) for Terrestrial Receptors (mg/kg)										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Antimony	7440-36-0	-	-	-	-	-	23	780	58	460	79	27
Barium	7440-39-3	44000	13000	1200	1400	1300	8700	3200	260	190000	10000	14000
Cadmium	7440-43-9	2300	7.7	23	1.6	3	6.8	760	160	7400	3.6	140
Calcium	Ca	-	-	-	-	-	-	-	-	-	-	-
Copper	7440-50-8	3500	240	100	43	60	100	530	490	6700	70	430
Lead	7439-92-1	1000	160	36	23	28	230	8400	570	7000	170	600
Nitrate	14797-55-8	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	14797-73-0	4	8	0.24	64	0.49	1	35	80	16	150	1.3
Selenium	7782-49-2	140	7.5	1.9	1.4	1.6	1.2	41	3	130	1	3.4
Silver	7440-22-4	6000	130	100	26	41	240	-	2800	44000	140	1500
Zinc	7440-66-6	7000	590	120	120	220	1700	930	810	94000	980	18000
3,5-Dinitroaniline	618-87-1	-	-	-	-	-	230	180	330	67000	120	3200
Amino-2,6-dinitrotoluene[4-]	19406-51-0	-	-	-	-	-	230	180	330	67000	120	3200
Amino-4,6-dinitrotoluene[2-]	35572-78-2	-	-	-	-	-	230	430	140	97000	160	1100
Anthracene	120-12-7	-	-	-	-	-	3000	-	9	380000	2100	12000
Benzoic Acid	65-85-0	-	-	-	-	-	13	-	-	20000	10	46
Bis(2-ethylhexyl)phthalate	117-81-7	93	0.96	160	0.2	0.4	11	-	-	5000	6	19000
Dinitrotoluene[2,4-]	121-14-2	-	-	-	-	-	200	180	60	20000	140	740
HMX	2691-41-0	-	-	-	-	-	790	160	3500	150000	2900	1100
Isopropyltoluene[4-]	99-87-6	-	-	-	-	-	250	-	2000	120000	230	660
Methylene Chloride	75-09-2	-	-	-	-	-	22	-	16000	36000	79	32
Methylnaphthalene[2-]	91-57-6	-	-	-	-	-	240	-	-	49000	160	1100
PETN	78-11-5	-	-	-	-	-	1000	-	-	470000	10000	1200
RDX	121-82-4	1400	22	4.3	4.5	4.4	51	15	-	22000	53	120
TATB	3058-38-6	-	-	-	-	-	1100	28	-	100000	7200	1500
TCDD, 2,3,6,8	1746-01-6	-	-	-	-	-	3.8E-06	10	-	0.00068	1.9E-06	0.00027
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	-	-	-	-	-	-	1977	419	-	-	-
Trinitrobenzene[1,3,5-]	99-35-4	-	-	-	-	-	1100	28	-	100000	7200	1500
Trinitrotoluene[2,4,6-]	118-96-7	5700	2400	13	220	26	440	58	120	120000	9100	540

HR (ha)[a]	106	106	0.42	0.42	0.42	0.077	NA	NA	1038	0.39	3.1
Population Area[b]	4240	4240	16.8	16.8	16.8	3.08	NA	NA	41520	15.6	124
PAUF[c]	0.00004	0.00004	0.010	0.010	0.010	0.053	NA	NA	0.000004	0.010	0.001
AUF[d]	0.0015	0.0015	0.3854	0.3854	0.3854	1.0000	NA	NA	0.0002	0.4151	0.0522

COPC Name	Refined EPC (mg/kg)	Population Area Use Adjusted LE ESL Hazard Quotients										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Inorganics												
Antimony	0.56	-	-	-	-	-	2E-03	7E-04	1E-02	8E-09	1E-04	4E-05
Barium	4423	6E-06	2E-05	6E-02	5E-02	5E-02	4E-02	1E+00	2E+01	1E-07	7E-03	7E-04
Cadmium	0.439	1E-08	3E-06	3E-04	4E-03	2E-03	5E-03	6E-04	3E-03	4E-10	2E-03	7E-06
Calcium	6628	-	-	-	-	-	-	-	-	-	-	-
Copper	45.41	8E-07	1E-05	7E-03	2E-02	1E-02	4E-02	9E-02	9E-02	4E-08	1E-02	2E-04
Lead	76.88	5E-06	3E-05	3E-02	5E-02	4E-02	3E-02	9E-03	1E-01	7E-08	8E-03	3E-04
Nitrate	3.468	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	6.98E-04	1E-08	5E-09	4E-05	2E-07	2E-05	6E-05	2E-05	9E-06	3E-10	8E-08	1E-06
Selenium	1.403	6E-07	1E-05	1E-02	2E-02	1E-02	1E-01	3E-02	5E-01	7E-08	2E-02	9E-04
Silver	3.136	3E-08	1E-06	5E-04	2E-03	1E-03	1E-03	-	1E-03	4E-10	4E-04	4E-06
Zinc	66.99	6E-07	7E-06	9E-03	9E-03	5E-03	3E-03	7E-02	8E-02	4E-09	1E-03	8E-06
Organics												
3,5-Dinitroaniline	1.33	-	-	-	-	-	5E-04	7E-03	4E-03	1E-10	2E-04	9E-07
Amino-2,6-dinitrotoluene[4-]	0.773	-	-	-	-	-	3E-04	4E-03	2E-03	7E-11	1E-04	5E-07
Amino-4,6-dinitrotoluene[2-]	0.487	-	-	-	-	-	2E-04	1E-03	3E-03	3E-11	5E-05	9E-07
Anthracene	0.262	-	-	-	-	-	7E-06	-	3E-02	4E-12	2E-06	5E-08
Bis(2-ethylhexyl)phthalate	29.44	2E-05	2E-03	3E-03	2E+00	1E+00	2E-01	-	-	4E-08	8E-02	3E-06
Dinitrotoluene[2,4-]	0.172	-	-	-	-	-	7E-05	1E-03	3E-03	5E-11	2E-05	5E-07
HMX	35.1	-	-	-	-	-	4E-03	2E-01	1E-02	1E-09	2E-04	7E-05
Isopropyltoluene[4-]	0.000424	-	-	-	-	-	1E-07	-	2E-07	2E-14	3E-08	1E-09
Methylene Chloride	0.00473	-	-	-	-	-	2E-05	-	3E-07	8E-13	1E-06	3E-07
PETN	38.80	-	-	-	-	-	3E-03	-	-	5E-10	6E-05	7E-05
RDX	20.49	9E-07	6E-05	7E-02	7E-02	7E-02	3E-02	1E+00	-	6E-09	6E-03	4E-04
TATB	14.37	-	-	-	-	-	1E-03	5E-01	-	9E-10	3E-05	2E-05
TCDD, 2,3,6,8	4.3E-05	-	-	-	-	-	1E+00	4E-06	-	4E-07	4E-01	3E-04
Total Petroleum Hydrocarbons Diesel Range Organics	34.47	-	-	-	-	-	-	2E-02	8E-02	-	-	-
Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	3E-05	2E-02	-	3E-11	1E-06	6E-07
Trinitrotoluene[2,4,6-]	3.015	3E-08	8E-08	4E-03	2E-04	2E-03	6E-04	5E-02	3E-02	2E-10	6E-06	1E-05
Hazard Index		**3E-05**	**2E-03**	**2E-01**	**2E+00**	**1E+00**	**1E+00**	**4E+00**	**2E+01**	**8E-07**	**5E-01**	**3E-03**

Notes: Area of Site (ha): 0.26
" - " – Indicates there is no ESL, or HQs based on ESLs
AUF - Area use factor
NA - Not applicable
ESLs - Ecological screening level
PAUF - Population area use factor
HR - Home range
a - Values from USEPA (1993)
b - Derived as 40*HR
c - PAUF is the area of site divided by the Population Area
d - AUF is the area of the site divided by the HR; AUF cannot exceed 1 and value is set to 1 if calculation results in a higher value

Figures

Figure 1-1. Map of Sampling Locations For TA-16-399

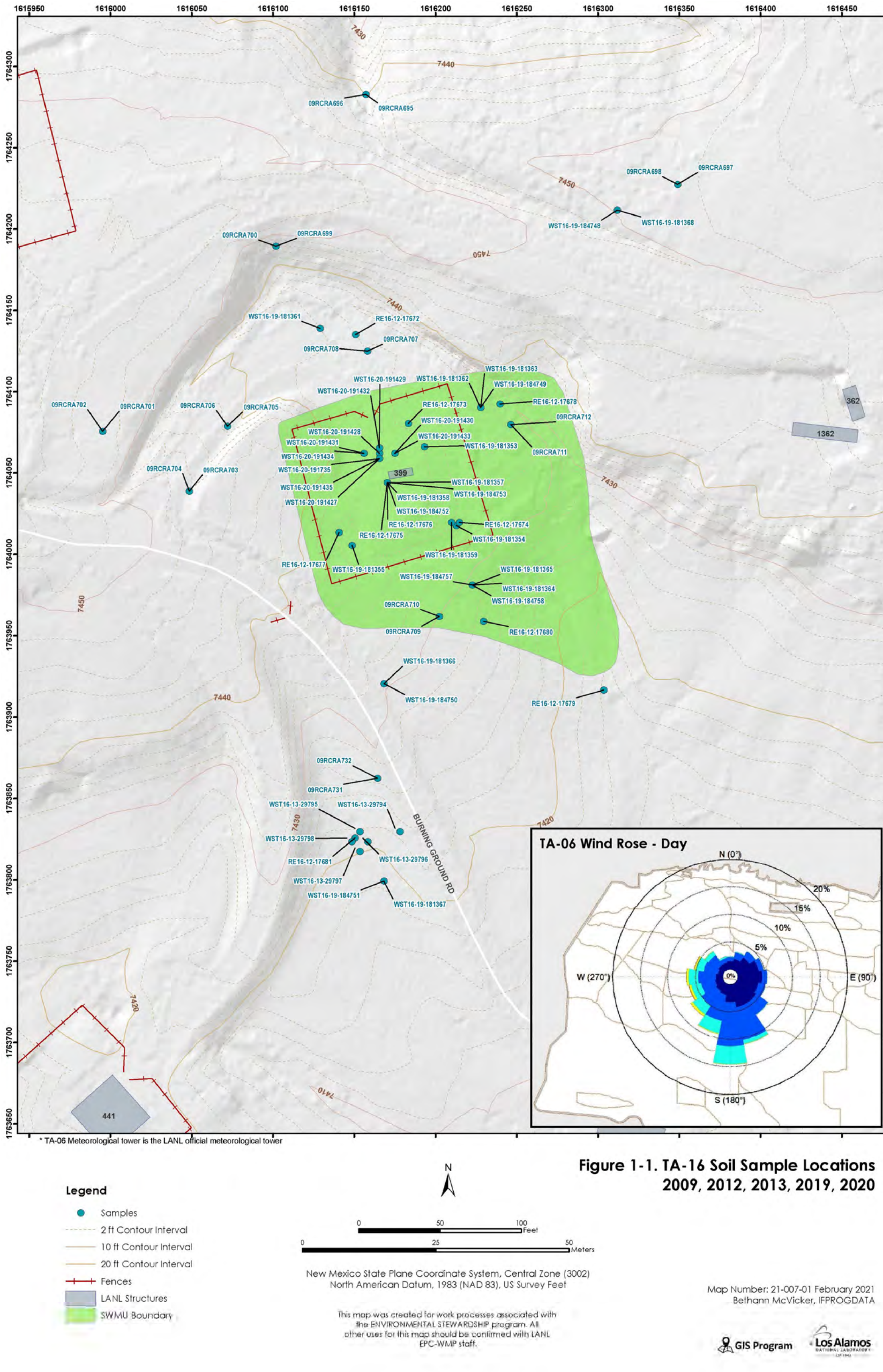


Figure 1-2. Sampling Locations Showing Excavated Boundary and Locations

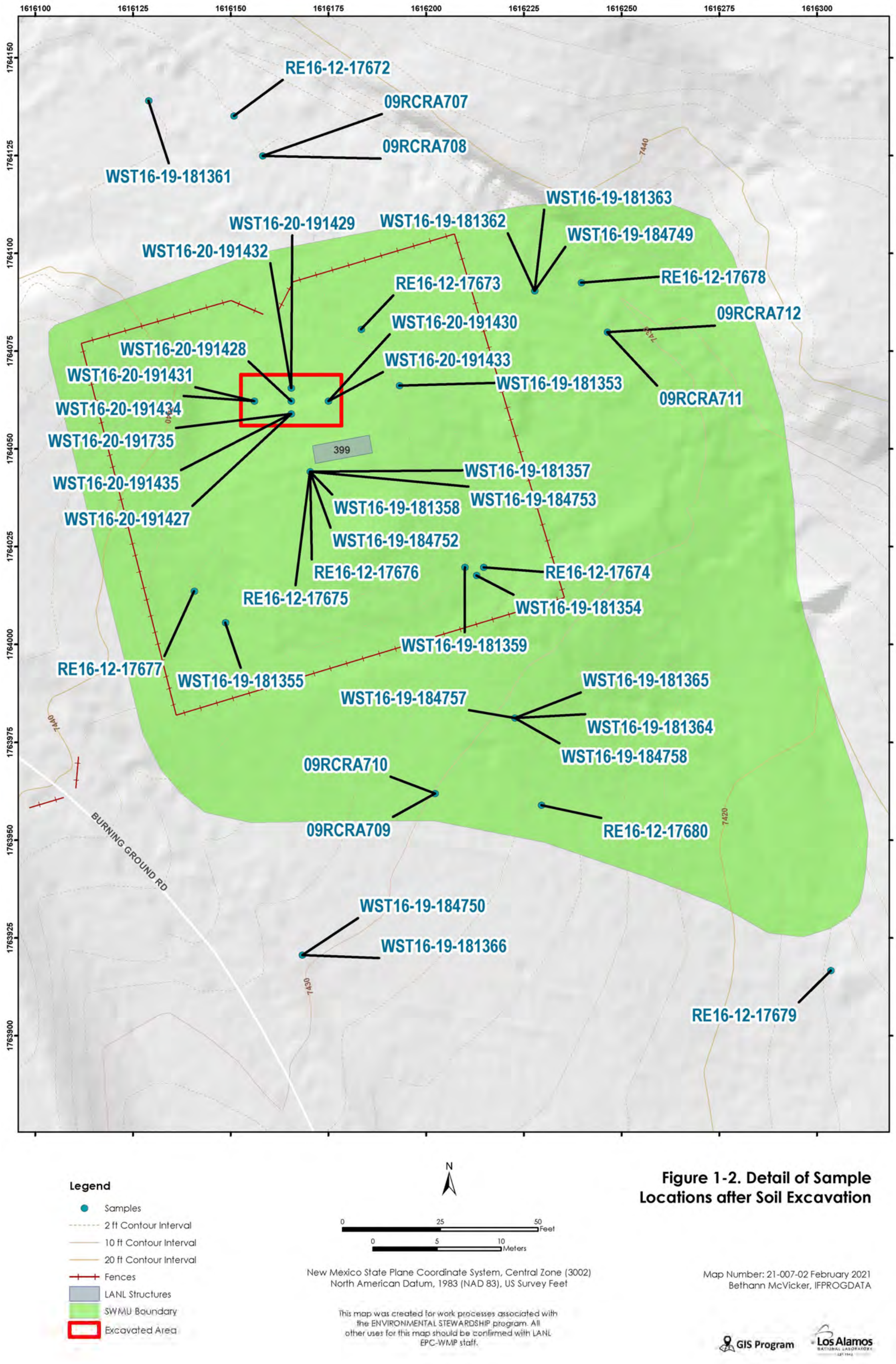


Figure 1-3. Soil Concentrations for Nitrates, Perchlorates and Metals Detected Above Background Values

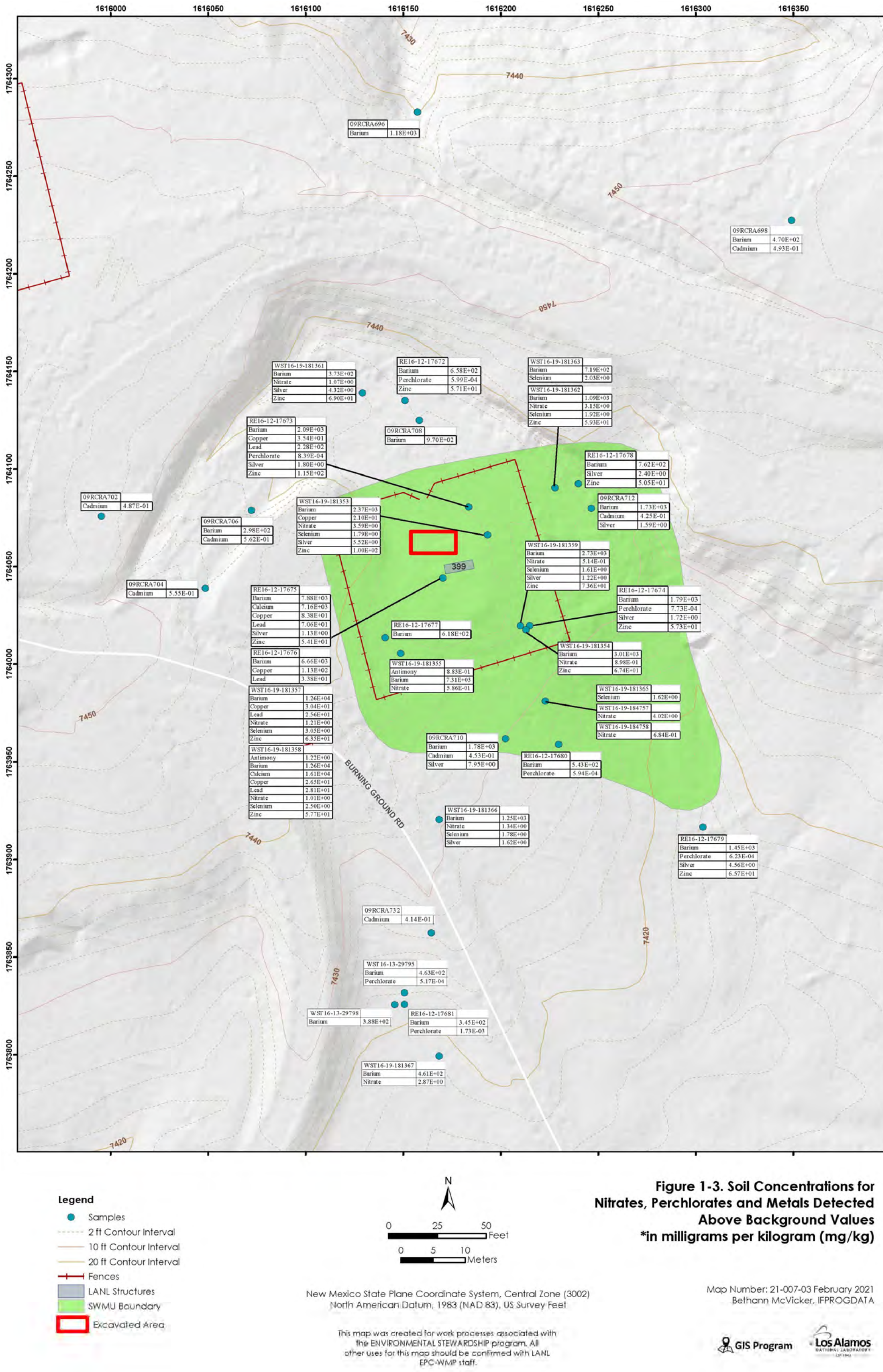


Figure 1-4. Soil Concentrations for Explosives

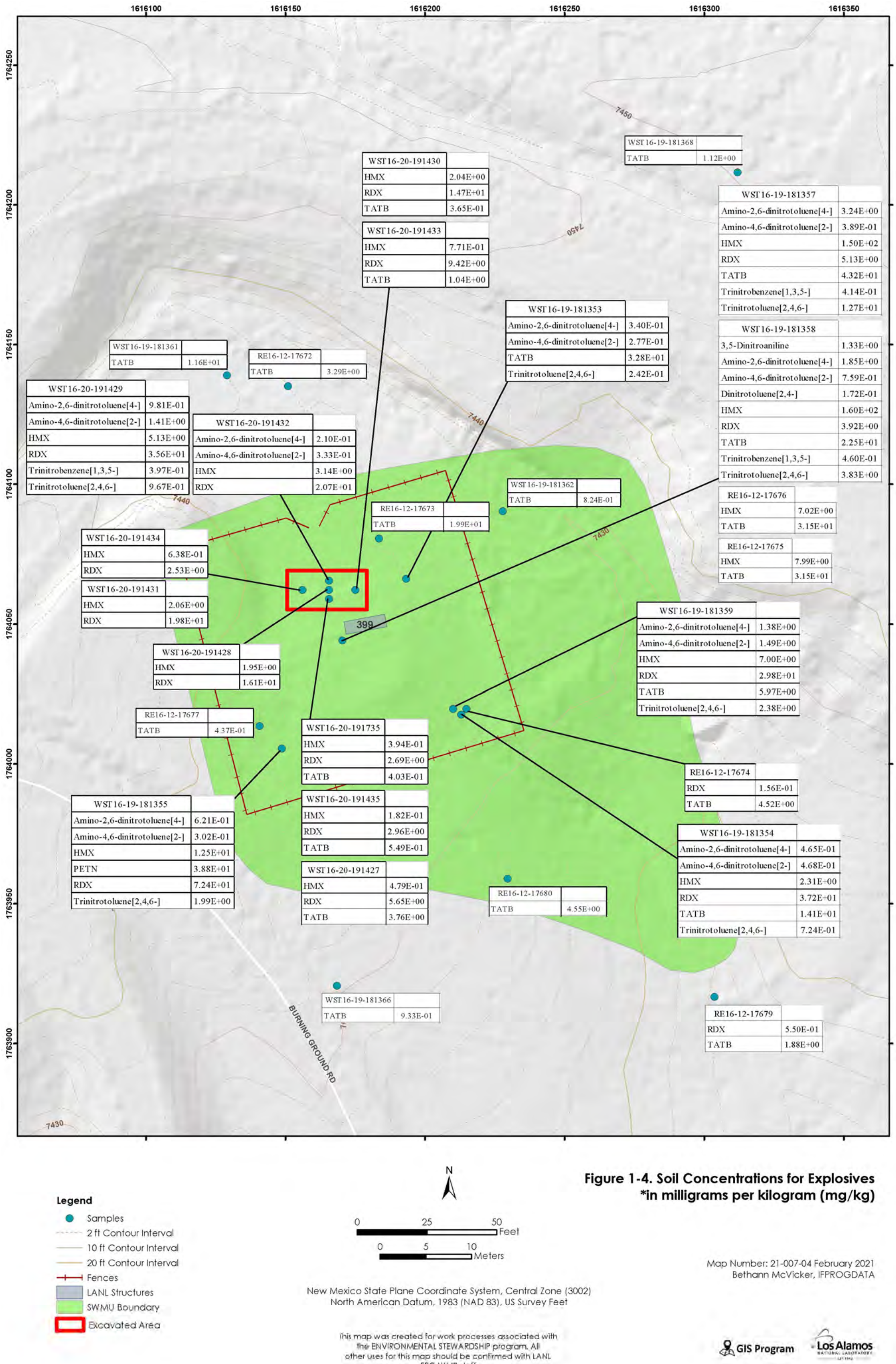


Figure 1-5. Toxic Equivalency (TEQ) Values for Dioxin/Furan Congeners

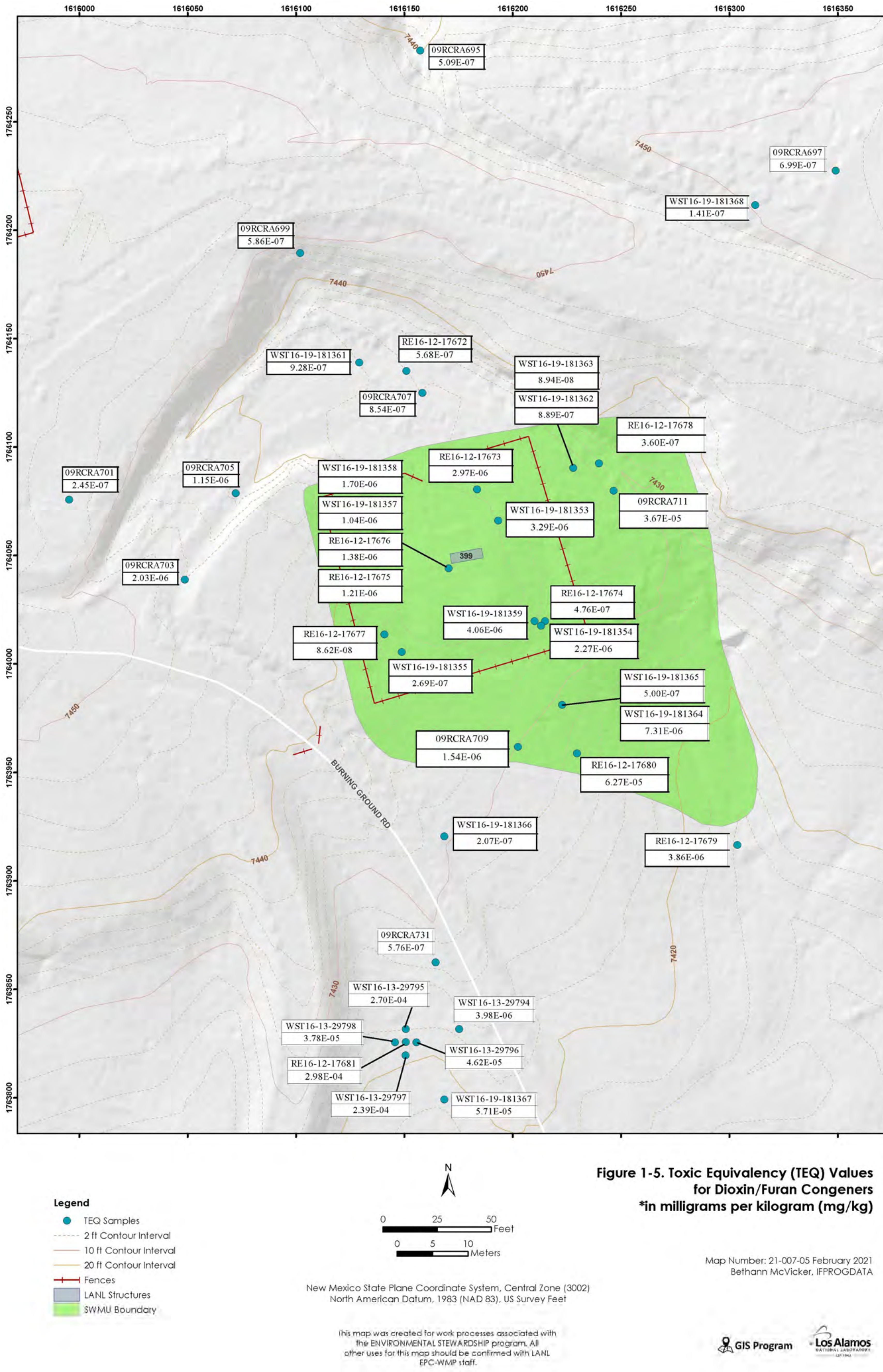
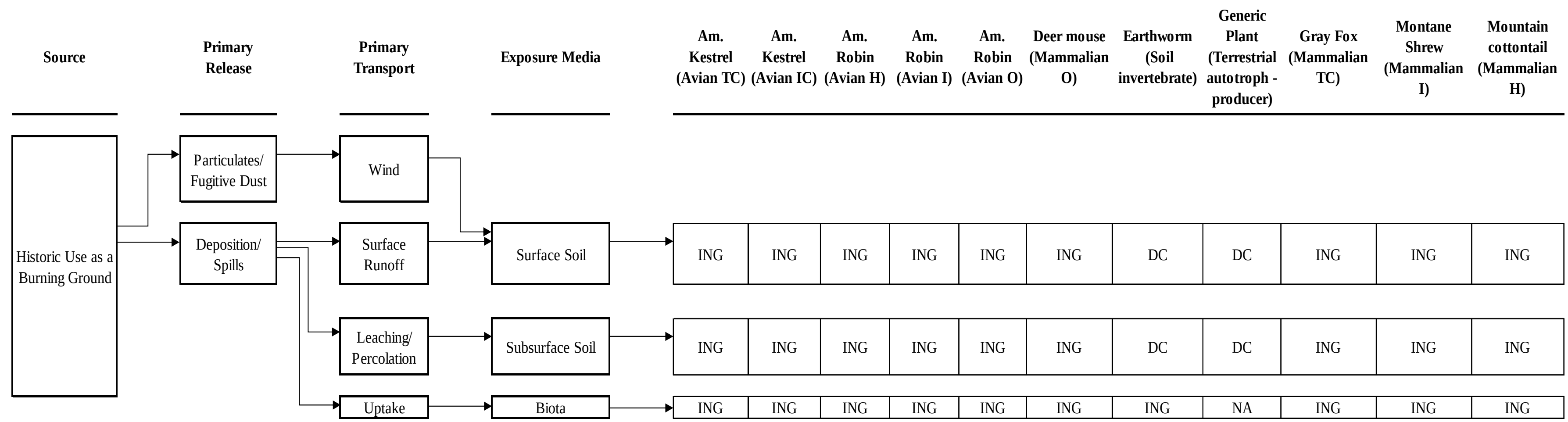


Figure 3-1. Ecological Conceptual Site Model



Dermal and inhalation exposure are recognized as potentially complete pathways. These pathways are considered insignificant relative to ingestion exposure and are not quantitatively evaluated
The site area is 0.26 ac.
There is no riparian habitat. The shrew is retained as a potential receptor only as a surrogate for other mammalian insectivores that might occur.

C	carnivore	ING - Ingestion
IC	insectivore / carnivore	DC - Direct contact
TC	top carnivore	NA - Not applicable
H	herbivore	
I	insectivore	
O	omnivore	

Attachment A.1 ProUCL Output for Upper Confidence Limit Calculations for All Data

UCL Statistics for Uncensored Full Data Sets

User Selected Options			
Date/Time of Computation	ProUCL 5.1 1/12/2021 3:06:35 PM		
From File	Worksheet.xls		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		

Dioxin Furan Total TEC TEQ UCL of all Samples. Removed Lowest DUPs. Note all data for TEC and TEQ are detect only - NDs fall out of calculation

General Statistics			
Total Number of Observations	37	Number of Distinct Observations	37
		Number of Missing Observations	2
Minimum	8.62E-08	Mean	2.95E-05
Maximum	2.98E-04	Median	1.38E-06
SD	7.43E-05	Std. Error of Mean	1.22E-05
Coefficient of Variation	N/A	Skewness	2.995
Normal GOF Test			
Shapiro Wilk Test Statistic	0.445	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.401	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	5.01E-05	95% Adjusted-CLT UCL (Chen-1995)	5.60E-05
		95% Modified-t UCL (Johnson-1978)	5.11E-05
Gamma GOF Test			
A-D Test Statistic	3.727	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.87	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.309	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.158	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.274	k star (bias corrected MLE)	0.27
Theta hat (MLE)	1.08E-04	Theta star (bias corrected MLE)	1.09E-04
nu hat (MLE)	20.29	nu star (bias corrected)	19.98
MLE Mean (bias corrected)	2.95E-05	MLE Sd (bias corrected)	5.68E-05
		Approximate Chi Square Value (0.05)	10.83
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	10.54
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	5.44E-05	95% Adjusted Gamma UCL (use when n<50)	5.59E-05
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.157	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-16.27	Mean of logged Data	-12.98
Maximum of Logged Data	-8.118	SD of logged Data	2.249
Assuming Lognormal Distribution			
95% H-UCL	1.34E-04	90% Chebyshev (MVUE) UCL	6.06E-05
95% Chebyshev (MVUE) UCL	7.74E-05	97.5% Chebyshev (MVUE) UCL	1.01E-04
99% Chebyshev (MVUE) UCL	1.47E-04		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	4.96E-05	95% Jackknife UCL	5.01E-05
95% Standard Bootstrap UCL	4.96E-05	95% Bootstrap-t UCL	6.47E-05
95% Hall's Bootstrap UCL	4.76E-05	95% Percentile Bootstrap UCL	5.15E-05
95% BCA Bootstrap UCL	5.83E-05		

90% Chebyshev(Mean, Sd) UCL	6.61E-05	95% Chebyshev(Mean, Sd) UCL	8.28E-05
97.5% Chebyshev(Mean, Sd) UCL	1.06E-04	99% Chebyshev(Mean, Sd) UCL	1.51E-04
Suggested UCL to Use			
97.5% Chebyshev (Mean, Sd) UCL	**1.06E-04**		

UCL Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	**ProUCL 5.11/13/2021 2:14:34 PM**
From File	**Detected Analytes above BTV for ProUCL by sample with detect status for PROUCL.xls**
Full Precision	**OFF**
Confidence Coefficient	**95%**
Number of Bootstrap Operations	**2000**

Amino-2,6-dinitrotoluene[4-]

General Statistics

Total Number of Observations	36	Number of Distinct Observations	13
		Number of Missing Observations	15
Number of Detects	7	Number of Non-Detects	29
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.21	Minimum Non-Detect	0.144
Maximum Detect	3.24	Maximum Non-Detect	0.152
Variance Detects	1.107	Percent Non-Detects	80.56%
Mean Detects	1.034	SD Detects	1.052
Median Detects	0.621	CV Detects	1.018
Skewness Detects	1.929	Kurtosis Detects	3.936
Mean of Logged Detects	-0.343	SD of Logged Detects	0.92

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.78	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.234	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.317	KM Standard Error of Mean	0.1
KM SD	0.556	95% KM (BCA) UCL	0.497
95% KM (t) UCL	0.486	95% KM (Percentile Bootstrap) UCL	0.481
95% KM (z) UCL	0.482	95% KM Bootstrap t UCL	0.672
90% KM Chebyshev UCL	0.617	95% KM Chebyshev UCL	0.753
97.5% KM Chebyshev UCL	0.942	99% KM Chebyshev UCL	1.312

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.277	Anderson-Darling GOF Test	
5% A-D Critical Value	0.722	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.183	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.317	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.472	k star (bias corrected MLE)	0.936
Theta hat (MLE)	0.702	Theta star (bias corrected MLE)	1.104
nu hat (MLE)	20.61	nu star (bias corrected)	13.11
Mean (detects)	1.034		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.209
Maximum	3.24	Median	0.01
SD	0.599	CV	2.865
k hat (MLE)	0.31	k star (bias corrected MLE)	0.303
Theta hat (MLE)	0.674	Theta star (bias corrected MLE)	0.69
nu hat (MLE)	22.33	nu star (bias corrected)	21.8
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (21.80, α)	12.19	Adjusted Chi Square Value (21.80, β)	11.86
95% Gamma Approximate UCL (use when n>=50)	0.374	95% Gamma Adjusted UCL (use when n<50)	0.384

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.317	SD (KM)	0.556
Variance (KM)	0.309	SE of Mean (KM)	0.1

k hat (KM)	0.326	k star (KM)	0.317
nu hat (KM)	23.45	nu star (KM)	22.83
theta hat (KM)	0.973	theta star (KM)	1
80% gamma percentile (KM)	0.492	90% gamma percentile (KM)	0.929
95% gamma percentile (KM)	1.424	99% gamma percentile (KM)	2.705
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (22.83, α)	12.96	Adjusted Chi Square Value (22.83, β)	12.62
95% Gamma Approximate KM-UCL (use when n>=50)	0.558	95% Gamma Adjusted KM-UCL (use when n<50)	0.573
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.984	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.129	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.221	Mean in Log Scale	-3.762
SD in Original Scale	0.596	SD in Log Scale	2.229
95% t UCL (assumes normality of ROS data)	0.389	95% Percentile Bootstrap UCL	0.393
95% BCA Bootstrap UCL	0.468	95% Bootstrap t UCL	0.67
95% H-UCL (Log ROS)	1.282		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.628	KM Geo Mean	0.196
KM SD (logged)	0.734	95% Critical H Value (KM-Log)	2.107
KM Standard Error of Mean (logged)	0.132	95% H-UCL (KM -Log)	0.334
KM SD (logged)	0.734	95% Critical H Value (KM-Log)	2.107
KM Standard Error of Mean (logged)	0.132		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.261	Mean in Log Scale	-2.157
SD in Original Scale	0.581	SD in Log Scale	0.981
95% t UCL (Assumes normality)	0.425	95% H-Stat UCL	0.277
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Approximate Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.486		
When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test			
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL			

Amino-4,6-dinitrotoluene[2-]

General Statistics			
Total Number of Observations	36	Number of Distinct Observations	13
		Number of Missing Observations	15
Number of Detects	7	Number of Non-Detects	29
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.277	Minimum Non-Detect	0.144
Maximum Detect	1.49	Maximum Non-Detect	0.152
Variance Detects	0.276	Percent Non-Detects	80.56%
Mean Detects	0.72	SD Detects	0.525
Median Detects	0.468	CV Detects	0.73
Skewness Detects	0.889	Kurtosis Detects	-1.265
Mean of Logged Detects	-0.553	SD of Logged Detects	0.716
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.801	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.256	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Approximate Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	0.256	KM Standard Error of Mean	0.0563
KM SD	0.313	95% KM (BCA) UCL	0.344
95% KM (t) UCL	0.351	95% KM (Percentile Bootstrap) UCL	0.354
95% KM (z) UCL	0.349	95% KM Bootstrap t UCL	0.423
90% KM Chebyshev UCL	0.425	95% KM Chebyshev UCL	0.502
97.5% KM Chebyshev UCL	0.608	99% KM Chebyshev UCL	0.816
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.552	Anderson-Darling GOF Test	

5% A-D Critical Value	0.714	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.225	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.315	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	2.379	k star (bias corrected MLE)	1.455
Theta hat (MLE)	0.303	Theta star (bias corrected MLE)	0.495
nu hat (MLE)	33.31	nu star (bias corrected)	20.37
Mean (detects)	0.72		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	0.148
Maximum	1.49	Median	0.01
SD	0.358	CV	2.421
k hat (MLE)	0.352	k star (bias corrected MLE)	0.341
Theta hat (MLE)	0.42	Theta star (bias corrected MLE)	0.434
nu hat (MLE)	25.36	nu star (bias corrected)	24.58
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (24.58, α)	14.29	Adjusted Chi Square Value (24.58, β)	13.94
95% Gamma Approximate UCL (use when n>=50)	0.255	95% Gamma Adjusted UCL (use when n<50)	0.261
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.256	SD (KM)	0.313
Variance (KM)	0.0979	SE of Mean (KM)	0.0563
k hat (KM)	0.669	k star (KM)	0.632
nu hat (KM)	48.18	nu star (KM)	45.5
theta hat (KM)	0.382	theta star (KM)	0.405
80% gamma percentile (KM)	0.422	90% gamma percentile (KM)	0.658
95% gamma percentile (KM)	0.904	99% gamma percentile (KM)	1.496
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (45.50, α)	31.03	Adjusted Chi Square Value (45.50, β)	30.48
95% Gamma Approximate KM-UCL (use when n>=50)	0.375	95% Gamma Adjusted KM-UCL (use when n<50)	0.382
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.206	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.172	Mean in Log Scale	-3.139
SD in Original Scale	0.351	SD in Log Scale	1.687
95% t UCL (assumes normality of ROS data)	0.271	95% Percentile Bootstrap UCL	0.273
95% BCA Bootstrap UCL	0.307	95% Bootstrap t UCL	0.393
95% H-UCL (Log ROS)	0.456		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.669	KM Geo Mean	0.188
KM SD (logged)	0.621	95% Critical H Value (KM-Log)	2.006
KM Standard Error of Mean (logged)	0.112	95% H-UCL (KM -Log)	0.282
KM SD (logged)	0.621	95% Critical H Value (KM-Log)	2.006
KM Standard Error of Mean (logged)	0.112		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.2	Mean in Log Scale	-2.198
SD in Original Scale	0.338	SD in Log Scale	0.872
95% t UCL (Assumes normality)	0.295	95% H-Stat UCL	0.226
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Approximate Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.351		

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Anthracene

General Statistics

Total Number of Observations	27	Number of Distinct Observations	22
		Number of Missing Observations	12
Number of Detects	2	Number of Non-Detects	25
Number of Distinct Detects	2	Number of Distinct Non-Detects	20
Minimum Detect	0.0142	Minimum Non-Detect	0.01
Maximum Detect	0.509	Maximum Non-Detect	0.0505
Variance Detects	0.122	Percent Non-Detects	92.59%
Mean Detects	0.262	SD Detects	0.35
Median Detects	0.262	CV Detects	1.337
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-2.465	SD of Logged Detects	2.531

Antimony

General Statistics

Total Number of Observations	27	Number of Distinct Observations	22
		Number of Missing Observations	12
Number of Detects	6	Number of Non-Detects	21
Number of Distinct Detects	6	Number of Distinct Non-Detects	16
Minimum Detect	0.418	Minimum Non-Detect	0.302
Maximum Detect	1.22	Maximum Non-Detect	0.392
Variance Detects	0.0786	Percent Non-Detects	77.78%
Mean Detects	0.749	SD Detects	0.28
Median Detects	0.709	CV Detects	0.374
Skewness Detects	0.852	Kurtosis Detects	0.868
Mean of Logged Detects	-0.346	SD of Logged Detects	0.371

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.961	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.163	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.401	KM Standard Error of Mean	0.0467
KM SD	0.222	95% KM (BCA) UCL	0.498
95% KM (t) UCL	0.481	95% KM (Percentile Bootstrap) UCL	0.486
95% KM (z) UCL	0.478	95% KM Bootstrap t UCL	0.474
90% KM Chebyshev UCL	0.542	95% KM Chebyshev UCL	0.605
97.5% KM Chebyshev UCL	0.693	99% KM Chebyshev UCL	0.866

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.151	Anderson-Darling GOF Test	
5% A-D Critical Value	0.698	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.121	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.333	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	8.907	k star (bias corrected MLE)	4.565
Theta hat (MLE)	0.0841	Theta star (bias corrected MLE)	0.164
nu hat (MLE)	106.9	nu star (bias corrected)	54.78
Mean (detects)	0.749		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.174
Maximum	1.22	Median	0.01
SD	0.336	CV	1.931
k hat (MLE)	0.352	k star (bias corrected MLE)	0.337
Theta hat (MLE)	0.496	Theta star (bias corrected MLE)	0.517
nu hat (MLE)	18.98	nu star (bias corrected)	18.21
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (18.21, α)	9.54	Adjusted Chi Square Value (18.21, β)	9.139

95% Gamma Approximate UCL (use when n>=50)	0.333	95% Gamma Adjusted UCL (use when n<50)	0.347
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.401	SD (KM)	0.222
Variance (KM)	0.0491	SE of Mean (KM)	0.0467
k hat (KM)	3.279	k star (KM)	2.939
nu hat (KM)	177	nu star (KM)	158.7
theta hat (KM)	0.122	theta star (KM)	0.137
80% gamma percentile (KM)	0.574	90% gamma percentile (KM)	0.715
95% gamma percentile (KM)	0.847	99% gamma percentile (KM)	1.134
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (158.70, α)	130.6	Adjusted Chi Square Value (158.70, β)	128.9
95% Gamma Approximate KM-UCL (use when n>=50)	0.488	95% Gamma Adjusted KM-UCL (use when n<50)	0.494
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.999	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.109	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.283	Mean in Log Scale	-1.579
SD in Original Scale	0.284	SD in Log Scale	0.724
95% t UCL (assumes normality of ROS data)	0.376	95% Percentile Bootstrap UCL	0.381
95% BCA Bootstrap UCL	0.397	95% Bootstrap t UCL	0.43
95% H-UCL (Log ROS)	0.366		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.008	KM Geo Mean	0.365
KM SD (logged)	0.388	95% Critical H Value (KM-Log)	1.882
KM Standard Error of Mean (logged)	0.0819	95% H-UCL (KM -Log)	0.454
KM SD (logged)	0.388	95% Critical H Value (KM-Log)	1.882
KM Standard Error of Mean (logged)	0.0819		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.299	Mean in Log Scale	-1.455
SD in Original Scale	0.275	SD in Log Scale	0.627
95% t UCL (Assumes normality)	0.389	95% H-Stat UCL	0.368
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.481		
Barium			
General Statistics			
Total Number of Observations	37	Number of Distinct Observations	37
		Number of Missing Observations	2
Minimum	69.9	Mean	1548
Maximum	12600	Median	618
SD	2541	Std. Error of Mean	417.7
Coefficient of Variation	1.641	Skewness	3.152
Normal GOF Test			
Shapiro Wilk Test Statistic	0.571	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.28	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	2253	95% Adjusted-CLT UCL (Chen-1995)	2466
		95% Modified-t UCL (Johnson-1978)	2289
Gamma GOF Test			
A-D Test Statistic	1.483	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.788	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.155	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.151	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	0.761	k star (bias corrected MLE)	0.718
Theta hat (MLE)	2033	Theta star (bias corrected MLE)	2157
nu hat (MLE)	56.34	nu star (bias corrected)	53.1
MLE Mean (bias corrected)	1548	MLE Sd (bias corrected)	1827
		Approximate Chi Square Value (0.05)	37.36
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	36.79
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	2200	95% Adjusted Gamma UCL (use when n<50)	2235
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.972	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0911	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.144	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	4.247	Mean of logged Data	6.56
Maximum of Logged Data	9.441	SD of logged Data	1.212
Assuming Lognormal Distribution			
95% H-UCL	2509	90% Chebyshev (MVUE) UCL	2461
95% Chebyshev (MVUE) UCL	2930	97.5% Chebyshev (MVUE) UCL	3582
99% Chebyshev (MVUE) UCL	4861		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	2235	95% Jackknife UCL	2253
95% Standard Bootstrap UCL	2240	95% Bootstrap-t UCL	2886
95% Hall's Bootstrap UCL	2549	95% Percentile Bootstrap UCL	2277
95% BCA Bootstrap UCL	2520		
90% Chebyshev(Mean, Sd) UCL	2801	95% Chebyshev(Mean, Sd) UCL	3369
97.5% Chebyshev(Mean, Sd) UCL	4157	99% Chebyshev(Mean, Sd) UCL	5705
Suggested UCL to Use			
95% H-UCL	2509		

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.
Use 95% Chebyshev in lieu of H statistic

Benzoic Acid

General Statistics			
Total Number of Observations	27	Number of Distinct Observations	24
		Number of Missing Observations	12
Number of Detects	2	Number of Non-Detects	25
Number of Distinct Detects	2	Number of Distinct Non-Detects	22
Minimum Detect	0.483	Minimum Non-Detect	0.167
Maximum Detect	0.49	Maximum Non-Detect	5.09
Variance Detects	2.45E-05	Percent Non-Detects	92.59%
Mean Detects	0.487	SD Detects	0.00495
Median Detects	0.487	CV Detects	0.0102
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.721	SD of Logged Detects	0.0102

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Bis(2-ethylhexyl)phthalate

General Statistics			
Total Number of Observations	27	Number of Distinct Observations	21
		Number of Missing Observations	12
Number of Detects	9	Number of Non-Detects	18
Number of Distinct Detects	9	Number of Distinct Non-Detects	12
Minimum Detect	0.0111	Minimum Non-Detect	0.0106
Maximum Detect	56.6	Maximum Non-Detect	0.108
Variance Detects	346.4	Percent Non-Detects	66.67%
Mean Detects	7.073	SD Detects	18.61
Median Detects	0.149	CV Detects	2.631
Skewness Detects	2.975	Kurtosis Detects	8.887
Mean of Logged Detects	-1.274	SD of Logged Detects	2.973
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.441	Shapiro Wilk GOF Test	

5% Shapiro Wilk Critical Value	0.829	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.466	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.274	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	2.368	KM Standard Error of Mean	2.177
KM SD	10.66	95% KM (BCA) UCL	6.61
95% KM (t) UCL	6.081	95% KM (Percentile Bootstrap) UCL	6.516
95% KM (z) UCL	5.949	95% KM Bootstrap t UCL	58.31
90% KM Chebyshev UCL	8.898	95% KM Chebyshev UCL	11.86
97.5% KM Chebyshev UCL	15.96	99% KM Chebyshev UCL	24.03
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.774	Anderson-Darling GOF Test	
5% A-D Critical Value	0.838	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.234	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.307	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.224	k star (bias corrected MLE)	0.223
Theta hat (MLE)	31.61	Theta star (bias corrected MLE)	31.68
nu hat (MLE)	4.028	nu star (bias corrected)	4.019
Mean (detects)	7.073		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	2.364
Maximum	56.6	Median	0.01
SD	10.87	CV	4.596
k hat (MLE)	0.173	k star (bias corrected MLE)	0.178
Theta hat (MLE)	13.68	Theta star (bias corrected MLE)	13.26
nu hat (MLE)	9.331	nu star (bias corrected)	9.628
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (9.63, α)	3.71	Adjusted Chi Square Value (9.63, β)	3.478
95% Gamma Approximate UCL (use when n>=50)	6.135	95% Gamma Adjusted UCL (use when n<50)	6.545
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	2.368	SD (KM)	10.66
Variance (KM)	113.7	SE of Mean (KM)	2.177
k hat (KM)	0.0493	k star (KM)	0.0685
nu hat (KM)	2.663	nu star (KM)	3.7
theta hat (KM)	48.02	theta star (KM)	34.56
80% gamma percentile (KM)	0.807	90% gamma percentile (KM)	5.023
95% gamma percentile (KM)	13.58	99% gamma percentile (KM)	45.06
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (3.70, α)	0.607	Adjusted Chi Square Value (3.70, β)	0.536
95% Gamma Approximate KM-UCL (use when n>=50)	14.44	95% Gamma Adjusted KM-UCL (use when n<50)	16.35
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.916	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.176	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.274	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	2.361	Mean in Log Scale	-4.867
SD in Original Scale	10.87	SD in Log Scale	3.375
95% t UCL (assumes normality of ROS data)	5.928	95% Percentile Bootstrap UCL	6.475
95% BCA Bootstrap UCL	8.73	95% Bootstrap t UCL	59.14
95% H-UCL (Log ROS)	158.6		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-3.295	KM Geo Mean	0.0371
KM SD (logged)	2.189	95% Critical H Value (KM-Log)	4.352
KM Standard Error of Mean (logged)	0.462	95% H-UCL (KM -Log)	2.638
KM SD (logged)	2.189	95% Critical H Value (KM-Log)	4.352
KM Standard Error of Mean (logged)	0.462		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.384	Mean in Log Scale	-2.759
SD in Original Scale	10.86	SD in Log Scale	2.111
95% t UCL (Assumes normality)	5.95	95% H-Stat UCL	3.371

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	16.35

Cadmium

General Statistics

Total Number of Observations	37	Number of Distinct Observations	26
		Number of Missing Observations	2
Number of Detects	10	Number of Non-Detects	27
Number of Distinct Detects	10	Number of Distinct Non-Detects	16
Minimum Detect	0.319	Minimum Non-Detect	0.0916
Maximum Detect	0.562	Maximum Non-Detect	0.119
Variance Detects	0.0082	Percent Non-Detects	72.97%
Mean Detects	0.436	SD Detects	0.0906
Median Detects	0.439	CV Detects	0.208
Skewness Detects	-0.0404	Kurtosis Detects	-1.319
Mean of Logged Detects	-0.849	SD of Logged Detects	0.214

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.914	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.18	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.185	KM Standard Error of Mean	0.0276
KM SD	0.16	95% KM (BCA) UCL	0.236
95% KM (t) UCL	0.231	95% KM (Percentile Bootstrap) UCL	0.232
95% KM (z) UCL	0.23	95% KM Bootstrap t UCL	0.236
90% KM Chebyshev UCL	0.268	95% KM Chebyshev UCL	0.305
97.5% KM Chebyshev UCL	0.357	99% KM Chebyshev UCL	0.46

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.416	Anderson-Darling GOF Test	
5% A-D Critical Value	0.725	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.197	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.266	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	25	k star (bias corrected MLE)	17.57
Theta hat (MLE)	0.0175	Theta star (bias corrected MLE)	0.0248
nu hat (MLE)	500	nu star (bias corrected)	351.4
Mean (detects)	0.436		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0335	Mean	0.224
Maximum	0.562	Median	0.148
SD	0.147	CV	0.654
k hat (MLE)	2.478	k star (bias corrected MLE)	2.295
Theta hat (MLE)	0.0905	Theta star (bias corrected MLE)	0.0977
nu hat (MLE)	183.3	nu star (bias corrected)	169.8
Adjusted Level of Significance (β)	0.0431		

Approximate Chi Square Value (169.81, α)	140.7	Adjusted Chi Square Value (169.81, β)	139.5
95% Gamma Approximate UCL (use when n>=50)	0.271	95% Gamma Adjusted UCL (use when n<50)	0.273
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.185	SD (KM)	0.16
Variance (KM)	0.0254	SE of Mean (KM)	0.0276
k hat (KM)	1.342	k star (KM)	1.251
nu hat (KM)	99.32	nu star (KM)	92.6
theta hat (KM)	0.138	theta star (KM)	0.148
80% gamma percentile (KM)	0.291	90% gamma percentile (KM)	0.403
95% gamma percentile (KM)	0.512	99% gamma percentile (KM)	0.762
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (92.60, α)	71.41	Adjusted Chi Square Value (92.60, β)	70.6
95% Gamma Approximate KM-UCL (use when n>=50)	0.24	95% Gamma Adjusted KM-UCL (use when n<50)	0.242
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.901	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.188	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.267	Mean in Log Scale	-1.399
SD in Original Scale	0.117	SD in Log Scale	0.382
95% t UCL (assumes normality of ROS data)	0.299	95% Percentile Bootstrap UCL	0.299
95% BCA Bootstrap UCL	0.303	95% Bootstrap t UCL	0.307
95% H-UCL (Log ROS)	0.298		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.974	KM Geo Mean	0.139
KM SD (logged)	0.692	95% Critical H Value (KM-Log)	2.072
KM Standard Error of Mean (logged)	0.12	95% H-UCL (KM -Log)	0.224
KM SD (logged)	0.692	95% Critical H Value (KM-Log)	2.072
KM Standard Error of Mean (logged)	0.12		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.156	Mean in Log Scale	-2.393
SD in Original Scale	0.179	SD in Log Scale	0.96
95% t UCL (Assumes normality)	0.205	95% H-Stat UCL	0.211
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.231		

Calcium

General Statistics			
Total Number of Observations	27	Number of Distinct Observations	26
		Number of Missing Observations	12
Minimum	963	Mean	2360
Maximum	16100	Median	1630
SD	2987	Std. Error of Mean	574.9
Coefficient of Variation	1.266	Skewness	4.176
Normal GOF Test			
Shapiro Wilk Test Statistic	0.432	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.407	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.167	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	3341	95% Adjusted-CLT UCL (Chen-1995)	3800
		95% Modified-t UCL (Johnson-1978)	3418
Gamma GOF Test			
A-D Test Statistic	2.992	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.758	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.299	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.171	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.912	k star (bias corrected MLE)	1.724
Theta hat (MLE)	1235	Theta star (bias corrected MLE)	1369
nu hat (MLE)	103.2	nu star (bias corrected)	93.09
MLE Mean (bias corrected)	2360	MLE Sd (bias corrected)	1798
		Approximate Chi Square Value (0.05)	71.84
Adjusted Level of Significance	0.0401	Adjusted Chi Square Value	70.64
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	3059	95% Adjusted Gamma UCL (use when n<50)	3110
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.778	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.216	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.167	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	6.87	Mean of logged Data	7.483
Maximum of Logged Data	9.687	SD of logged Data	0.616
Assuming Lognormal Distribution			
95% H-UCL	2762	90% Chebyshev (MVUE) UCL	2937
95% Chebyshev (MVUE) UCL	3302	97.5% Chebyshev (MVUE) UCL	3808
99% Chebyshev (MVUE) UCL	4803		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	3306	95% Jackknife UCL	3341
95% Standard Bootstrap UCL	3264	95% Bootstrap-t UCL	6916
95% Hall's Bootstrap UCL	8018	95% Percentile Bootstrap UCL	3413
95% BCA Bootstrap UCL	3990		
90% Chebyshev(Mean, Sd) UCL	4085	95% Chebyshev(Mean, Sd) UCL	4866
97.5% Chebyshev(Mean, Sd) UCL	5951	99% Chebyshev(Mean, Sd) UCL	8081
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	4866		
Copper			
General Statistics			
Total Number of Observations	27	Number of Distinct Observations	26
		Number of Missing Observations	12
Number of Detects	25	Number of Non-Detects	2
Number of Distinct Detects	24	Number of Distinct Non-Detects	2
Minimum Detect	5.78	Minimum Non-Detect	0.312
Maximum Detect	113	Maximum Non-Detect	0.356
Variance Detects	467.1	Percent Non-Detects	7.41%
Mean Detects	15.37	SD Detects	21.61
Median Detects	8.67	CV Detects	1.406
Skewness Detects	4.191	Kurtosis Detects	18.94
Mean of Logged Detects	2.39	SD of Logged Detects	0.673
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.431	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.918	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.362	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.173	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	14.26	KM Standard Error of Mean	4.077
KM SD	20.75	95% KM (BCA) UCL	21.85
95% KM (t) UCL	21.21	95% KM (Percentile Bootstrap) UCL	21.62
95% KM (z) UCL	20.96	95% KM Bootstrap t UCL	34.32
90% KM Chebyshev UCL	26.49	95% KM Chebyshev UCL	32.03
97.5% KM Chebyshev UCL	39.72	99% KM Chebyshev UCL	54.82
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	3.185	Anderson-Darling GOF Test	

5% A-D Critical Value	0.76	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.284	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.177	Detected Data Not Gamma Distributed at 5% Significance Level	
Detected Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.605	k star (bias corrected MLE)	1.439
Theta hat (MLE)	9.581	Theta star (bias corrected MLE)	10.69
nu hat (MLE)	80.23	nu star (bias corrected)	71.94
Mean (detects)	15.37		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	14.24
Maximum	113	Median	8.54
SD	21.17	CV	1.487
k hat (MLE)	0.762	k star (bias corrected MLE)	0.702
Theta hat (MLE)	18.69	Theta star (bias corrected MLE)	20.28
nu hat (MLE)	41.14	nu star (bias corrected)	37.9
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (37.90, α)	24.8	Adjusted Chi Square Value (37.90, β)	24.13
95% Gamma Approximate UCL (use when n>=50)	21.75	95% Gamma Adjusted UCL (use when n<50)	22.36
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	14.26	SD (KM)	20.75
Variance (KM)	430.7	SE of Mean (KM)	4.077
k hat (KM)	0.472	k star (KM)	0.444
nu hat (KM)	25.48	nu star (KM)	23.99
theta hat (KM)	30.21	theta star (KM)	32.1
80% gamma percentile (KM)	23.25	90% gamma percentile (KM)	39.5
95% gamma percentile (KM)	57.11	99% gamma percentile (KM)	100.9
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (23.99, α)	13.84	Adjusted Chi Square Value (23.99, β)	13.35
95% Gamma Approximate KM-UCL (use when n>=50)	24.71	95% Gamma Adjusted KM-UCL (use when n<50)	25.63
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.757	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.918	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.219	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.173	Detected Data Not Lognormal at 5% Significance Level	
Detected Data Not Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	14.43	Mean in Log Scale	2.285
SD in Original Scale	21.04	SD in Log Scale	0.748
95% t UCL (assumes normality of ROS data)	21.34	95% Percentile Bootstrap UCL	21.55
95% BCA Bootstrap UCL	26.09	95% Bootstrap t UCL	35.08
95% H-UCL (Log ROS)	17.99		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	2.126	KM Geo Mean	8.385
KM SD (logged)	1.126	95% Critical H Value (KM-Log)	2.69
KM Standard Error of Mean (logged)	0.221	95% H-UCL (KM -Log)	28.65
KM SD (logged)	1.126	95% Critical H Value (KM-Log)	2.69
KM Standard Error of Mean (logged)	0.221		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	14.25	Mean in Log Scale	2.08
SD in Original Scale	21.16	SD in Log Scale	1.29
95% t UCL (Assumes normality)	21.19	95% H-Stat UCL	38.5
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	32.03

HMX

General Statistics

Total Number of Observations	36	Number of Distinct Observations	16
		Number of Missing Observations	16
Number of Detects	14	Number of Non-Detects	22
Number of Distinct Detects	14	Number of Distinct Non-Detects	2
Minimum Detect	0.394	Minimum Non-Detect	0.149
Maximum Detect	160	Maximum Non-Detect	0.15
Variance Detects	1760	Percent Non-Detects	61.11%
Mean Detects	14.74	SD Detects	41.95
Median Detects	2.185	CV Detects	2.846
Skewness Detects	3.697	Kurtosis Detects	13.76
Mean of Logged Detects	1.069	SD of Logged Detects	1.571

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.364	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.874	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.45	Lilliefors GOF Test
5% Lilliefors Critical Value	0.226	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	5.824	KM Standard Error of Mean	4.531
KM SD	26.2	95% KM (BCA) UCL	14.48
95% KM (t) UCL	13.48	95% KM (Percentile Bootstrap) UCL	14.56
95% KM (z) UCL	13.28	95% KM Bootstrap t UCL	75.7
90% KM Chebyshev UCL	19.42	95% KM Chebyshev UCL	25.57
97.5% KM Chebyshev UCL	34.12	99% KM Chebyshev UCL	50.9

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.693	Anderson-Darling GOF Test
5% A-D Critical Value	0.812	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.283	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.245	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.405	k star (bias corrected MLE)	0.366
Theta hat (MLE)	36.4	Theta star (bias corrected MLE)	40.3
nu hat (MLE)	11.34	nu star (bias corrected)	10.24
Mean (detects)	14.74		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	5.74
Maximum	160	Median	0.01
SD	26.59	CV	4.632
k hat (MLE)	0.18	k star (bias corrected MLE)	0.184
Theta hat (MLE)	31.82	Theta star (bias corrected MLE)	31.22
nu hat (MLE)	12.99	nu star (bias corrected)	13.24
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (13.24, α)	6.053	Adjusted Chi Square Value (13.24, β)	5.832
95% Gamma Approximate UCL (use when n>=50)	12.55	95% Gamma Adjusted UCL (use when n<50)	13.03

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	5.824	SD (KM)	26.2
Variance (KM)	686.2	SE of Mean (KM)	4.531
k hat (KM)	0.0494	k star (KM)	0.0638
nu hat (KM)	3.559	nu star (KM)	4.596
theta hat (KM)	117.8	theta star (KM)	91.24

80% gamma percentile (KM)	1.663	90% gamma percentile (KM)	11.62
95% gamma percentile (KM)	33.05	99% gamma percentile (KM)	114.4
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (4.60, α)	0.97	Adjusted Chi Square Value (4.60, β)	0.899
95% Gamma Approximate KM-UCL (use when n>=50)	27.59	95% Gamma Adjusted KM-UCL (use when n<50)	29.78
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.874	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.13	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.226	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	5.77	Mean in Log Scale	-1.937
SD in Original Scale	26.58	SD in Log Scale	2.953
95% t UCL (assumes normality of ROS data)	13.25	95% Percentile Bootstrap UCL	14.5
95% BCA Bootstrap UCL	19.14	95% Bootstrap t UCL	79.61
95% H-UCL (Log ROS)	148.1		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-0.748	KM Geo Mean	0.473
KM SD (logged)	1.73	95% Critical H Value (KM-Log)	3.326
KM Standard Error of Mean (logged)	0.299	95% H-UCL (KM -Log)	5.587
KM SD (logged)	1.73	95% Critical H Value (KM-Log)	3.326
KM Standard Error of Mean (logged)	0.299		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	5.779	Mean in Log Scale	-1.168
SD in Original Scale	26.58	SD in Log Scale	2.048
95% t UCL (Assumes normality)	13.26	95% H-Stat UCL	9.376
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Lognormal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (Chebyshev) UCL	25.57		
Isopropyltoluene[4-]			
General Statistics			
Total Number of Observations	22	Number of Distinct Observations	22
		Number of Missing Observations	20
Number of Detects	2	Number of Non-Detects	20
Number of Distinct Detects	2	Number of Distinct Non-Detects	20
Minimum Detect	4.24E-04	Minimum Non-Detect	3.06E-04
Maximum Detect	0.00105	Maximum Non-Detect	4.07E-04
Variance Detects	1.96E-07	Percent Non-Detects	90.91%
Mean Detects	7.37E-04	SD Detects	4.43E-04
Median Detects	7.37E-04	CV Detects	0.601
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-7.312	SD of Logged Detects	0.641
Warning: Data set has only 2 Detected Values. This is not enough to compute meaningful or reliable statistics and estimates.			
Lead			
General Statistics			
Total Number of Observations	37	Number of Distinct Observations	33
		Number of Missing Observations	2
Minimum	5.19	Mean	18.78
Maximum	228	Median	11
SD	36.89	Std. Error of Mean	6.065
Coefficient of Variation	1.964	Skewness	5.423
Normal GOF Test			
Shapiro Wilk Test Statistic	0.301	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.422	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	29.02	95% Adjusted-CLT UCL (Chen-1995)	34.54
		95% Modified-t UCL (Johnson-1978)	29.92
Gamma GOF Test			
A-D Test Statistic	6.707	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.77	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.389	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.148	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.319	k star (bias corrected MLE)	1.23
Theta hat (MLE)	14.24	Theta star (bias corrected MLE)	15.26
nu hat (MLE)	97.63	nu star (bias corrected)	91.04
MLE Mean (bias corrected)	18.78	MLE Sd (bias corrected)	16.93
		Approximate Chi Square Value (0.05)	70.04
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	69.24
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	24.41	95% Adjusted Gamma UCL (use when n<50)	24.69
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.677	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.308	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.647	Mean of logged Data	2.508
Maximum of Logged Data	5.429	SD of logged Data	0.658
Assuming Lognormal Distribution			
95% H-UCL	19.07	90% Chebyshev (MVUE) UCL	20.44
95% Chebyshev (MVUE) UCL	22.84	97.5% Chebyshev (MVUE) UCL	26.17
99% Chebyshev (MVUE) UCL	32.71		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	28.76	95% Jackknife UCL	29.02
95% Standard Bootstrap UCL	28.85	95% Bootstrap-t UCL	95.13
95% Hall's Bootstrap UCL	67.47	95% Percentile Bootstrap UCL	30.72
95% BCA Bootstrap UCL	37.59		
90% Chebyshev(Mean, Sd) UCL	36.98	95% Chebyshev(Mean, Sd) UCL	45.22
97.5% Chebyshev(Mean, Sd) UCL	56.66	99% Chebyshev(Mean, Sd) UCL	79.13
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	45.22		
Perchlorate			
General Statistics			
Total Number of Observations	27	Number of Distinct Observations	22
		Number of Missing Observations	12
Number of Detects	7	Number of Non-Detects	20
Number of Distinct Detects	7	Number of Distinct Non-Detects	15
Minimum Detect	5.17E-04	Minimum Non-Detect	5.02E-04
Maximum Detect	0.00173	Maximum Non-Detect	6.10E-04
Variance Detects	1.77E-07	Percent Non-Detects	74.07%
Mean Detects	8.11E-04	SD Detects	4.20E-04
Median Detects	6.23E-04	CV Detects	0.519
Skewness Detects	2.277	Kurtosis Detects	5.459
Mean of Logged Detects	-7.201	SD of Logged Detects	0.406
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.689	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.33	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	5.83E-04	KM Standard Error of Mean	4.99E-05
KM SD	2.40E-04	95% KM (BCA) UCL	6.67E-04
95% KM (t) UCL	6.68E-04	95% KM (Percentile Bootstrap) UCL	6.70E-04
95% KM (z) UCL	6.65E-04	95% KM Bootstrap t UCL	8.13E-04
90% KM Chebyshev UCL	7.32E-04	95% KM Chebyshev UCL	8.00E-04
97.5% KM Chebyshev UCL	8.94E-04	99% KM Chebyshev UCL	0.00108
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.803	Anderson-Darling GOF Test	
5% A-D Critical Value	0.71	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.27	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.313	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data follow Appr. Gamma Distribution at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	6.172	k star (bias corrected MLE)	3.622
Theta hat (MLE)	1.31E-04	Theta star (bias corrected MLE)	2.24E-04
nu hat (MLE)	86.41	nu star (bias corrected)	50.71
Mean (detects)	8.11E-04		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	5.17E-04	Mean	0.00762
Maximum	0.01	Median	0.01
SD	0.00411	CV	0.539
k hat (MLE)	1.391	k star (bias corrected MLE)	1.261
Theta hat (MLE)	0.00548	Theta star (bias corrected MLE)	0.00604
nu hat (MLE)	75.09	nu star (bias corrected)	68.08
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (68.08, α)	50.09	Adjusted Chi Square Value (68.08, β)	49.1
95% Gamma Approximate UCL (use when n>=50)	0.0104	95% Gamma Adjusted UCL (use when n<50)	0.0106
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	5.83E-04	SD (KM)	2.40E-04
Variance (KM)	5.75E-08	SE of Mean (KM)	4.99E-05
k hat (KM)	5.909	k star (KM)	5.277
nu hat (KM)	319.1	nu star (KM)	285
theta hat (KM)	9.86E-05	theta star (KM)	1.10E-04
80% gamma percentile (KM)	7.79E-04	90% gamma percentile (KM)	9.22E-04
95% gamma percentile (KM)	0.00105	99% gamma percentile (KM)	0.00133
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (284.98, α)	246.9	Adjusted Chi Square Value (284.98, β)	244.6
95% Gamma Approximate KM-UCL (use when n>=50)	6.73E-04	95% Gamma Adjusted KM-UCL (use when n<50)	6.79E-04
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.806	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.243	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	3.61E-04	Mean in Log Scale	-8.18
SD in Original Scale	3.40E-04	SD in Log Scale	0.651
95% t UCL (assumes normality of ROS data)	4.73E-04	95% Percentile Bootstrap UCL	4.74E-04
95% BCA Bootstrap UCL	5.14E-04	95% Bootstrap t UCL	5.56E-04
95% H-UCL (Log ROS)	4.54E-04		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-7.493	KM Geo Mean	5.57E-04
KM SD (logged)	0.258	95% Critical H Value (KM-Log)	1.794
KM Standard Error of Mean (logged)	0.0537	95% H-UCL (KM -Log)	6.31E-04
KM SD (logged)	0.258	95% Critical H Value (KM-Log)	1.794
KM Standard Error of Mean (logged)	0.0537		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	4.07E-04	Mean in Log Scale	-7.968
SD in Original Scale	3.17E-04	SD in Log Scale	0.505
95% t UCL (Assumes normality)	5.11E-04	95% H-Stat UCL	4.78E-04

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	6.79E-04	95% GROS Adjusted Gamma UCL	0.0106

Warning: Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

RDX

General Statistics

Total Number of Observations	36	Number of Distinct Observations	17
		Number of Missing Observations	15
Number of Detects	15	Number of Non-Detects	21
Number of Distinct Detects	15	Number of Distinct Non-Detects	2
Minimum Detect	0.156	Minimum Non-Detect	0.149
Maximum Detect	72.4	Maximum Non-Detect	0.15
Variance Detects	377.3	Percent Non-Detects	58.33%
Mean Detects	18.18	SD Detects	19.42
Median Detects	14.7	CV Detects	1.068
Skewness Detects	1.682	Kurtosis Detects	3.38
Mean of Logged Detects	2.101	SD of Logged Detects	1.671

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.831	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.881	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.182	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.22	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	7.662	KM Standard Error of Mean	2.592
KM SD	15.02	95% KM (BCA) UCL	12.26
95% KM (t) UCL	12.04	95% KM (Percentile Bootstrap) UCL	11.82
95% KM (z) UCL	11.93	95% KM Bootstrap t UCL	14.68
90% KM Chebyshev UCL	15.44	95% KM Chebyshev UCL	18.96
97.5% KM Chebyshev UCL	23.85	99% KM Chebyshev UCL	33.45

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.166	Anderson-Darling GOF Test	
5% A-D Critical Value	0.775	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.119	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.23	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.749	k star (bias corrected MLE)	0.644
Theta hat (MLE)	24.27	Theta star (bias corrected MLE)	28.24
nu hat (MLE)	22.47	nu star (bias corrected)	19.31
Mean (detects)	18.18		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	7.581
Maximum	72.4	Median	0.01
SD	15.28	CV	2.015
k hat (MLE)	0.193	k star (bias corrected MLE)	0.195
Theta hat (MLE)	39.3	Theta star (bias corrected MLE)	38.81
nu hat (MLE)	13.89	nu star (bias corrected)	14.06
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (14.06, α)	6.616	Adjusted Chi Square Value (14.06, β)	6.384

95% Gamma Approximate UCL (use when n>=50)	16.12	95% Gamma Adjusted UCL (use when n<50)	16.7
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	7.662	SD (KM)	15.02
Variance (KM)	225.7	SE of Mean (KM)	2.592
k hat (KM)	0.26	k star (KM)	0.257
nu hat (KM)	18.72	nu star (KM)	18.5
theta hat (KM)	29.46	theta star (KM)	29.82
80% gamma percentile (KM)	11.23	90% gamma percentile (KM)	22.95
95% gamma percentile (KM)	36.79	99% gamma percentile (KM)	73.47
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (18.50, α)	9.751	Adjusted Chi Square Value (18.50, β)	9.462
95% Gamma Approximate KM-UCL (use when n>=50)	14.53	95% Gamma Adjusted KM-UCL (use when n<50)	14.98
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.881	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.171	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.22	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	7.695	Mean in Log Scale	-0.548
SD in Original Scale	15.22	SD in Log Scale	2.78
95% t UCL (assumes normality of ROS data)	11.98	95% Percentile Bootstrap UCL	12.08
95% BCA Bootstrap UCL	13.29	95% Bootstrap t UCL	14.97
95% H-UCL (Log ROS)	275		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-0.235	KM Geo Mean	0.79
KM SD (logged)	2.232	95% Critical H Value (KM-Log)	4.058
KM Standard Error of Mean (logged)	0.385	95% H-UCL (KM -Log)	44.17
KM SD (logged)	2.232	95% Critical H Value (KM-Log)	4.058
KM Standard Error of Mean (logged)	0.385		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	7.619	Mean in Log Scale	-0.636
SD in Original Scale	15.26	SD in Log Scale	2.573
95% t UCL (Assumes normality)	11.92	95% H-Stat UCL	106.1
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Approximate Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	12.04		
When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test			
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL			
CLF - Use the 95% Gamma Adjusted KM-UCL (use when n<50)	*14.98*	*less than max, gamma UCL next higher than Suggesed Approx Normal*	
Selenium			
General Statistics			
Total Number of Observations	37	Number of Distinct Observations	33
		Number of Missing Observations	2
Number of Detects	13	Number of Non-Detects	24
Number of Distinct Detects	13	Number of Distinct Non-Detects	20
Minimum Detect	0.958	Minimum Non-Detect	0.318
Maximum Detect	3.05	Maximum Non-Detect	0.59
Variance Detects	0.31	Percent Non-Detects	64.86%
Mean Detects	1.601	SD Detects	0.556
Median Detects	1.61	CV Detects	0.348
Skewness Detects	1.437	Kurtosis Detects	3.008
Mean of Logged Detects	0.421	SD of Logged Detects	0.319
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.878	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.866	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.143	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.234	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.769	KM Standard Error of Mean	0.118
KM SD	0.689	95% KM (BCA) UCL	0.98
95% KM (t) UCL	0.968	95% KM (Percentile Bootstrap) UCL	0.969
95% KM (z) UCL	0.963	95% KM Bootstrap t UCL	0.992
90% KM Chebyshev UCL	1.123	95% KM Chebyshev UCL	1.283
97.5% KM Chebyshev UCL	1.505	99% KM Chebyshev UCL	1.942

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.313	Anderson-Darling GOF Test	
5% A-D Critical Value	0.734	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.137	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.237	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	10.33	k star (bias corrected MLE)	7.995
Theta hat (MLE)	0.155	Theta star (bias corrected MLE)	0.2
nu hat (MLE)	268.5	nu star (bias corrected)	207.9
Mean (detects)	1.601		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.654
Maximum	3.05	Median	0.117
SD	0.781	CV	1.195
k hat (MLE)	0.637	k star (bias corrected MLE)	0.604
Theta hat (MLE)	1.026	Theta star (bias corrected MLE)	1.083
nu hat (MLE)	47.15	nu star (bias corrected)	44.66
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (44.66, α)	30.33	Adjusted Chi Square Value (44.66, β)	29.82
95% Gamma Approximate UCL (use when n>=50)	0.962	95% Gamma Adjusted UCL (use when n<50)	0.979

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.769	SD (KM)	0.689
Variance (KM)	0.475	SE of Mean (KM)	0.118
k hat (KM)	1.243	k star (KM)	1.16
nu hat (KM)	91.98	nu star (KM)	85.86
theta hat (KM)	0.618	theta star (KM)	0.662
80% gamma percentile (KM)	1.221	90% gamma percentile (KM)	1.706
95% gamma percentile (KM)	2.186	99% gamma percentile (KM)	3.288

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (85.86, α)	65.5	Adjusted Chi Square Value (85.86, β)	64.73
95% Gamma Approximate KM-UCL (use when n>=50)	1.008	95% Gamma Adjusted KM-UCL (use when n<50)	1.02

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.956	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.866	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.133	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.234	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.925	Mean in Log Scale	-0.233
SD in Original Scale	0.6	SD in Log Scale	0.531
95% t UCL (assumes normality of ROS data)	1.092	95% Percentile Bootstrap UCL	1.098
95% BCA Bootstrap UCL	1.124	95% Bootstrap t UCL	1.137
95% H-UCL (Log ROS)	1.083		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.595	KM Geo Mean	0.551
KM SD (logged)	0.77	95% Critical H Value (KM-Log)	2.146
KM Standard Error of Mean (logged)	0.132	95% H-UCL (KM -Log)	0.977
KM SD (logged)	0.77	95% Critical H Value (KM-Log)	2.146
KM Standard Error of Mean (logged)	0.132		

DL/2 Statistics

DL/2 Normal	DL/2 Log-Transformed

Mean in Original Scale	0.697	Mean in Log Scale	-0.892
SD in Original Scale	0.748	SD in Log Scale	1.015
95% t UCL (Assumes normality)	0.904	95% H-Stat UCL	1.031

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.968		

Silver

General Statistics

Total Number of Observations	37	Number of Distinct Observations	36
		Number of Missing Observations	2
Number of Detects	33	Number of Non-Detects	4
Number of Distinct Detects	33	Number of Distinct Non-Detects	3
Minimum Detect	0.157	Minimum Non-Detect	0.102
Maximum Detect	7.95	Maximum Non-Detect	0.112
Variance Detects	3.135	Percent Non-Detects	10.81%
Mean Detects	1.325	SD Detects	1.771
Median Detects	0.574	CV Detects	1.336
Skewness Detects	2.457	Kurtosis Detects	6.071
Mean of Logged Detects	-0.298	SD of Logged Detects	1.025

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.648	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.931	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.274	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.152	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.193	KM Standard Error of Mean	0.282
KM SD	1.69	95% KM (BCA) UCL	1.671
95% KM (t) UCL	1.669	95% KM (Percentile Bootstrap) UCL	1.694
95% KM (z) UCL	1.657	95% KM Bootstrap t UCL	1.959
90% KM Chebyshev UCL	2.039	95% KM Chebyshev UCL	2.423
97.5% KM Chebyshev UCL	2.955	99% KM Chebyshev UCL	4

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.687	Anderson-Darling GOF Test	
5% A-D Critical Value	0.776	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.199	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.158	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.997	k star (bias corrected MLE)	0.926
Theta hat (MLE)	1.329	Theta star (bias corrected MLE)	1.431
nu hat (MLE)	65.78	nu star (bias corrected)	61.13
Mean (detects)	1.325		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.183
Maximum	7.95	Median	0.537
SD	1.72	CV	1.454
k hat (MLE)	0.655	k star (bias corrected MLE)	0.62
Theta hat (MLE)	1.806	Theta star (bias corrected MLE)	1.908
nu hat (MLE)	48.46	nu star (bias corrected)	45.87
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (45.87, α)	31.33	Adjusted Chi Square Value (45.87, β)	30.81
95% Gamma Approximate UCL (use when n>=50)	1.732	95% Gamma Adjusted UCL (use when n<50)	1.761

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.193	SD (KM)	1.69
Variance (KM)	2.856	SE of Mean (KM)	0.282
k hat (KM)	0.498	k star (KM)	0.476

nu hat (KM)	36.87	nu star (KM)	35.22
theta hat (KM)	2.394	theta star (KM)	2.507
80% gamma percentile (KM)	1.954	90% gamma percentile (KM)	3.26
95% gamma percentile (KM)	4.663	99% gamma percentile (KM)	8.131
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (35.22, α)	22.64	Adjusted Chi Square Value (35.22, β)	22.2
95% Gamma Approximate KM-UCL (use when n>=50)	1.856	95% Gamma Adjusted KM-UCL (use when n<50)	1.892
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.939	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.931	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.139	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.152	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	1.19	Mean in Log Scale	-0.55
SD in Original Scale	1.715	SD in Log Scale	1.214
95% t UCL (assumes normality of ROS data)	1.666	95% Percentile Bootstrap UCL	1.667
95% BCA Bootstrap UCL	1.775	95% Bootstrap t UCL	1.928
95% H-UCL (Log ROS)	2.061		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-0.512	KM Geo Mean	0.599
KM SD (logged)	1.135	95% Critical H Value (KM-Log)	2.548
KM Standard Error of Mean (logged)	0.19	95% H-UCL (KM -Log)	1.848
KM SD (logged)	1.135	95% Critical H Value (KM-Log)	2.548
KM Standard Error of Mean (logged)	0.19		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.188	Mean in Log Scale	-0.584
SD in Original Scale	1.717	SD in Log Scale	1.276
95% t UCL (Assumes normality)	1.664	95% H-Stat UCL	2.246
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Lognormal Distributed at 5% Significance Level			
Suggested UCL to Use			
KM H-UCL	1.848		

TATB

General Statistics			
Total Number of Observations	35	Number of Distinct Observations	25
		Number of Missing Observations	16
Number of Detects	19	Number of Non-Detects	16
Number of Distinct Detects	19	Number of Distinct Non-Detects	6
Minimum Detect	0.365	Minimum Non-Detect	0.293
Maximum Detect	43.2	Maximum Non-Detect	0.3
Variance Detects	168	Percent Non-Detects	45.71%
Mean Detects	9.597	SD Detects	12.96
Median Detects	3.76	CV Detects	1.351
Skewness Detects	1.599	Kurtosis Detects	1.536
Mean of Logged Detects	1.274	SD of Logged Detects	1.543
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.733	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.294	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	5.344	KM Standard Error of Mean	1.804
KM SD	10.39	95% KM (BCA) UCL	8.267
95% KM (t) UCL	8.393	95% KM (Percentile Bootstrap) UCL	8.445
95% KM (z) UCL	8.31	95% KM Bootstrap t UCL	9.577
90% KM Chebyshev UCL	10.75	95% KM Chebyshev UCL	13.21
97.5% KM Chebyshev UCL	16.61	99% KM Chebyshev UCL	23.29
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.65	Anderson-Darling GOF Test	
5% A-D Critical Value	0.791	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.164	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.208	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.622	k star (bias corrected MLE)	0.559
Theta hat (MLE)	15.42	Theta star (bias corrected MLE)	17.16
nu hat (MLE)	23.65	nu star (bias corrected)	21.25
Mean (detects)	9.597		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	5.214
Maximum	43.2	Median	0.437
SD	10.6	CV	2.033
k hat (MLE)	0.234	k star (bias corrected MLE)	0.233
Theta hat (MLE)	22.27	Theta star (bias corrected MLE)	22.36
nu hat (MLE)	16.39	nu star (bias corrected)	16.32
Adjusted Level of Significance (β)	0.0425		
Approximate Chi Square Value (16.32, α)	8.189	Adjusted Chi Square Value (16.32, β)	7.916
95% Gamma Approximate UCL (use when n>=50)	10.39	95% Gamma Adjusted UCL (use when n<50)	10.75
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	5.344	SD (KM)	10.39
Variance (KM)	107.9	SE of Mean (KM)	1.804
k hat (KM)	0.265	k star (KM)	0.261
nu hat (KM)	18.53	nu star (KM)	18.27
theta hat (KM)	20.19	theta star (KM)	20.47
80% gamma percentile (KM)	7.876	90% gamma percentile (KM)	15.99
95% gamma percentile (KM)	25.53	99% gamma percentile (KM)	50.79
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (18.27, α)	9.59	Adjusted Chi Square Value (18.27, β)	9.291
95% Gamma Approximate KM-UCL (use when n>=50)	10.18	95% Gamma Adjusted KM-UCL (use when n<50)	10.51
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.143	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	5.251	Mean in Log Scale	-0.578
SD in Original Scale	10.58	SD in Log Scale	2.428
95% t UCL (assumes normality of ROS data)	8.276	95% Percentile Bootstrap UCL	8.192
95% BCA Bootstrap UCL	9.201	95% Bootstrap t UCL	9.717
95% H-UCL (Log ROS)	71.7		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	0.13	KM Geo Mean	1.139
KM SD (logged)	1.666	95% Critical H Value (KM-Log)	3.377
KM Standard Error of Mean (logged)	0.289	95% H-UCL (KM -Log)	11.99
KM SD (logged)	1.666	95% Critical H Value (KM-Log)	3.377
KM Standard Error of Mean (logged)	0.289		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	5.278	Mean in Log Scale	-0.179
SD in Original Scale	10.57	SD in Log Scale	1.959
95% t UCL (Assumes normality)	8.299	95% H-Stat UCL	20.62
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	10.51		
Total Petroleum Hydrocarbons Diesel Range Organics			
General Statistics			
Total Number of Observations	13	Number of Distinct Observations	13
		Number of Missing Observations	26

Minimum	3.54	Mean	15.32
Maximum	79.1	Median	9.43
SD	19.95	Std. Error of Mean	5.534
Coefficient of Variation	1.302	Skewness	3.136
Normal GOF Test			
Shapiro Wilk Test Statistic	0.565	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.866	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.333	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.234	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	25.19	95% Adjusted-CLT UCL (Chen-1995)	29.57
		95% Modified-t UCL (Johnson-1978)	25.99
Gamma GOF Test			
A-D Test Statistic	0.771	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.753	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.213	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.242	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data follow Appr. Gamma Distribution at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.33	k star (bias corrected MLE)	1.074
Theta hat (MLE)	11.52	Theta star (bias corrected MLE)	14.26
nu hat (MLE)	34.58	nu star (bias corrected)	27.93
MLE Mean (bias corrected)	15.32	MLE Sd (bias corrected)	14.78
		Approximate Chi Square Value (0.05)	16.87
Adjusted Level of Significance	0.0301	Adjusted Chi Square Value	15.66
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	25.36	95% Adjusted Gamma UCL (use when n<50)	27.33
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.921	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.866	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.141	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.234	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.264	Mean of logged Data	2.309
Maximum of Logged Data	4.371	SD of logged Data	0.859
Assuming Lognormal Distribution			
95% H-UCL	27.78	90% Chebyshev (MVUE) UCL	24.68
95% Chebyshev (MVUE) UCL	29.51	97.5% Chebyshev (MVUE) UCL	36.21
99% Chebyshev (MVUE) UCL	49.37		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	24.43	95% Jackknife UCL	25.19
95% Standard Bootstrap UCL	24.01	95% Bootstrap-t UCL	45
95% Hall's Bootstrap UCL	61.89	95% Percentile Bootstrap UCL	25.33
95% BCA Bootstrap UCL	31.38		
90% Chebyshev(Mean, Sd) UCL	31.92	95% Chebyshev(Mean, Sd) UCL	39.44
97.5% Chebyshev(Mean, Sd) UCL	49.88	99% Chebyshev(Mean, Sd) UCL	70.38
Suggested UCL to Use			
95% Adjusted Gamma UCL	27.33		
When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test			
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL			
Trinitrobenzene[1,3,5-]			
General Statistics			
Total Number of Observations	36	Number of Distinct Observations	10
		Number of Missing Observations	15
Number of Detects	2	Number of Non-Detects	34
Number of Distinct Detects	2	Number of Distinct Non-Detects	8
Minimum Detect	0.397	Minimum Non-Detect	0.144
Maximum Detect	0.46	Maximum Non-Detect	0.152
Variance Detects	0.00198	Percent Non-Detects	94.44%
Mean Detects	0.429	SD Detects	0.0445
Median Detects	0.429	CV Detects	0.104

Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.85	SD of Logged Detects	0.104

Warning: Data set has only 2 Detected Values.

Trinitrotoluene[2,4,6-]

General Statistics

Total Number of Observations	36	Number of Distinct Observations	13
		Number of Missing Observations	15
Number of Detects	6	Number of Non-Detects	30
Number of Distinct Detects	6	Number of Distinct Non-Detects	7
Minimum Detect	0.242	Minimum Non-Detect	0.144
Maximum Detect	12.7	Maximum Non-Detect	0.152
Variance Detects	22.45	Percent Non-Detects	83.33%
Mean Detects	3.167	SD Detects	4.738
Median Detects	1.479	CV Detects	1.496
Skewness Detects	2.296	Kurtosis Detects	5.407
Mean of Logged Detects	0.387	SD of Logged Detects	1.335

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.654	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.399	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.648	KM Standard Error of Mean	0.382
KM SD	2.095	95% KM (BCA) UCL	1.376
95% KM (t) UCL	1.294	95% KM (Percentile Bootstrap) UCL	1.322
95% KM (z) UCL	1.277	95% KM Bootstrap t UCL	2.866
90% KM Chebyshev UCL	1.795	95% KM Chebyshev UCL	2.315
97.5% KM Chebyshev UCL	3.036	99% KM Chebyshev UCL	4.453

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.427	Anderson-Darling GOF Test	
5% A-D Critical Value	0.72	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.274	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.343	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.778	k star (bias corrected MLE)	0.5
Theta hat (MLE)	4.072	Theta star (bias corrected MLE)	6.334
nu hat (MLE)	9.333	nu star (bias corrected)	6
Mean (detects)	3.167		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.536
Maximum	12.7	Median	0.01
SD	2.152	CV	4.013
k hat (MLE)	0.229	k star (bias corrected MLE)	0.228
Theta hat (MLE)	2.344	Theta star (bias corrected MLE)	2.35
nu hat (MLE)	16.47	nu star (bias corrected)	16.43
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (16.43, α)	8.266	Adjusted Chi Square Value (16.43, β)	8.003
95% Gamma Approximate UCL (use when n>=50)	1.066	95% Gamma Adjusted UCL (use when n<50)	1.101

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.648	SD (KM)	2.095
Variance (KM)	4.387	SE of Mean (KM)	0.382
k hat (KM)	0.0957	k star (KM)	0.106
nu hat (KM)	6.888	nu star (KM)	7.647
theta hat (KM)	6.772	theta star (KM)	6.1
80% gamma percentile (KM)	0.489	90% gamma percentile (KM)	1.765
95% gamma percentile (KM)	3.745	99% gamma percentile (KM)	9.983

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.65, α)	2.533	Adjusted Chi Square Value (7.65, β)	2.401

95% Gamma Approximate KM-UCL (use when n>=50)	1.956	95% Gamma Adjusted KM-UCL (use when n<50)	2.064
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.973	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.193	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.539	Mean in Log Scale	-5.09
SD in Original Scale	2.151	SD in Log Scale	3.328
95% t UCL (assumes normality of ROS data)	1.145	95% Percentile Bootstrap UCL	1.222
95% BCA Bootstrap UCL	1.684	95% Bootstrap t UCL	3.354
95% H-UCL (Log ROS)	39.59		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.55	KM Geo Mean	0.212
KM SD (logged)	0.999	95% Critical H Value (KM-Log)	2.382
KM Standard Error of Mean (logged)	0.182	95% H-UCL (KM -Log)	0.522
KM SD (logged)	0.999	95% Critical H Value (KM-Log)	2.382
KM Standard Error of Mean (logged)	0.182		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.59	Mean in Log Scale	-2.099
SD in Original Scale	2.139	SD in Log Scale	1.235
95% t UCL (Assumes normality)	1.192	95% H-Stat UCL	0.458
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	2.064		
Zinc			
General Statistics			
Total Number of Observations	27	Number of Distinct Observations	27
		Number of Missing Observations	12
Minimum	26.4	Mean	50.72
Maximum	115	Median	45.5
SD	21.58	Std. Error of Mean	4.154
Coefficient of Variation	0.426	Skewness	1.418
Normal GOF Test			
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.168	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.167	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	57.8	95% Adjusted-CLT UCL (Chen-1995)	58.76
		95% Modified-t UCL (Johnson-1978)	57.99
Gamma GOF Test			
A-D Test Statistic	0.594	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.746	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.157	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.168	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	6.838	k star (bias corrected MLE)	6.103
Theta hat (MLE)	7.417	Theta star (bias corrected MLE)	8.31
nu hat (MLE)	369.3	nu star (bias corrected)	329.6
MLE Mean (bias corrected)	50.72	MLE Sd (bias corrected)	20.53
		Approximate Chi Square Value (0.05)	288.5
Adjusted Level of Significance	0.0401	Adjusted Chi Square Value	286.1
Assuming Gamma Distribution			

95% Approximate Gamma UCL (use when n>=50)	57.94	95% Adjusted Gamma UCL (use when n<50)	58.43

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.95	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.141	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.167	Data appear Lognormal at 5% Significance Level	

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.273	Mean of logged Data	3.851
Maximum of Logged Data	4.745	SD of logged Data	0.383

Assuming Lognormal Distribution

95% H-UCL	58.33	90% Chebyshev (MVUE) UCL	61.96
95% Chebyshev (MVUE) UCL	67.16	97.5% Chebyshev (MVUE) UCL	74.36
99% Chebyshev (MVUE) UCL	88.52		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	57.55	95% Jackknife UCL	57.8
95% Standard Bootstrap UCL	57.39	95% Bootstrap-t UCL	59.65
95% Hall's Bootstrap UCL	60.48	95% Percentile Bootstrap UCL	57.88
95% BCA Bootstrap UCL	59.05		
90% Chebyshev(Mean, Sd) UCL	63.18	95% Chebyshev(Mean, Sd) UCL	68.83
97.5% Chebyshev(Mean, Sd) UCL	76.66	99% Chebyshev(Mean, Sd) UCL	92.05

Suggested UCL to Use

95% Adjusted Gamma UCL	58.43

UCL Statistics for Uncensored Full Data Sets

User Selected Options

Date/Time of Computation	ProUCL 5.11/17/2021 12:28:04 PM	
From File	WorkSheet.xls	
Full Precision	OFF	
Confidence Coefficient		95%
Number of Bootstrap Operations		2000

NO2

General Statistics

Total Number of Observations	11	Number of Distinct Observations	11
		Number of Missing Observations	8
Minimum	0.51	Mean	1.812
Maximum	4.02	Median	1.21
SD	1.318	Std. Error of Mean	0.398
Coefficient of Variation	0.728	Skewness	0.693

Normal GOF Test

Shapiro Wilk Test Statistic	0.839	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.85	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.276	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.251	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	2.532	95% Adjusted-CLT UCL (Chen-1995)	2.554
		95% Modified-t UCL (Johnson-1978)	2.546

Gamma GOF Test

A-D Test Statistic	0.581	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.738	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.208	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.258	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.111	k star (bias corrected MLE)	1.596
Theta hat (MLE)	0.858	Theta star (bias corrected MLE)	1.136
nu hat (MLE)	46.43	nu star (bias corrected)	35.1
MLE Mean (bias corrected)	1.812	MLE Sd (bias corrected)	1.434
		Approximate Chi Square Value (0.05)	22.55
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	20.92

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	2.821	95% Adjusted Gamma UCL (use when n<50)	3.04
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.906	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.191	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-0.673	Mean of logged Data	0.339
Maximum of Logged Data	1.391	SD of logged Data	0.758
Assuming Lognormal Distribution			
95% H-UCL	3.458	90% Chebyshev (MVUE) UCL	3.109
95% Chebyshev (MVUE) UCL	3.695	97.5% Chebyshev (MVUE) UCL	4.51
99% Chebyshev (MVUE) UCL	6.11		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	2.466	95% Jackknife UCL	2.532
95% Standard Bootstrap UCL	2.445	95% Bootstrap-t UCL	2.675
95% Hall's Bootstrap UCL	2.366	95% Percentile Bootstrap UCL	2.455
95% BCA Bootstrap UCL	2.504		
90% Chebyshev(Mean, Sd) UCL	3.004	95% Chebyshev(Mean, Sd) UCL	3.545
97.5% Chebyshev(Mean, Sd) UCL	4.294	99% Chebyshev(Mean, Sd) UCL	5.767
Suggested UCL to Use			
95% Adjusted Gamma UCL	3.04		

Attachment A.2 ProUCL Output for Upper Confidence Limit Calculations for Samples Within the SWMU Boundary

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	**ProUCL 5.12/6/2021 12:46:42 PM**
From File	**Detect above BV for ProUCL vs 3.xls**
Full Precision	**OFF**
Confidence Coefficient	**95%**
Number of Bootstrap Operations	**2000**

Amino-2,6-dinitrotoluene[4-]

General Statistics

Total Number of Observations	26	Number of Distinct Observations	13
		Number of Missing Observations	7
Number of Detects	7	Number of Non-Detects	19
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.21	Minimum Non-Detect	0.144
Maximum Detect	3.24	Maximum Non-Detect	0.152
Variance Detects	1.107	Percent Non-Detects	73.08%
Mean Detects	1.034	SD Detects	1.052
Median Detects	0.621	CV Detects	1.018
Skewness Detects	1.929	Kurtosis Detects	3.936
Mean of Logged Detects	-0.343	SD of Logged Detects	0.92

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.78	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.234	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

KM Mean	0.384	KM Standard Error of Mean	0.136
KM SD	0.641	95% KM (BCA) UCL	0.65
95% KM (t) UCL	0.616	95% KM (Percentile Bootstrap) UCL	0.619
95% KM (z) UCL	0.607	95% KM Bootstrap t UCL	0.931
90% KM Chebyshev UCL	0.791	95% KM Chebyshev UCL	0.976
97.5% KM Chebyshev UCL	1.232	99% KM Chebyshev UCL	1.735

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.277	Anderson-Darling GOF Test	
5% A-D Critical Value	0.722	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.183	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.317	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.472	k star (bias corrected MLE)	0.936
Theta hat (MLE)	0.702	Theta star (bias corrected MLE)	1.104
nu hat (MLE)	20.61	nu star (bias corrected)	13.11
Mean (detects)	1.034		

Gamma ROS Statistics using Imputed Non-Detects

This is especially true when the sample size is small.

Minimum	0.01	Mean	0.286
Maximum	3.24	Median	0.01
SD	0.693	CV	2.426
k hat (MLE)	0.311	k star (bias corrected MLE)	0.301
Theta hat (MLE)	0.919	Theta star (bias corrected MLE)	0.95
nu hat (MLE)	16.17	nu star (bias corrected)	15.64
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (15.64, α)	7.706	Adjusted Chi Square Value (15.64, β)	7.34
95% Gamma Approximate UCL (use when n>=50)	0.58	95% Gamma Adjusted UCL (use when n<50)	0.609

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.384	SD (KM)	0.641
Variance (KM)	0.411	SE of Mean (KM)	0.136
k hat (KM)	0.358	k star (KM)	0.342
nu hat (KM)	18.6	nu star (KM)	17.79
theta hat (KM)	1.072	theta star (KM)	1.121
80% gamma percentile (KM)	0.605	90% gamma percentile (KM)	1.111
95% gamma percentile (KM)	1.681	99% gamma percentile (KM)	3.137

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (17.79, α)	9.237	Adjusted Chi Square Value (17.79, β)	8.831
95% Gamma Approximate KM-UCL (use when n>=50)	0.739	95% Gamma Adjusted KM-UCL (use when n<50)	0.773
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.984	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.129	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.301	Mean in Log Scale	-3.021
SD in Original Scale	0.687	SD in Log Scale	1.981
95% t UCL (assumes normality of ROS data)	0.531	95% Percentile Bootstrap UCL	0.526
95% BCA Bootstrap UCL	0.672	95% Bootstrap t UCL	0.917
95% H-UCL (Log ROS)	1.677		
KM Mean (logged)	-1.509	KM Geo Mean	0.221
KM SD (logged)	0.834	95% Critical H Value (KM-Log)	2.304
KM Standard Error of Mean (logged)	0.177	95% H-UCL (KM -Log)	0.46
KM SD (logged)	0.834	95% Critical H Value (KM-Log)	2.304
KM Standard Error of Mean (logged)	0.177		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.333	Mean in Log Scale	-1.991
SD in Original Scale	0.674	SD in Log Scale	1.115
95% t UCL (Assumes normality)	0.558	95% H-Stat UCL	0.46
Nonparametric Distribution Free UCL Statistics			
Suggested UCL to Use			
95% KM (t) UCL	0.616		

Amino-4,6-dinitrotoluene[2-]

General Statistics			
Total Number of Observations	26	Number of Distinct Observations	13
		Number of Missing Observations	7
Number of Detects	7	Number of Non-Detects	19
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.277	Minimum Non-Detect	0.144
Maximum Detect	1.49	Maximum Non-Detect	0.152
Variance Detects	0.276	Percent Non-Detects	73.08%
Mean Detects	0.72	SD Detects	0.525
Median Detects	0.468	CV Detects	0.73
Skewness Detects	0.889	Kurtosis Detects	-1.265
Mean of Logged Detects	-0.553	SD of Logged Detects	0.716
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.801	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.256	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Approximate Normal at 5% Significance Level			
KM Mean	0.299	KM Standard Error of Mean	0.076
KM SD	0.359	95% KM (BCA) UCL	0.429
95% KM (t) UCL	0.429	95% KM (Percentile Bootstrap) UCL	0.423
95% KM (z) UCL	0.424	95% KM Bootstrap t UCL	0.563
90% KM Chebyshev UCL	0.527	95% KM Chebyshev UCL	0.631
97.5% KM Chebyshev UCL	0.774	99% KM Chebyshev UCL	1.056
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.552	Anderson-Darling GOF Test	
5% A-D Critical Value	0.714	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.225	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.315	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	2.379	k star (bias corrected MLE)	1.455
Theta hat (MLE)	0.303	Theta star (bias corrected MLE)	0.495
nu hat (MLE)	33.31	nu star (bias corrected)	20.37
Mean (detects)	0.72		
Gamma ROS Statistics using Imputed Non-Detects			

This is especially true when the sample size is small.

Minimum	0.01	Mean	0.201
Maximum	1.49	Median	0.01
SD	0.411	CV	2.046
k hat (MLE)	0.352	k star (bias corrected MLE)	0.337
Theta hat (MLE)	0.572	Theta star (bias corrected MLE)	0.597
nu hat (MLE)	18.29	nu star (bias corrected)	17.51
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (17.51, α)	9.039	Adjusted Chi Square Value (17.51, β)	8.638
95% Gamma Approximate UCL (use when n>=50)	0.39	95% Gamma Adjusted UCL (use when n<50)	0.408
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.299	SD (KM)	0.359
Variance (KM)	0.129	SE of Mean (KM)	0.076
k hat (KM)	0.694	k star (KM)	0.639
nu hat (KM)	36.08	nu star (KM)	33.25
theta hat (KM)	0.431	theta star (KM)	0.468
80% gamma percentile (KM)	0.493	90% gamma percentile (KM)	0.767
95% gamma percentile (KM)	1.052	99% gamma percentile (KM)	1.737
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (33.25, α)	21.06	Adjusted Chi Square Value (33.25, β)	20.42
95% Gamma Approximate KM-UCL (use when n>=50)	0.472	95% Gamma Adjusted KM-UCL (use when n<50)	0.487
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.206	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.23	Mean in Log Scale	-2.579
SD in Original Scale	0.399	SD in Log Scale	1.501
95% t UCL (assumes normality of ROS data)	0.364	95% Percentile Bootstrap UCL	0.367
95% BCA Bootstrap UCL	0.391	95% Bootstrap t UCL	0.506
95% H-UCL (Log ROS)	0.615		
KM Mean (logged)	-1.565	KM Geo Mean	0.209
KM SD (logged)	0.704	95% Critical H Value (KM-Log)	2.157
KM Standard Error of Mean (logged)	0.149	95% H-UCL (KM -Log)	0.363
KM SD (logged)	0.704	95% Critical H Value (KM-Log)	2.157
KM Standard Error of Mean (logged)	0.149		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.248	Mean in Log Scale	-2.047
SD in Original Scale	0.389	SD in Log Scale	0.989
95% t UCL (Assumes normality)	0.379	95% H-Stat UCL	0.345
Nonparametric Distribution Free UCL Statistics			
Suggested UCL to Use			
95% KM (t) UCL	0.429		

Anthracene

General Statistics			
Total Number of Observations	17	Number of Distinct Observations	14
		Number of Missing Observations	4
Number of Detects	2	Number of Non-Detects	15
Number of Distinct Detects	2	Number of Distinct Non-Detects	12
Minimum Detect	0.0142	Minimum Non-Detect	0.0101
Maximum Detect	0.509	Maximum Non-Detect	0.0122
Variance Detects	0.122	Percent Non-Detects	88.24%
Mean Detects	0.262	SD Detects	0.35
Median Detects	0.262	CV Detects	1.337
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-2.465	SD of Logged Detects	2.531

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Antimony

General Statistics			
Total Number of Observations	17	Number of Distinct Observations	15
		Number of Missing Observations	4
Number of Detects	5	Number of Non-Detects	12
Number of Distinct Detects	5	Number of Distinct Non-Detects	10
Minimum Detect	0.418	Minimum Non-Detect	0.302

Maximum Detect	1.22	Maximum Non-Detect	0.392
Variance Detects	0.0962	Percent Non-Detects	70.59%
Mean Detects	0.766	SD Detects	0.31
Median Detects	0.752	CV Detects	0.405
Skewness Detects	0.613	Kurtosis Detects	0.00288
Mean of Logged Detects	-0.334	SD of Logged Detects	0.413
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.972	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.153	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
KM Mean	0.438	KM Standard Error of Mean	0.0704
KM SD	0.259	95% KM (BCA) UCL	0.572
95% KM (t) UCL	0.561	95% KM (Percentile Bootstrap) UCL	0.563
95% KM (z) UCL	0.554	95% KM Bootstrap t UCL	0.541
90% KM Chebyshev UCL	0.65	95% KM Chebyshev UCL	0.745
97.5% KM Chebyshev UCL	0.878	99% KM Chebyshev UCL	1.139
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.174	Anderson-Darling GOF Test	
5% A-D Critical Value	0.68	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.162	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.358	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	7.621	k star (bias corrected MLE)	3.182
Theta hat (MLE)	0.101	Theta star (bias corrected MLE)	0.241
nu hat (MLE)	76.21	nu star (bias corrected)	31.82
Mean (detects)	0.766		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	0.232
Maximum	1.22	Median	0.01
SD	0.387	CV	1.668
k hat (MLE)	0.355	k star (bias corrected MLE)	0.332
Theta hat (MLE)	0.654	Theta star (bias corrected MLE)	0.701
nu hat (MLE)	12.07	nu star (bias corrected)	11.28
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (11.28, α)	4.754	Adjusted Chi Square Value (11.28, β)	4.318
95% Gamma Approximate UCL (use when n>=50)	0.551	95% Gamma Adjusted UCL (use when n<50)	0.607
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.438	SD (KM)	0.259
Variance (KM)	0.0673	SE of Mean (KM)	0.0704
k hat (KM)	2.855	k star (KM)	2.391
nu hat (KM)	97.08	nu star (KM)	81.28
theta hat (KM)	0.154	theta star (KM)	0.183
80% gamma percentile (KM)	0.643	90% gamma percentile (KM)	0.818
95% gamma percentile (KM)	0.984	99% gamma percentile (KM)	1.348
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (81.28, α)	61.51	Adjusted Chi Square Value (81.28, β)	59.71
95% Gamma Approximate KM-UCL (use when n>=50)	0.579	95% Gamma Adjusted KM-UCL (use when n<50)	0.597
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.992	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.147	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.33	Mean in Log Scale	-1.462
SD in Original Scale	0.33	SD in Log Scale	0.798
95% t UCL (assumes normality of ROS data)	0.469	95% Percentile Bootstrap UCL	0.476
95% BCA Bootstrap UCL	0.497	95% Bootstrap t UCL	0.534
95% H-UCL (Log ROS)	0.51		
KM Mean (logged)	-0.943	KM Geo Mean	0.389

KM SD (logged)	0.442	95% Critical H Value (KM-Log)	1.979
KM Standard Error of Mean (logged)	0.12	95% H-UCL (KM -Log)	0.534
KM SD (logged)	0.442	95% Critical H Value (KM-Log)	1.979
KM Standard Error of Mean (logged)	0.12		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.348	Mean in Log Scale	-1.337
SD in Original Scale	0.319	SD in Log Scale	0.701
95% t UCL (Assumes normality)	0.483	95% H-Stat UCL	0.499
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.561		
Barium			
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Minimum	69.9	Mean	2627
Maximum	12600	Median	1730
SD	3212	Std. Error of Mean	736.8
Coefficient of Variation	1.222	Skewness	2.187
Normal GOF Test			
Shapiro Wilk Test Statistic	0.703	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.295	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	3905	95% Adjusted-CLT UCL (Chen-1995)	4234
		95% Modified-t UCL (Johnson-1978)	3967
Gamma GOF Test			
A-D Test Statistic	0.479	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.772	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.157	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.205	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.917	k star (bias corrected MLE)	0.807
Theta hat (MLE)	2866	Theta star (bias corrected MLE)	3256
nu hat (MLE)	34.83	nu star (bias corrected)	30.67
MLE Mean (bias corrected)	2627	MLE Sd (bias corrected)	2925
		Approximate Chi Square Value (0.05)	19.02
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	18.22
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	4237	95% Adjusted Gamma UCL (use when n<50)	4423
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.126	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	4.247	Mean of logged Data	7.237
Maximum of Logged Data	9.441	SD of logged Data	1.278
Assuming Lognormal Distribution			
95% H-UCL	7823	90% Chebyshev (MVUE) UCL	5915
95% Chebyshev (MVUE) UCL	7267	97.5% Chebyshev (MVUE) UCL	9143
99% Chebyshev (MVUE) UCL	12828		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	3839	95% Jackknife UCL	3905
95% Standard Bootstrap UCL	3803	95% Bootstrap-t UCL	4747
95% Hall's Bootstrap UCL	4273	95% Percentile Bootstrap UCL	3934
95% BCA Bootstrap UCL	4260		

90% Chebyshev(Mean, Sd) UCL	4838	95% Chebyshev(Mean, Sd) UCL	5839
97.5% Chebyshev(Mean, Sd) UCL	7228	99% Chebyshev(Mean, Sd) UCL	9958
Suggested UCL to Use			
95% Adjusted Gamma UCL	4423		
Bis(2-ethylhexyl)phthalate			
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	16
		Number of Missing Observations	4
Number of Detects	8	Number of Non-Detects	9
Number of Distinct Detects	8	Number of Distinct Non-Detects	8
Minimum Detect	0.0111	Minimum Non-Detect	0.0107
Maximum Detect	56.6	Maximum Non-Detect	0.108
Variance Detects	388	Percent Non-Detects	0.5294
Mean Detects	7.952	SD Detects	19.7
Median Detects	0.625	CV Detects	2.477
Skewness Detects	2.805	Kurtosis Detects	7.9
Mean of Logged Detects	-1.045	SD of Logged Detects	3.092
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.471	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.465	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.283	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	3.749	KM Standard Error of Mean	3.435
KM SD	13.25	95% KM (BCA) UCL	10.27
95% KM (t) UCL	9.745	95% KM (Percentile Bootstrap) UCL	10.26
95% KM (z) UCL	9.398	95% KM Bootstrap t UCL	84.9
90% KM Chebyshev UCL	14.05	95% KM Chebyshev UCL	18.72
97.5% KM Chebyshev UCL	25.2	99% KM Chebyshev UCL	37.92
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.599	Anderson-Darling GOF Test	
5% A-D Critical Value	0.824	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.241	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.321	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.231	k star (bias corrected MLE)	0.228
Theta hat (MLE)	34.46	Theta star (bias corrected MLE)	34.95
nu hat (MLE)	3.692	nu star (bias corrected)	3.641
Mean (detects)	7.952		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	3.747
Maximum	56.6	Median	0.01
SD	13.65	CV	3.644
k hat (MLE)	0.176	k star (bias corrected MLE)	0.185
Theta hat (MLE)	21.23	Theta star (bias corrected MLE)	20.3
nu hat (MLE)	6.001	nu star (bias corrected)	6.275
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (6.28, α)	1.782	Adjusted Chi Square Value (6.28, β)	1.543
95% Gamma Approximate UCL (use when n>=50)	13.2	95% Gamma Adjusted UCL (use when n<50)	15.24
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	3.749	SD (KM)	13.25
Variance (KM)	175.5	SE of Mean (KM)	3.435
k hat (KM)	0.0801	k star (KM)	0.105
nu hat (KM)	2.723	nu star (KM)	3.576
theta hat (KM)	46.81	theta star (KM)	35.64
80% gamma percentile (KM)	2.792	90% gamma percentile (KM)	10.18
95% gamma percentile (KM)	21.68	99% gamma percentile (KM)	58.06
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (3.58, α)	0.562	Adjusted Chi Square Value (3.58, β)	0.455
95% Gamma Approximate KM-UCL (use when n>=50)	23.87	95% Gamma Adjusted KM-UCL (use when n<50)	29.44
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.92	Shapiro Wilk GOF Test	

		Detected Data appear Lognormal at 5%	
5% Shapiro Wilk Critical Value	0.818	Significance Level	
Lilliefors Test Statistic	0.191	Lilliefors GOF Test	
		Detected Data appear Lognormal at 5%	
5% Lilliefors Critical Value	0.283	Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	3.743	Mean in Log Scale	-4.023
SD in Original Scale	13.66	SD in Log Scale	3.691
95% t UCL (assumes normality of ROS data)	9.526	95% Percentile Bootstrap UCL	10.29
95% BCA Bootstrap UCL	14	95% Bootstrap t UCL	93.73
95% H-UCL (Log ROS)	18772		
KM Mean (logged)	-2.833	KM Geo Mean	0.0589
KM SD (logged)	2.608	95% Critical H Value (KM-Log)	5.535
KM Standard Error of Mean (logged)	0.679	95% H-UCL (KM -Log)	65.22
KM SD (logged)	2.608	95% Critical H Value (KM-Log)	5.535
KM Standard Error of Mean (logged)	0.679		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	3.762	Mean in Log Scale	-2.448
SD in Original Scale	13.65	SD in Log Scale	2.583
95% t UCL (Assumes normality)	9.542	95% H-Stat UCL	83.79
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	29.44		
Cadmium			
General Statistics			
Total Number of Observations	21	Number of Distinct Observations	17
Number of Detects	2	Number of Non-Detects	19
Number of Distinct Detects	2	Number of Distinct Non-Detects	15
Minimum Detect	0.425	Minimum Non-Detect	0.0916
Maximum Detect	0.453	Maximum Non-Detect	0.119
Variance Detects	3.92E-04	Percent Non-Detects	90.48%
Mean Detects	0.439	SD Detects	0.0198
Median Detects	0.439	CV Detects	0.0451
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.824	SD of Logged Detects	0.0451
Warning: Data set has only 2 Detected Values.			
This is not enough to compute meaningful or reliable statistics and estimates.			
Calcium			
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	17
		Number of Missing Observations	4
Minimum	963	Mean	2662
Maximum	16100	Median	1520
SD	3751	Std. Error of Mean	909.8
Coefficient of Variation	1.409	Skewness	3.331
Normal GOF Test			
Shapiro Wilk Test Statistic	0.476	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.42	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.207	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	4251	95% Adjusted-CLT UCL (Chen-1995)	4944
		95% Modified-t UCL (Johnson-1978)	4373
Gamma GOF Test			
A-D Test Statistic	2.428	Anderson-Darling Gamma GOF Test	
		Data Not Gamma Distributed at 5%	
5% A-D Critical Value	0.758	Significance Level	
K-S Test Statistic	0.333	Kolmogorov-Smirnov Gamma GOF Test	
		Data Not Gamma Distributed at 5%	
5% K-S Critical Value	0.213	Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.393	k star (bias corrected MLE)	1.187
Theta hat (MLE)	1911	Theta star (bias corrected MLE)	2243
nu hat (MLE)	47.38	nu star (bias corrected)	40.35
MLE Mean (bias corrected)	2662	MLE Sd (bias corrected)	2444

		Approximate Chi Square Value (0.05)	26.8
Adjusted Level of Significance	0.0346	Adjusted Chi Square Value	25.64
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	4009	95% Adjusted Gamma UCL (use when n<50)	4190
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.743	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.247	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.207	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	6.87	Mean of logged Data	7.487
Maximum of Logged Data	9.687	SD of logged Data	0.745
Assuming Lognormal Distribution			
95% H-UCL	3621	90% Chebyshev (MVUE) UCL	3646
95% Chebyshev (MVUE) UCL	4251	97.5% Chebyshev (MVUE) UCL	5091
99% Chebyshev (MVUE) UCL	6741		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	4159	95% Jackknife UCL	4251
95% Standard Bootstrap UCL	4117	95% Bootstrap-t UCL	13252
95% Hall's Bootstrap UCL	11596	95% Percentile Bootstrap UCL	4288
95% BCA Bootstrap UCL	5452		
90% Chebyshev(Mean, Sd) UCL	5392	95% Chebyshev(Mean, Sd) UCL	6628
97.5% Chebyshev(Mean, Sd) UCL	8344	99% Chebyshev(Mean, Sd) UCL	11714
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	6628		
Copper			
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	17
		Number of Missing Observations	4
Number of Detects	16	Number of Non-Detects	1
Number of Distinct Detects	16	Number of Distinct Non-Detects	1
Minimum Detect	6.35	Minimum Non-Detect	0.356
Maximum Detect	113	Maximum Non-Detect	0.356
Variance Detects	707.1	Percent Non-Detects	5.88%
Mean Detects	18.82	SD Detects	26.59
Median Detects	9.025	CV Detects	1.413
Skewness Detects	3.352	Kurtosis Detects	12.02
Mean of Logged Detects	2.509	SD of Logged Detects	0.793
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.502	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.358	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.213	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	17.73	KM Standard Error of Mean	6.351
KM SD	25.35	95% KM (BCA) UCL	30.87
95% KM (t) UCL	28.82	95% KM (Percentile Bootstrap) UCL	29.34
95% KM (z) UCL	28.18	95% KM Bootstrap t UCL	50.06
90% KM Chebyshev UCL	36.78	95% KM Chebyshev UCL	45.41
97.5% KM Chebyshev UCL	57.39	99% KM Chebyshev UCL	80.92
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	2.035	Anderson-Darling GOF Test	
5% A-D Critical Value	0.758	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.336	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.22	Detected Data Not Gamma Distributed at 5% Significance Level	
Detected Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.315	k star (bias corrected MLE)	1.11
Theta hat (MLE)	14.31	Theta star (bias corrected MLE)	16.95
nu hat (MLE)	42.08	nu star (bias corrected)	35.52
Mean (detects)	18.82		
Gamma ROS Statistics using Imputed Non-Detects			

This is especially true when the sample size is small.

Minimum	0.01	Mean	17.71
Maximum	113	Median	8.79
SD	26.15	CV	1.477
k hat (MLE)	0.762	k star (bias corrected MLE)	0.667
Theta hat (MLE)	23.24	Theta star (bias corrected MLE)	26.56
nu hat (MLE)	25.91	nu star (bias corrected)	22.67
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (22.67, α)	12.84	Adjusted Chi Square Value (22.67, β)	12.07
95% Gamma Approximate UCL (use when n>=50)	31.26	95% Gamma Adjusted UCL (use when n<50)	33.26
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	17.73	SD (KM)	25.35
Variance (KM)	642.8	SE of Mean (KM)	6.351
k hat (KM)	0.489	k star (KM)	0.442
nu hat (KM)	16.63	nu star (KM)	15.03
theta hat (KM)	36.26	theta star (KM)	40.12
80% gamma percentile (KM)	28.9	90% gamma percentile (KM)	49.17
95% gamma percentile (KM)	71.15	99% gamma percentile (KM)	125.9
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (15.03, α)	7.279	Adjusted Chi Square Value (15.03, β)	6.72
95% Gamma Approximate KM-UCL (use when n>=50)	36.6	95% Gamma Adjusted KM-UCL (use when n<50)	39.64
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.771	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.283	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.213	Detected Data Not Lognormal at 5% Significance Level	
Detected Data Not Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	17.83	Mean in Log Scale	2.405
SD in Original Scale	26.06	SD in Log Scale	0.878
95% t UCL (assumes normality of ROS data)	28.87	95% Percentile Bootstrap UCL	29.16
95% BCA Bootstrap UCL	36.01	95% Bootstrap t UCL	52.52
95% H-UCL (Log ROS)	28.08		
KM Mean (logged)	2.3	KM Geo Mean	9.976
KM SD (logged)	1.117	95% Critical H Value (KM-Log)	2.849
KM Standard Error of Mean (logged)	0.28	95% H-UCL (KM -Log)	41.28
KM SD (logged)	1.117	95% Critical H Value (KM-Log)	2.849
KM Standard Error of Mean (logged)	0.28		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	17.72	Mean in Log Scale	2.259
SD in Original Scale	26.14	SD in Log Scale	1.282
95% t UCL (Assumes normality)	28.79	95% H-Stat UCL	59.12
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution at 5% Significance Level			
Suggested UCL to Use			
95% KM (Chebyshev) UCL	45.41		
HMX			
General Statistics			
Total Number of Observations	26	Number of Distinct Observations	16
		Number of Missing Observations	8
Number of Detects	14	Number of Non-Detects	12
Number of Distinct Detects	14	Number of Distinct Non-Detects	2
Minimum Detect	0.394	Minimum Non-Detect	0.149
Maximum Detect	160	Maximum Non-Detect	0.15
Variance Detects	1760	Percent Non-Detects	46.15%
Mean Detects	14.74	SD Detects	41.95
Median Detects	2.185	CV Detects	2.846
Skewness Detects	3.697	Kurtosis Detects	13.76
Mean of Logged Detects	1.069	SD of Logged Detects	1.571
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.364	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.874	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.45	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.226	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			

KM Mean	8.007	KM Standard Error of Mean	6.216
KM SD	30.54	95% KM (BCA) UCL	20.54
95% KM (t) UCL	18.63	95% KM (Percentile Bootstrap) UCL	20.03
95% KM (z) UCL	18.23	95% KM Bootstrap t UCL	112
90% KM Chebyshev UCL	26.66	95% KM Chebyshev UCL	35.1
97.5% KM Chebyshev UCL	46.83	99% KM Chebyshev UCL	69.86
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	1.693	Anderson-Darling GOF Test Detected Data Not Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.812		
K-S Test Statistic	0.283	Kolmogorov-Smirnov GOF Detected Data Not Gamma Distributed at 5% Significance Level	
5% K-S Critical Value	0.245		
Detected Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.405	k star (bias corrected MLE)	0.366
Theta hat (MLE)	36.4	Theta star (bias corrected MLE)	40.3
nu hat (MLE)	11.34	nu star (bias corrected)	10.24
Mean (detects)	14.74		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	7.943
Maximum	160	Median	0.437
SD	31.17	CV	3.924
k hat (MLE)	0.203	k star (bias corrected MLE)	0.205
Theta hat (MLE)	39.18	Theta star (bias corrected MLE)	38.75
nu hat (MLE)	10.54	nu star (bias corrected)	10.66
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (10.66, α)	4.358	Adjusted Chi Square Value (10.66, β)	4.094
95% Gamma Approximate UCL (use when n>=50)	19.43	95% Gamma Adjusted UCL (use when n<50)	20.68
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	8.007	SD (KM)	30.54
Variance (KM)	933	SE of Mean (KM)	6.216
k hat (KM)	0.0687	k star (KM)	0.0864
nu hat (KM)	3.574	nu star (KM)	4.495
theta hat (KM)	116.5	theta star (KM)	92.64
80% gamma percentile (KM)	4.399	90% gamma percentile (KM)	19.87
95% gamma percentile (KM)	46.66	99% gamma percentile (KM)	136.7
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (4.49, α)	0.926	Adjusted Chi Square Value (4.49, β)	0.827
95% Gamma Approximate KM-UCL (use when n>=50)	38.85	95% Gamma Adjusted KM-UCL (use when n<50)	43.52
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test Detected Data appear Lognormal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.874		
Lilliefors Test Statistic	0.13	Lilliefors GOF Test Detected Data appear Lognormal at 5% Significance Level	
5% Lilliefors Critical Value	0.226		
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	7.972	Mean in Log Scale	-0.883
SD in Original Scale	31.16	SD in Log Scale	2.565
95% t UCL (assumes normality of ROS data)	18.41	95% Percentile Bootstrap UCL	20.17
95% BCA Bootstrap UCL	26.46	95% Bootstrap t UCL	110.2
95% H-UCL (Log ROS)	141		
KM Mean (logged)	-0.303	KM Geo Mean	0.739
KM SD (logged)	1.852	95% Critical H Value (KM-Log)	3.768
KM Standard Error of Mean (logged)	0.377	95% H-UCL (KM -Log)	16.57
KM SD (logged)	1.852	95% Critical H Value (KM-Log)	3.768
KM Standard Error of Mean (logged)	0.377		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	7.973	Mean in Log Scale	-0.621
SD in Original Scale	31.16	SD in Log Scale	2.179
95% t UCL (Assumes normality)	18.41	95% H-Stat UCL	37.64
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Lognormal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (Chebyshev) UCL	35.1		

Lead

General Statistics

Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Minimum	5.19	Mean	25.82
Maximum	228	Median	10.1
SD	51.07	Std. Error of Mean	11.72
Coefficient of Variation	1.978	Skewness	3.864

Normal GOF Test

Shapiro Wilk Test Statistic	0.398	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.387	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	46.13	95% Adjusted-CLT UCL (Chen-1995)	56.18
		95% Modified-t UCL (Johnson-1978)	47.86

Gamma GOF Test

A-D Test Statistic	3.294	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.773	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.365	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.205	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.909	k star (bias corrected MLE)	0.8
Theta hat (MLE)	28.42	Theta star (bias corrected MLE)	32.26
nu hat (MLE)	34.52	nu star (bias corrected)	30.41
MLE Mean (bias corrected)	25.82	MLE Sd (bias corrected)	28.86
		Approximate Chi Square Value (0.05)	18.81
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	18.02

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	41.73	95% Adjusted Gamma UCL (use when n<50)	43.57

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.719	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.292	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.647	Mean of logged Data	2.608
Maximum of Logged Data	5.429	SD of logged Data	0.888

Assuming Lognormal Distribution

95% H-UCL	33.69	90% Chebyshev (MVUE) UCL	32.73
95% Chebyshev (MVUE) UCL	38.67	97.5% Chebyshev (MVUE) UCL	46.93
99% Chebyshev (MVUE) UCL	63.14		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	45.09	95% Jackknife UCL	46.13
95% Standard Bootstrap UCL	44.84	95% Bootstrap-t UCL	188.3
95% Hall's Bootstrap UCL	132.5	95% Percentile Bootstrap UCL	47.13
95% BCA Bootstrap UCL	63.63		
90% Chebyshev(Mean, Sd) UCL	60.96	95% Chebyshev(Mean, Sd) UCL	76.88
97.5% Chebyshev(Mean, Sd) UCL	98.98	99% Chebyshev(Mean, Sd) UCL	142.4

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	76.88

General Statistics

Total Number of Observations	19	Number of Distinct Observations	15
		Number of Missing Observations	3
Number of Detects	2	Number of Non-Detects	17
Number of Distinct Detects	2	Number of Distinct Non-Detects	13
Minimum Detect	0.00262	Minimum Non-Detect	0.00169
Maximum Detect	0.00473	Maximum Non-Detect	0.00216
Variance Detects	2.23E-06	Percent Non-Detects	89.47%
Mean Detects	0.00368	SD Detects	0.00149
Median Detects	0.00368	CV Detects	0.406

Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-5.649	SD of Logged Detects	0.418
Warning: Data set has only 2 Detected Values.			
This is not enough to compute meaningful or reliable statistics and estimates.			
Nitrate			
General Statistics			
Total Number of Observations	9	Number of Distinct Observations	9
		Number of Missing Observations	15
Minimum	0.514	Mean	1.777
Maximum	4.02	Median	1.21
SD	1.401	Std. Error of Mean	0.467
Coefficient of Variation	0.788	Skewness	0.812
Normal GOF Test			
Shapiro Wilk Test Statistic	0.811	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.829	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.289	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.274	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	2.645	95% Adjusted-CLT UCL (Chen-1995)	2.68
		95% Modified-t UCL (Johnson-1978)	2.666
Gamma GOF Test			
A-D Test Statistic	0.581	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.731	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.216	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.283	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.907	k star (bias corrected MLE)	1.345
Theta hat (MLE)	0.932	Theta star (bias corrected MLE)	1.321
nu hat (MLE)	34.32	nu star (bias corrected)	24.22
MLE Mean (bias corrected)	1.777	MLE Sd (bias corrected)	1.532
		Approximate Chi Square Value (0.05)	14.01
Adjusted Level of Significance	0.0231	Adjusted Chi Square Value	12.41
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	3.071	95% Adjusted Gamma UCL (use when n<50)	3.468
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.891	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.829	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.191	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.274	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-0.666	Mean of logged Data	0.29
Maximum of Logged Data	1.391	SD of logged Data	0.801
Assuming Lognormal Distribution			
95% H-UCL	4.09	90% Chebyshev (MVUE) UCL	3.219
95% Chebyshev (MVUE) UCL	3.877	97.5% Chebyshev (MVUE) UCL	4.792
99% Chebyshev (MVUE) UCL	6.588		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	2.545	95% Jackknife UCL	2.645
95% Standard Bootstrap UCL	2.504	95% Bootstrap-t UCL	2.949
95% Hall's Bootstrap UCL	2.373	95% Percentile Bootstrap UCL	2.547
95% BCA Bootstrap UCL	2.552		
90% Chebyshev(Mean, Sd) UCL	3.178	95% Chebyshev(Mean, Sd) UCL	3.812
97.5% Chebyshev(Mean, Sd) UCL	4.693	99% Chebyshev(Mean, Sd) UCL	6.423
Suggested UCL to Use			
95% Adjusted Gamma UCL	3.468		
Perchlorate			
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	16
		Number of Missing Observations	4

Number of Detects	4	Number of Non-Detects	13
Number of Distinct Detects	4	Number of Distinct Non-Detects	12
Minimum Detect	5.94E-04	Minimum Non-Detect	5.02E-04
Maximum Detect	8.39E-04	Maximum Non-Detect	6.10E-04
Variance Detects	1.39E-08	Percent Non-Detects	76.47%
Mean Detects	7.07E-04	SD Detects	1.18E-04
Median Detects	6.98E-04	CV Detects	0.167
Skewness Detects	0.213	Kurtosis Detects	-4.23
Mean of Logged Detects	-7.265	SD of Logged Detects	0.167
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.9	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.263	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.375	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
KM Mean	5.51E-04	KM Standard Error of Mean	2.81E-05
KM SD	1.00E-04	95% KM (BCA) UCL	N/A
95% KM (t) UCL	6.00E-04	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	5.97E-04	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	6.35E-04	95% KM Chebyshev UCL	6.73E-04
97.5% KM Chebyshev UCL	7.26E-04	99% KM Chebyshev UCL	8.30E-04
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.381	Anderson-Darling GOF Test	
5% A-D Critical Value	0.656	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.292	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.394	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	48.22	k star (bias corrected MLE)	12.22
Theta hat (MLE)	1.47E-05	Theta star (bias corrected MLE)	5.79E-05
nu hat (MLE)	385.7	nu star (bias corrected)	97.77
Mean (detects)	7.07E-04		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	5.94E-04	Mean	0.00781
Maximum	0.01	Median	0.01
SD	0.00406	CV	0.52
k hat (MLE)	1.464	k star (bias corrected MLE)	1.245
Theta hat (MLE)	0.00534	Theta star (bias corrected MLE)	0.00628
nu hat (MLE)	49.76	nu star (bias corrected)	42.31
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (42.31, α)	28.4	Adjusted Chi Square Value (42.31, β)	27.21
95% Gamma Approximate UCL (use when n>=50)	0.0116	95% Gamma Adjusted UCL (use when n<50)	N/A
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	5.51E-04	SD (KM)	1.00E-04
Variance (KM)	1.00E-08	SE of Mean (KM)	2.81E-05
k hat (KM)	30.25	k star (KM)	24.95
nu hat (KM)	1029	nu star (KM)	848.4
theta hat (KM)	1.82E-05	theta star (KM)	2.21E-05
80% gamma percentile (KM)	6.41E-04	90% gamma percentile (KM)	6.96E-04
95% gamma percentile (KM)	7.44E-04	99% gamma percentile (KM)	8.39E-04
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (848.38, α)	781.8	Adjusted Chi Square Value (848.38, β)	775.1
95% Gamma Approximate KM-UCL (use when n>=50)	5.98E-04	95% Gamma Adjusted KM-UCL (use when n<50)	6.03E-04
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.899	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.258	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.375	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	4.45E-04	Mean in Log Scale	-7.764
SD in Original Scale	1.59E-04	SD in Log Scale	0.299
95% t UCL (assumes normality of ROS data)	5.13E-04	95% Percentile Bootstrap UCL	5.09E-04

95% BCA Bootstrap UCL	5.22E-04	95% Bootstrap t UCL	5.53E-04
95% H-UCL (Log ROS)	5.10E-04		
KM Mean (logged)	-7.518	KM Geo Mean	5.43E-04
KM SD (logged)	0.157	95% Critical H Value (KM-Log)	1.768
KM Standard Error of Mean (logged)	0.0442	95% H-UCL (KM -Log)	5.90E-04
KM SD (logged)	0.157	95% Critical H Value (KM-Log)	1.768
KM Standard Error of Mean (logged)	0.0442		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	3.73E-04	Mean in Log Scale	-7.993
SD in Original Scale	1.98E-04	SD in Log Scale	0.426
95% t UCL (Assumes normality)	4.57E-04	95% H-Stat UCL	4.56E-04
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	6.00E-04		
RDX			
General Statistics			
Total Number of Observations	26	Number of Distinct Observations	17
		Number of Missing Observations	7
Number of Detects	15	Number of Non-Detects	11
Number of Distinct Detects	15	Number of Distinct Non-Detects	2
Minimum Detect	0.156	Minimum Non-Detect	0.149
Maximum Detect	72.4	Maximum Non-Detect	0.15
Variance Detects	377.3	Percent Non-Detects	42.31%
Mean Detects	18.18	SD Detects	19.42
Median Detects	14.7	CV Detects	1.068
Skewness Detects	1.682	Kurtosis Detects	3.38
Mean of Logged Detects	2.101	SD of Logged Detects	1.671
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.831	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.881	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.182	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.22	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Approximate Normal at 5% Significance Level			
KM Mean	10.55	KM Standard Error of Mean	3.412
KM SD	16.81	95% KM (BCA) UCL	16.71
95% KM (t) UCL	16.38	95% KM (Percentile Bootstrap) UCL	16.41
95% KM (z) UCL	16.16	95% KM Bootstrap t UCL	19.37
90% KM Chebyshev UCL	20.79	95% KM Chebyshev UCL	25.42
97.5% KM Chebyshev UCL	31.86	99% KM Chebyshev UCL	44.5
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.166	Anderson-Darling GOF Test	
5% A-D Critical Value	0.775	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.119	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.23	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.749	k star (bias corrected MLE)	0.644
Theta hat (MLE)	24.27	Theta star (bias corrected MLE)	28.24
nu hat (MLE)	22.47	nu star (bias corrected)	19.31
Mean (detects)	18.18		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	10.49
Maximum	72.4	Median	1.54
SD	17.18	CV	1.637
k hat (MLE)	0.233	k star (bias corrected MLE)	0.232
Theta hat (MLE)	45.08	Theta star (bias corrected MLE)	45.32
nu hat (MLE)	12.1	nu star (bias corrected)	12.04
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (12.04, α)	5.253	Adjusted Chi Square Value (12.04, β)	4.959
95% Gamma Approximate UCL (use when n>=50)	24.05	95% Gamma Adjusted UCL (use when n<50)	25.47
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	10.55	SD (KM)	16.81
Variance (KM)	282.5	SE of Mean (KM)	3.412
k hat (KM)	0.394	k star (KM)	0.374

nu hat (KM)	20.49	nu star (KM)	19.46
theta hat (KM)	26.77	theta star (KM)	28.19
80% gamma percentile (KM)	16.88	90% gamma percentile (KM)	30.15
95% gamma percentile (KM)	44.85	99% gamma percentile (KM)	82.1
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (19.46, α)	10.46	Adjusted Chi Square Value (19.46, β)	10.02
95% Gamma Approximate KM-UCL (use when n>=50)	19.64	95% Gamma Adjusted KM-UCL (use when n<50)	20.49
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.881	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.171	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.22	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	10.59	Mean in Log Scale	0.419
SD in Original Scale	17.12	SD in Log Scale	2.461
95% t UCL (assumes normality of ROS data)	16.32	95% Percentile Bootstrap UCL	16.17
95% BCA Bootstrap UCL	17.97	95% Bootstrap t UCL	19.93
95% H-UCL (Log ROS)	329.8		
KM Mean (logged)	0.407	KM Geo Mean	1.502
KM SD (logged)	2.328	95% Critical H Value (KM-Log)	4.55
KM Standard Error of Mean (logged)	0.473	95% H-UCL (KM -Log)	187.4
KM SD (logged)	2.328	95% Critical H Value (KM-Log)	4.55
KM Standard Error of Mean (logged)	0.473		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	10.52	Mean in Log Scale	0.115
SD in Original Scale	17.16	SD in Log Scale	2.675
95% t UCL (Assumes normality)	16.27	95% H-Stat UCL	627.8
Nonparametric Distribution Free UCL Statistics			
Suggested UCL to Use			
95% KM (t) UCL	16.38		

Selenium

General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Number of Detects	10	Number of Non-Detects	9
Number of Distinct Detects	10	Number of Distinct Non-Detects	9
Minimum Detect	1.07	Minimum Non-Detect	0.321
Maximum Detect	3.05	Maximum Non-Detect	59.00%
Variance Detects	0.316	Percent Non-Detects	0.4737
Mean Detects	1.735	SD Detects	0.562
Median Detects	1.7	CV Detects	0.324
Skewness Detects	1.355	Kurtosis Detects	3.001
Mean of Logged Detects	0.508	SD of Logged Detects	0.303
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.882	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.2	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
KM Mean	1.065	KM Standard Error of Mean	0.195
KM SD	0.805	95% KM (BCA) UCL	1.379
95% KM (t) UCL	1.403	95% KM (Percentile Bootstrap) UCL	1.374
95% KM (z) UCL	1.385	95% KM Bootstrap t UCL	1.43
90% KM Chebyshev UCL	1.649	95% KM Chebyshev UCL	1.914
97.5% KM Chebyshev UCL	2.281	99% KM Chebyshev UCL	3.002
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.326	Anderson-Darling GOF Test	
5% A-D Critical Value	0.725	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.157	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.267	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	11.87	k star (bias corrected MLE)	8.376

Theta hat (MLE)	0.146	Theta star (bias corrected MLE)	0.207
nu hat (MLE)	237.4	nu star (bias corrected)	167.5
Mean (detects)	1.735		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.449	Mean	1.126
Maximum	3.05	Median	1.07
SD	0.77	CV	0.684
k hat (MLE)	2.321	k star (bias corrected MLE)	1.99
Theta hat (MLE)	0.485	Theta star (bias corrected MLE)	0.566
nu hat (MLE)	88.21	nu star (bias corrected)	75.61
Adjusted Level of Significance (β)	0.0369		
Approximate Chi Square Value (75.61, α)	56.59	Adjusted Chi Square Value (75.61, β)	55.15
95% Gamma Approximate UCL (use when n>=50)	1.504	95% Gamma Adjusted UCL (use when n<50)	1.543
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	1.065	SD (KM)	0.805
Variance (KM)	0.648	SE of Mean (KM)	0.195
k hat (KM)	1.751	k star (KM)	1.51
nu hat (KM)	66.54	nu star (KM)	57.37
theta hat (KM)	0.608	theta star (KM)	0.706
80% gamma percentile (KM)	1.647	90% gamma percentile (KM)	2.216
95% gamma percentile (KM)	2.769	99% gamma percentile (KM)	4.016
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (57.37, α)	40.96	Adjusted Chi Square Value (57.37, β)	39.75
95% Gamma Approximate KM-UCL (use when n>=50)	1.492	95% Gamma Adjusted KM-UCL (use when n<50)	1.537
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.949	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.158	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	1.265	Mean in Log Scale	0.127
SD in Original Scale	0.645	SD in Log Scale	0.465
95% t UCL (assumes normality of ROS data)	1.522	95% Percentile Bootstrap UCL	1.504
95% BCA Bootstrap UCL	1.546	95% Bootstrap t UCL	1.58
95% H-UCL (Log ROS)	1.572		
KM Mean (logged)	-0.271	KM Geo Mean	0.763
KM SD (logged)	0.847	95% Critical H Value (KM-Log)	2.402
KM Standard Error of Mean (logged)	0.205	95% H-UCL (KM -Log)	1.765
KM SD (logged)	0.847	95% Critical H Value (KM-Log)	2.402
KM Standard Error of Mean (logged)	0.205		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.004	Mean in Log Scale	-0.525
SD in Original Scale	0.886	SD in Log Scale	1.15
95% t UCL (Assumes normality)	1.357	95% H-Stat UCL	2.467
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	1.403		
Silver			
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Number of Detects	17	Number of Non-Detects	2
Number of Distinct Detects	17	Number of Distinct Non-Detects	2
Minimum Detect	0.3	Minimum Non-Detect	0.104
Maximum Detect	7.95	Maximum Non-Detect	11.20%
Variance Detects	4.475	Percent Non-Detects	0.1053
Mean Detects	1.953	SD Detects	2.116
Median Detects	1.22	CV Detects	1.083
Skewness Detects	1.922	Kurtosis Detects	3.315
Mean of Logged Detects	0.225	SD of Logged Detects	0.947
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.737	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Normal at 5% Significance Level	

Lilliefors Test Statistic	0.293	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.207	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	1.758	KM Standard Error of Mean	0.478
KM SD	2.023	95% KM (BCA) UCL	2.67
95% KM (t) UCL	2.588	95% KM (Percentile Bootstrap) UCL	2.562
95% KM (z) UCL	2.545	95% KM Bootstrap t UCL	3.173
90% KM Chebyshev UCL	3.193	95% KM Chebyshev UCL	3.843
97.5% KM Chebyshev UCL	4.745	99% KM Chebyshev UCL	6.517
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.66	Anderson-Darling GOF Test	
5% A-D Critical Value	0.761	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.181	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.214	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.265	k star (bias corrected MLE)	1.081
Theta hat (MLE)	1.544	Theta star (bias corrected MLE)	1.807
nu hat (MLE)	43.01	nu star (bias corrected)	36.75
Mean (detects)	1.953		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	1.748
Maximum	7.95	Median	1.13
SD	2.086	CV	1.193
k hat (MLE)	0.715	k star (bias corrected MLE)	0.637
Theta hat (MLE)	2.444	Theta star (bias corrected MLE)	2.743
nu hat (MLE)	27.18	nu star (bias corrected)	24.22
Adjusted Level of Significance (β)	0.0369		
Approximate Chi Square Value (24.22, α)	14.02	Adjusted Chi Square Value (24.22, β)	13.34
95% Gamma Approximate UCL (use when n>=50)	3.021	95% Gamma Adjusted UCL (use when n<50)	3.174
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	1.758	SD (KM)	2.023
Variance (KM)	4.091	SE of Mean (KM)	0.478
k hat (KM)	0.756	k star (KM)	0.671
nu hat (KM)	28.72	nu star (KM)	25.51
theta hat (KM)	2.327	theta star (KM)	2.619
80% gamma percentile (KM)	2.893	90% gamma percentile (KM)	4.457
95% gamma percentile (KM)	6.075	99% gamma percentile (KM)	9.952
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (25.51, α)	15.01	Adjusted Chi Square Value (25.51, β)	14.3
95% Gamma Approximate KM-UCL (use when n>=50)	2.989	95% Gamma Adjusted KM-UCL (use when n<50)	3.136
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.95	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.143	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.207	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	1.762	Mean in Log Scale	-0.00906
SD in Original Scale	2.075	SD in Log Scale	1.134
95% t UCL (assumes normality of ROS data)	2.587	95% Percentile Bootstrap UCL	2.61
95% BCA Bootstrap UCL	2.804	95% Bootstrap t UCL	3.305
95% H-UCL (Log ROS)	3.993		
KM Mean (logged)	-0.0374	KM Geo Mean	0.963
KM SD (logged)	1.157	95% Critical H Value (KM-Log)	2.841
KM Standard Error of Mean (logged)	0.274	95% H-UCL (KM -Log)	4.08
KM SD (logged)	1.157	95% Critical H Value (KM-Log)	2.841
KM Standard Error of Mean (logged)	0.274		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.753	Mean in Log Scale	-0.106
SD in Original Scale	2.082	SD in Log Scale	1.334
95% t UCL (Assumes normality)	2.581	95% H-Stat UCL	5.833
Nonparametric Distribution Free UCL Statistics			

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	3.136	95% GROS Adjusted Gamma UCL	3.174

TATB

General Statistics

Total Number of Observations	25	Number of Distinct Observations	22
		Number of Missing Observations	8
Number of Detects	16	Number of Non-Detects	9
Number of Distinct Detects	16	Number of Distinct Non-Detects	6
Minimum Detect	0.365	Minimum Non-Detect	0.293
Maximum Detect	43.2	Maximum Non-Detect	0.3
Variance Detects	193.2	Percent Non-Detects	36.00%
Mean Detects	10.4	SD Detects	13.9
Median Detects	4.14	CV Detects	1.337
Skewness Detects	1.418	Kurtosis Detects	0.777
Mean of Logged Detects	1.278	SD of Logged Detects	1.635

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.742	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.312	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.213	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

KM Mean	6.759	KM Standard Error of Mean	2.439
KM SD	11.81	95% KM (BCA) UCL	11.29
95% KM (t) UCL	10.93	95% KM (Percentile Bootstrap) UCL	10.93
95% KM (z) UCL	10.77	95% KM Bootstrap t UCL	13.83
90% KM Chebyshev UCL	14.08	95% KM Chebyshev UCL	17.39
97.5% KM Chebyshev UCL	21.99	99% KM Chebyshev UCL	31.03

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.643	Anderson-Darling GOF Test	
5% A-D Critical Value	0.789	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.166	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.226	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.584	k star (bias corrected MLE)	0.516
Theta hat (MLE)	17.81	Theta star (bias corrected MLE)	20.15
nu hat (MLE)	18.67	nu star (bias corrected)	16.51
Mean (detects)	10.4		

Gamma ROS Statistics using Imputed Non-Detects

This is especially true when the sample size is small.

Minimum	0.01	Mean	6.657
Maximum	43.2	Median	0.824
SD	12.11	CV	1.819
k hat (MLE)	0.258	k star (bias corrected MLE)	0.254
Theta hat (MLE)	25.77	Theta star (bias corrected MLE)	26.21
nu hat (MLE)	12.91	nu star (bias corrected)	12.7
Adjusted Level of Significance (β)	0.0395		
Approximate Chi Square Value (12.70, α)	5.69	Adjusted Chi Square Value (12.70, β)	5.372
95% Gamma Approximate UCL (use when n>=50)	14.85	95% Gamma Adjusted UCL (use when n<50)	15.73

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	6.759	SD (KM)	11.81
Variance (KM)	139.4	SE of Mean (KM)	2.439
k hat (KM)	0.328	k star (KM)	0.315
nu hat (KM)	16.38	nu star (KM)	15.75
theta hat (KM)	20.63	theta star (KM)	21.46
80% gamma percentile (KM)	10.48	90% gamma percentile (KM)	19.81
95% gamma percentile (KM)	30.43	99% gamma percentile (KM)	57.87

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (15.75, α)	7.785	Adjusted Chi Square Value (15.75, β)	7.404
95% Gamma Approximate KM-UCL (use when n>=50)	13.67	95% Gamma Adjusted KM-UCL (use when n<50)	14.37

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.927	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.151	Lilliefors GOF Test	

5% Lilliefors Critical Value	0.213	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	6.68	Mean in Log Scale	-0.161
SD in Original Scale	12.1	SD in Log Scale	2.37
95% t UCL (assumes normality of ROS data)	10.82	95% Percentile Bootstrap UCL	10.58
95% BCA Bootstrap UCL	12.07	95% Bootstrap t UCL	13.51
95% H-UCL (Log ROS)	129.9		
KM Mean (logged)	0.376	KM Geo Mean	1.457
KM SD (logged)	1.747	95% Critical H Value (KM-Log)	3.574
KM Standard Error of Mean (logged)	0.361	95% H-UCL (KM -Log)	23.93
KM SD (logged)	1.747	95% Critical H Value (KM-Log)	3.574
KM Standard Error of Mean (logged)	0.361		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	6.707	Mean in Log Scale	0.131
SD in Original Scale	12.08	SD in Log Scale	2.027
95% t UCL (Assumes normality)	10.84	95% H-Stat UCL	46.9
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	14.37		
Total Petroleum Hydrocarbons Diesel Range Organics			
General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10
		Number of Missing Observations	11
Minimum	3.54	Mean	16.16
Maximum	79.1	Median	7.81
SD	22.93	Std. Error of Mean	7.251
Coefficient of Variation	1.419	Skewness	2.78
Normal GOF Test			
Shapiro Wilk Test Statistic	0.591	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.303	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	29.45	95% Adjusted-CLT UCL (Chen-1995)	34.9
		95% Modified-t UCL (Johnson-1978)	30.51
Gamma GOF Test			
A-D Test Statistic	0.763	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.747	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.202	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.273	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data follow Appr. Gamma Distribution at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.071	k star (bias corrected MLE)	0.816
Theta hat (MLE)	15.09	Theta star (bias corrected MLE)	19.8
nu hat (MLE)	21.41	nu star (bias corrected)	16.32
MLE Mean (bias corrected)	16.16	MLE Sd (bias corrected)	17.89
		Approximate Chi Square Value (0.05)	8.19
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	7.211
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	32.2	95% Adjusted Gamma UCL (use when n<50)	36.58
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.898	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.157	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.262	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.264	Mean of logged Data	2.247
Maximum of Logged Data	4.371	SD of logged Data	0.976
Assuming Lognormal Distribution			

95% H-UCL	41.17	90% Chebyshev (MVUE) UCL	28.19
95% Chebyshev (MVUE) UCL	34.47	97.5% Chebyshev (MVUE) UCL	43.2
99% Chebyshev (MVUE) UCL	60.34		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	28.08	95% Jackknife UCL	29.45
95% Standard Bootstrap UCL	26.93	95% Bootstrap-t UCL	65.77
95% Hall's Bootstrap UCL	72.97	95% Percentile Bootstrap UCL	29.62
95% BCA Bootstrap UCL	36.2		
90% Chebyshev(Mean, Sd) UCL	37.91	95% Chebyshev(Mean, Sd) UCL	47.76
97.5% Chebyshev(Mean, Sd) UCL	61.44	99% Chebyshev(Mean, Sd) UCL	88.3

Suggested UCL to Use

95% Adjusted Gamma UCL	36.58		

Trinitrobenzene[1,3,5-]

General Statistics

Total Number of Observations	26	Number of Distinct Observations	9
		Number of Missing Observations	7
Number of Detects	2	Number of Non-Detects	24
Number of Distinct Detects	2	Number of Distinct Non-Detects	7
Minimum Detect	0.397	Minimum Non-Detect	0.144
Maximum Detect	0.46	Maximum Non-Detect	0.152
Variance Detects	0.00198	Percent Non-Detects	92.31%
Mean Detects	0.429	SD Detects	0.0445
Median Detects	0.429	CV Detects	0.104
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.85	SD of Logged Detects	0.104

Warning: Data set has only 2 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Trinitrotoluene[2,4,6-]

General Statistics

Total Number of Observations	26	Number of Distinct Observations	13
		Number of Missing Observations	7
Number of Detects	6	Number of Non-Detects	20
Number of Distinct Detects	6	Number of Distinct Non-Detects	7
Minimum Detect	0.242	Minimum Non-Detect	0.144
Maximum Detect	12.7	Maximum Non-Detect	0.152
Variance Detects	22.45	Percent Non-Detects	0.7692
Mean Detects	3.167	SD Detects	473.80%
Median Detects	1.479	CV Detects	1.496
Skewness Detects	2.296	Kurtosis Detects	5.407
Mean of Logged Detects	0.387	SD of Logged Detects	1.335

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.654	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.399	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

KM Mean	0.842	KM Standard Error of Mean	0.524
KM SD	2.437	95% KM (BCA) UCL	1.774
95% KM (t) UCL	1.736	95% KM (Percentile Bootstrap) UCL	1.776
95% KM (z) UCL	1.703	95% KM Bootstrap t UCL	3.907
90% KM Chebyshev UCL	2.412	95% KM Chebyshev UCL	3.124
97.5% KM Chebyshev UCL	4.111	99% KM Chebyshev UCL	6.051

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.427	Anderson-Darling GOF Test	
5% A-D Critical Value	0.72	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.274	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.343	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.778	k star (bias corrected MLE)	0.5
Theta hat (MLE)	4.072	Theta star (bias corrected MLE)	6.334
nu hat (MLE)	9.333	nu star (bias corrected)	6
Mean (detects)	3.167		

Gamma ROS Statistics using Imputed Non-Detects

This is especially true when the sample size is small.

Minimum	0.01	Mean	0.739
Maximum	12.7	Median	0.01
SD	2.516	CV	3.406
k hat (MLE)	0.229	k star (bias corrected MLE)	0.228
Theta hat (MLE)	3.229	Theta star (bias corrected MLE)	3.24
nu hat (MLE)	11.89	nu star (bias corrected)	11.85
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (11.85, α)	5.131	Adjusted Chi Square Value (11.85, β)	4.841
95% Gamma Approximate UCL (use when n>=50)	1.706	95% Gamma Adjusted UCL (use when n<50)	1.809

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.842	SD (KM)	2.437
Variance (KM)	5.94	SE of Mean (KM)	0.524
k hat (KM)	0.119	k star (KM)	0.131
nu hat (KM)	6.202	nu star (KM)	6.819
theta hat (KM)	7.057	theta star (KM)	6.418
80% gamma percentile (KM)	0.811	90% gamma percentile (KM)	2.437
95% gamma percentile (KM)	4.743	99% gamma percentile (KM)	11.63

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (6.82, α)	2.072	Adjusted Chi Square Value (6.82, β)	1.904
95% Gamma Approximate KM-UCL (use when n>=50)	2.77	95% Gamma Adjusted KM-UCL (use when n<50)	3.015

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.973	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.193	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.743	Mean in Log Scale	-3.989
SD in Original Scale	2.515	SD in Log Scale	2.958
95% t UCL (assumes normality of ROS data)	1.585	95% Percentile Bootstrap UCL	1.709
95% BCA Bootstrap UCL	2.326	95% Bootstrap t UCL	4.48
95% H-UCL (Log ROS)	41.03		

KM Mean (logged)	-1.401	KM Geo Mean	0.246
KM SD (logged)	1.141	95% Critical H Value (KM-Log)	2.695
KM Standard Error of Mean (logged)	0.245	95% H-UCL (KM -Log)	0.873
KM SD (logged)	1.141	95% Critical H Value (KM-Log)	2.695
KM Standard Error of Mean (logged)	0.245		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.788	Mean in Log Scale	-1.909
SD in Original Scale	2.501	SD in Log Scale	1.415
95% t UCL (Assumes normality)	1.626	95% H-Stat UCL	0.965

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	3.015

Zinc

General Statistics

Total Number of Observations	17	Number of Distinct Observations	17
		Number of Missing Observations	4
Minimum	26.4	Mean	57.08
Maximum	115	Median	54.1
SD	23.4	Std. Error of Mean	5.675
Coefficient of Variation	0.41	Skewness	1.14

Normal GOF Test

Shapiro Wilk Test Statistic	0.913	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.153	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.207	Data appear Normal at 5% Significance Level	

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	66.99	95% Adjusted-CLT UCL (Chen-1995)	68.09
		95% Modified-t UCL (Johnson-1978)	67.25

Gamma GOF Test

A-D Test Statistic	0.199	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.74	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.106	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.209	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	6.972	k star (bias corrected MLE)	5.781
Theta hat (MLE)	8.187	Theta star (bias corrected MLE)	9.874
nu hat (MLE)	237	nu star (bias corrected)	196.5
MLE Mean (bias corrected)	57.08	MLE Sd (bias corrected)	23.74
		Approximate Chi Square Value (0.05)	165.1
Adjusted Level of Significance	0.0346	Adjusted Chi Square Value	162.1
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	67.95	95% Adjusted Gamma UCL (use when n<50)	69.22
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.983	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0945	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.207	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	3.273	Mean of logged Data	3.971
Maximum of Logged Data	4.745	SD of logged Data	0.393
Assuming Lognormal Distribution			
95% H-UCL	69.29	90% Chebyshev (MVUE) UCL	73.66
95% Chebyshev (MVUE) UCL	81.19	97.5% Chebyshev (MVUE) UCL	91.65
99% Chebyshev (MVUE) UCL	112.2		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	66.42	95% Jackknife UCL	66.99
95% Standard Bootstrap UCL	66.03	95% Bootstrap-t UCL	70.34
95% Hall's Bootstrap UCL	73.31	95% Percentile Bootstrap UCL	66.37
95% BCA Bootstrap UCL	67.92		
90% Chebyshev(Mean, Sd) UCL	74.11	95% Chebyshev(Mean, Sd) UCL	81.82
97.5% Chebyshev(Mean, Sd) UCL	92.52	99% Chebyshev(Mean, Sd) UCL	113.5
Suggested UCL to Use			
95% Student's-t UCL	66.99		
TEQ			
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Minimum	8.62E-08	Mean	6.87E-06
Maximum	6.27E-05	Median	1.54E-06
SD	1.58E-05	Std. Error of Mean	3.63E-06
Coefficient of Variation	N/A	Skewness	3.107
Normal GOF Test			
Shapiro Wilk Test Statistic	0.466	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.413	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.32E-05	95% Adjusted-CLT UCL (Chen-1995)	1.56E-05
		95% Modified-t UCL (Johnson-1978)	1.36E-05
Gamma GOF Test			
A-D Test Statistic	1.288	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.82	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.254	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.212	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.413	k star (bias corrected MLE)	0.383

Theta hat (MLE)	1.66E-05	Theta star (bias corrected MLE)	1.79E-05
nu hat (MLE)	15.7	nu star (bias corrected)	14.56
MLE Mean (bias corrected)	6.87E-06	MLE Sd (bias corrected)	1.11E-05
		Approximate Chi Square Value (0.05)	6.955
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	6.5
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.44E-05	95% Adjusted Gamma UCL (use when n<50)	1.54E-05
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.964	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.119	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-16.27	Mean of logged Data	-13.47
Maximum of Logged Data	-9.677	SD of logged Data	1.789
Assuming Lognormal Distribution			
95% H-UCL	3.58E-05	90% Chebyshev (MVUE) UCL	1.45E-05
95% Chebyshev (MVUE) UCL	1.84E-05	97.5% Chebyshev (MVUE) UCL	2.39E-05
99% Chebyshev (MVUE) UCL	3.46E-05		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	1.28E-05	95% Jackknife UCL	1.32E-05
95% Standard Bootstrap UCL	1.28E-05	95% Bootstrap-t UCL	5.21E-05
95% Hall's Bootstrap UCL	4.23E-05	95% Percentile Bootstrap UCL	1.31E-05
95% BCA Bootstrap UCL	1.57E-05		
90% Chebyshev(Mean, Sd) UCL	1.78E-05	95% Chebyshev(Mean, Sd) UCL	2.27E-05
97.5% Chebyshev(Mean, Sd) UCL	2.95E-05	99% Chebyshev(Mean, Sd) UCL	4.30E-05
Suggested UCL to Use			
99% Chebyshev (Mean, Sd) UCL	4.30E-05		
Mammal TEQ			
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	3
Minimum	8.62E-08	Mean	6.88E-06
Maximum	6.27E-05	Median	1.54E-06
SD	1.58E-05	Std. Error of Mean	3.63E-06
Coefficient of Variation	N/A	Skewness	3.105
Normal GOF Test			
Shapiro Wilk Test Statistic	0.466	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.413	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.32E-05	95% Adjusted-CLT UCL (Chen-1995)	1.56E-05
		95% Modified-t UCL (Johnson-1978)	1.36E-05
Gamma GOF Test			
A-D Test Statistic	1.289	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.82	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.254	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.212	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.413	k star (bias corrected MLE)	0.383
Theta hat (MLE)	1.66E-05	Theta star (bias corrected MLE)	1.80E-05
nu hat (MLE)	15.7	nu star (bias corrected)	14.56
MLE Mean (bias corrected)	6.88E-06	MLE Sd (bias corrected)	1.11E-05
		Approximate Chi Square Value (0.05)	6.954
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	6.499
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.44E-05	95% Adjusted Gamma UCL (use when n<50)	1.54E-05
Lognormal GOF Test			

Shapiro Wilk Test Statistic	0.964	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.119	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-16.27	Mean of logged Data	-13.47
Maximum of Logged Data	-9.677	SD of logged Data	1.789
Assuming Lognormal Distribution			
95% H-UCL	3.58E-05	90% Chebyshev (MVUE) UCL	1.45E-05
95% Chebyshev (MVUE) UCL	1.84E-05	97.5% Chebyshev (MVUE) UCL	2.39E-05
99% Chebyshev (MVUE) UCL	3.46E-05		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	1.28E-05	95% Jackknife UCL	1.32E-05
95% Standard Bootstrap UCL	1.28E-05	95% Bootstrap-t UCL	5.06E-05
95% Hall's Bootstrap UCL	4.15E-05	95% Percentile Bootstrap UCL	1.34E-05
95% BCA Bootstrap UCL	1.54E-05		
90% Chebyshev(Mean, Sd) UCL	1.78E-05	95% Chebyshev(Mean, Sd) UCL	2.27E-05
97.5% Chebyshev(Mean, Sd) UCL	2.95E-05	99% Chebyshev(Mean, Sd) UCL	4.30E-05
Suggested UCL to Use			
99% Chebyshev (Mean, Sd) UCL	4.30E-05		
Bird TEQ			
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	3
Minimum	2.35E-08	Mean	6.50E-06
Maximum	5.39E-05	Median	2.19E-06
SD	1.39E-05	Std. Error of Mean	3.20E-06
Coefficient of Variation	N/A	Skewness	2.941
Normal GOF Test			
Shapiro Wilk Test Statistic	0.496	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.401	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.20E-05	95% Adjusted-CLT UCL (Chen-1995)	1.41E-05
		95% Modified-t UCL (Johnson-1978)	1.24E-05
Gamma GOF Test			
A-D Test Statistic	0.813	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.829	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.194	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.213	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.371	k star (bias corrected MLE)	0.348
Theta hat (MLE)	1.75E-05	Theta star (bias corrected MLE)	1.87E-05
nu hat (MLE)	14.1	nu star (bias corrected)	13.21
MLE Mean (bias corrected)	6.50E-06	MLE Sd (bias corrected)	1.10E-05
		Approximate Chi Square Value (0.05)	6.031
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	5.611
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	1.42E-05	95% Adjusted Gamma UCL (use when n<50)	1.53E-05
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.946	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.173	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-17.57	Mean of logged Data	-13.74

Maximum of Logged Data	-9.828	SD of logged Data	2.209
Assuming Lognormal Distribution			
95% H-UCL	1.38E-04	90% Chebyshev (MVUE) UCL	2.51E-05
95% Chebyshev (MVUE) UCL	3.25E-05	97.5% Chebyshev (MVUE) UCL	4.28E-05
99% Chebyshev (MVUE) UCL	6.30E-05		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	1.18E-05	95% Jackknife UCL	1.20E-05
95% Standard Bootstrap UCL	1.16E-05	95% Bootstrap-t UCL	3.91E-05
95% Hall's Bootstrap UCL	4.01E-05	95% Percentile Bootstrap UCL	1.18E-05
95% BCA Bootstrap UCL	1.41E-05		
90% Chebyshev(Mean, Sd) UCL	1.61E-05	95% Chebyshev(Mean, Sd) UCL	2.04E-05
97.5% Chebyshev(Mean, Sd) UCL	2.65E-05	99% Chebyshev(Mean, Sd) UCL	3.83E-05
Suggested UCL to Use			
95% Adjusted Gamma UCL	1.53E-05		

Attachment 3

Analytical Results Data Tables

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
RE16-12-17672	7429-90-5	Aluminum		Y	7.05E+00	4.39E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17673	7429-90-5	Aluminum		Y	6.96E+00	3.65E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17674	7429-90-5	Aluminum		Y	7.12E+00	4.07E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17675	7429-90-5	Aluminum		Y	6.30E+00	1.89E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17676	7429-90-5	Aluminum		Y	6.58E+00	1.85E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17677	7429-90-5	Aluminum		Y	6.99E+00	1.25E+04	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17678	7429-90-5	Aluminum		Y	6.23E+00	4.50E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17679	7429-90-5	Aluminum		Y	6.88E+00	6.83E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17680	7429-90-5	Aluminum		Y	7.13E+00	1.00E+04	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17681	7429-90-5	Aluminum		Y	6.80E+00	6.33E+03	8/13/2012	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-13-29794	7429-90-5	Aluminum		Y	6.80E+00	4.87E+03	03/27/2013	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-13-29795	7429-90-5	Aluminum		Y	6.76E+00	5.31E+03	03/27/2013	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-13-29796	7429-90-5	Aluminum		Y	6.88E+00	4.83E+03	03/27/2013	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-13-29797	7429-90-5	Aluminum		Y	6.75E+00	4.88E+03	03/27/2013	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-13-29798	7429-90-5	Aluminum		Y	6.80E+00	5.19E+03	03/27/2013	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181353	7429-90-5	Aluminum	E*	Y	6.82E+00	4.60E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181354	7429-90-5	Aluminum	E*	Y	7.05E+00	7.09E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181355	7429-90-5	Aluminum	E*	Y	6.76E+00	4.45E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181357	7429-90-5	Aluminum	E*	Y	6.45E+00	2.52E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181358	7429-90-5	Aluminum	E*	Y	6.90E+00	1.45E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181359	7429-90-5	Aluminum	E*	Y	7.76E+00	5.99E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181361	7429-90-5	Aluminum	E*	Y	6.65E+00	3.20E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181362	7429-90-5	Aluminum	E*	Y	7.60E+00	3.95E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181363	7429-90-5	Aluminum	E*	Y	8.08E+00	3.57E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181364	7429-90-5	Aluminum	E*	Y	7.10E+00	5.81E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181365	7429-90-5	Aluminum	E*	Y	7.61E+00	1.04E+04	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181366	7429-90-5	Aluminum	E*	Y	7.47E+00	7.84E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181367	7429-90-5	Aluminum	E*	Y	6.93E+00	6.68E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
WST16-19-181368	7429-90-5	Aluminum	E*	Y	7.08E+00	4.79E+03	05/07/2019	N/A	FALSE	7.80E+04	FALSE	2.92E+04	FALSE
RE16-12-17672	7440-36-0	Antimony	U	N	3.42E-01	ND	8/13/2012						
RE16-12-17673	7440-36-0	Antimony	U	N	3.38E-01	ND	8/13/2012						
RE16-12-17674	7440-36-0	Antimony	U	N	3.45E-01	ND	8/13/2012						
RE16-12-17675	7440-36-0	Antimony	U	N	3.06E-01	ND	8/13/2012						
RE16-12-17676	7440-36-0	Antimony	U	N	3.19E-01	ND	8/13/2012						
RE16-12-17677	7440-36-0	Antimony	U	N	3.39E-01	ND	8/13/2012						
RE16-12-17678	7440-36-0	Antimony	U	N	3.02E-01	ND	8/13/2012						
RE16-12-17679	7440-36-0	Antimony	U	N	3.34E-01	ND	8/13/2012						
RE16-12-17680	7440-36-0	Antimony	U	N	3.46E-01	ND	8/13/2012						
RE16-12-17681	7440-36-0	Antimony	U	N	3.30E-01	ND	8/13/2012						
WST16-13-29794	7440-36-0	Antimony	J	Y	3.30E-01	6.66E-01	03/27/2013	N/A	FALSE	3.13E+01	FALSE	8.30E-01	FALSE
WST16-13-29795	7440-36-0	Antimony	U	N	3.28E-01	ND	03/27/2013						
WST16-13-29796	7440-36-0	Antimony	U	N	3.34E-01	ND	03/27/2013						
WST16-13-29797	7440-36-0	Antimony	U	N	3.28E-01	ND	03/27/2013						
WST16-13-29798	7440-36-0	Antimony	U	N	3.30E-01	ND	03/27/2013						

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181353	7440-36-0	Antimony	J	Y	3.31E-01	7.52E-01	05/07/2019	N/A	FALSE	3.13E+01	FALSE	8.30E-01	FALSE
WST16-19-181354	7440-36-0	Antimony	J	Y	3.42E-01	4.18E-01	05/07/2019	N/A	FALSE	3.13E+01	FALSE	8.30E-01	FALSE
WST16-19-181355	7440-36-0	Antimony	J	Y	3.28E-01	8.83E-01	05/07/2019	N/A	FALSE	3.13E+01	FALSE	8.30E-01	TRUE
WST16-19-181357	7440-36-0	Antimony	J	Y	3.13E-01	6.17E-01	05/07/2019	N/A	FALSE	3.13E+01	FALSE	8.30E-01	FALSE
WST16-19-181358	7440-36-0	Antimony	J	Y	3.35E-01	1.22E+00	05/07/2019	N/A	FALSE	3.13E+01	FALSE	8.30E-01	TRUE
WST16-19-181359	7440-36-0	Antimony	J	Y	3.76E-01	5.57E-01	05/07/2019	N/A	FALSE	3.13E+01	FALSE	8.30E-01	FALSE
WST16-19-181361	7440-36-0	Antimony	U	N	3.23E-01	ND	05/07/2019						
WST16-19-181362	7440-36-0	Antimony	U	N	3.69E-01	ND	05/07/2019						
WST16-19-181363	7440-36-0	Antimony	U	N	3.92E-01	ND	05/07/2019						
WST16-19-181364	7440-36-0	Antimony	U	N	3.45E-01	ND	05/07/2019						
WST16-19-181365	7440-36-0	Antimony	U	N	3.69E-01	ND	05/07/2019						
WST16-19-181366	7440-36-0	Antimony	U	N	3.63E-01	ND	05/07/2019						
WST16-19-181367	7440-36-0	Antimony	U	N	3.36E-01	ND	05/07/2019						
WST16-19-181368	7440-36-0	Antimony	U	N	3.43E-01	ND	05/07/2019						
09RCRA696	7440-38-2	Arsenic		Y	2.00E-01	1.94E+00	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA698	7440-38-2	Arsenic		Y	2.20E-01	2.23E+00	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA700	7440-38-2	Arsenic	J	Y	2.10E-01	7.73E-01	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA702	7440-38-2	Arsenic		Y	2.20E-01	3.39E+00	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA704	7440-38-2	Arsenic		Y	2.10E-01	2.42E+00	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA706	7440-38-2	Arsenic		Y	2.10E-01	1.94E+00	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA708	7440-38-2	Arsenic	J	Y	2.00E-01	9.44E-01	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA710	7440-38-2	Arsenic	J	Y	2.10E-01	7.67E-01	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA712	7440-38-2	Arsenic	J	Y	2.40E-01	9.81E-01	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA732	7440-38-2	Arsenic		Y	2.10E-01	1.84E+00	2009	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17672	7440-38-2	Arsenic	J	Y	1.94E-01	9.54E-01	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17673	7440-38-2	Arsenic	J	Y	1.96E-01	8.52E-01	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17674	7440-38-2	Arsenic	J	Y	2.12E-01	6.56E-01	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17675	7440-38-2	Arsenic	J	Y	2.00E-01	6.71E-01	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17676	7440-38-2	Arsenic		Y	1.79E-01	9.77E-01	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17677	7440-38-2	Arsenic		Y	2.12E-01	1.69E+00	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17678	7440-38-2	Arsenic	J	Y	2.04E-01	8.41E-01	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17679	7440-38-2	Arsenic		Y	2.02E-01	1.01E+00	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17680	7440-38-2	Arsenic		Y	1.94E-01	1.16E+00	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
RE16-12-17681	7440-38-2	Arsenic		Y	2.03E-01	1.62E+00	8/13/2012	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-13-29794	7440-38-2	Arsenic		Y	1.97E-01	1.70E+00	03/27/2013	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-13-29795	7440-38-2	Arsenic		Y	1.92E-01	2.19E+00	03/27/2013	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-13-29796	7440-38-2	Arsenic		Y	1.97E-01	1.79E+00	03/27/2013	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-13-29797	7440-38-2	Arsenic		Y	2.00E-01	1.78E+00	03/27/2013	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-13-29798	7440-38-2	Arsenic		Y	2.02E-01	2.09E+00	03/27/2013	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181353	7440-38-2	Arsenic		Y	3.43E-01	1.43E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181354	7440-38-2	Arsenic		Y	3.55E-01	2.54E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181355	7440-38-2	Arsenic		Y	3.35E-01	1.77E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181357	7440-38-2	Arsenic		Y	3.14E-01	1.59E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181358	7440-38-2	Arsenic		Y	3.15E-01	1.99E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181359	7440-38-2	Arsenic		Y	3.83E-01	2.33E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181361	7440-38-2	Arsenic		Y	3.38E-01	1.52E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181362	7440-38-2	Arsenic		Y	3.74E-01	2.11E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181363	7440-38-2	Arsenic		Y	3.89E-01	2.06E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181364	7440-38-2	Arsenic		Y	3.50E-01	3.32E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181365	7440-38-2	Arsenic		Y	3.62E-01	3.67E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181366	7440-38-2	Arsenic		Y	3.71E-01	3.26E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181367	7440-38-2	Arsenic		Y	3.51E-01	3.01E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
WST16-19-181368	7440-38-2	Arsenic		Y	3.40E-01	2.38E+00	05/07/2019	7.07E+00	FALSE	1.30E+01	FALSE	8.17E+00	FALSE
09RCRA696	7440-39-3	Barium	*	Y	1.00E+01	1.18E+03	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
09RCRA698	7440-39-3	Barium	*	Y	4.30E+00	4.70E+02	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
09RCRA700	7440-39-3	Barium	*	Y	2.10E+00	2.42E+02	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
09RCRA702	7440-39-3	Barium	*	Y	1.10E+00	1.96E+02	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
09RCRA704	7440-39-3	Barium	*	Y	2.10E+00	2.29E+02	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
09RCRA706	7440-39-3	Barium	*	Y	2.10E+00	2.98E+02	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
09RCRA708	7440-39-3	Barium	*	Y	5.00E+00	9.70E+02	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
09RCRA710	7440-39-3	Barium	*	Y	1.10E+01	1.78E+03	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
09RCRA712	7440-39-3	Barium	*	Y	1.20E+01	1.73E+03	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
09RCRA732	7440-39-3	Barium	*	Y	2.10E+00	2.67E+02	2009	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
RE16-12-17672	7440-39-3	Barium		Y	1.04E-01	6.58E+02	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17673	7440-39-3	Barium		Y	1.02E+00	2.09E+03	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17674	7440-39-3	Barium		Y	1.05E+00	1.79E+03	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17675	7440-39-3	Barium		Y	9.27E-01	7.88E+03	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17676	7440-39-3	Barium		Y	9.68E-01	6.66E+03	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17677	7440-39-3	Barium		Y	1.03E-01	6.18E+02	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17678	7440-39-3	Barium		Y	9.16E-02	7.62E+02	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17679	7440-39-3	Barium		Y	1.01E-01	1.45E+03	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17680	7440-39-3	Barium		Y	1.05E-01	5.43E+02	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
RE16-12-17681	7440-39-3	Barium		Y	1.00E-01	3.45E+02	8/13/2012	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-13-29794	7440-39-3	Barium		Y	1.00E-01	1.23E+02	03/27/2013	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
WST16-13-29795	7440-39-3	Barium		Y	9.95E-02	4.63E+02	03/27/2013	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-13-29796	7440-39-3	Barium		Y	1.01E-01	2.30E+02	03/27/2013	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
WST16-13-29797	7440-39-3	Barium		Y	9.93E-02	2.06E+02	03/27/2013	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
WST16-13-29798	7440-39-3	Barium		Y	1.00E-01	3.88E+02	03/27/2013	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181353	7440-39-3	Barium	E*	Y	9.93E-01	2.37E+03	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181354	7440-39-3	Barium	E*	Y	1.01E+00	3.01E+03	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181355	7440-39-3	Barium	E*	Y	9.53E-01	7.31E+03	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181357	7440-39-3	Barium	E*	Y	9.63E-01	1.26E+04	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181358	7440-39-3	Barium	E*	Y	9.59E-01	1.26E+04	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181359	7440-39-3	Barium	E*	Y	1.08E+00	2.73E+03	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181361	7440-39-3	Barium	E*	Y	9.91E-02	3.73E+02	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181362	7440-39-3	Barium	E*	Y	1.10E-01	1.09E+03	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181363	7440-39-3	Barium	E*	Y	1.20E-01	7.19E+02	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181364	7440-39-3	Barium	E*	Y	1.01E-01	1.27E+02	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
WST16-19-181365	7440-39-3	Barium	E*	Y	1.07E-01	6.99E+01	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
WST16-19-181366	7440-39-3	Barium	E*	Y	1.03E-01	1.25E+03	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181367	7440-39-3	Barium	E*	Y	1.02E-01	4.61E+02	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	TRUE
WST16-19-181368	7440-39-3	Barium	E*	Y	1.05E-01	2.59E+02	05/07/2019	N/A	FALSE	1.56E+04	FALSE	2.95E+02	FALSE
RE16-12-17672	7440-41-7	Beryllium		Y	1.94E-02	6.03E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17673	7440-41-7	Beryllium		Y	1.96E-02	4.90E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17674	7440-41-7	Beryllium		Y	2.12E-02	5.25E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17675	7440-41-7	Beryllium		Y	2.00E-02	1.46E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17676	7440-41-7	Beryllium		Y	1.79E-02	1.64E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17677	7440-41-7	Beryllium		Y	2.12E-02	1.13E+00	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17678	7440-41-7	Beryllium		Y	2.04E-02	7.51E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17679	7440-41-7	Beryllium		Y	2.02E-02	6.70E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17680	7440-41-7	Beryllium		Y	1.94E-02	1.06E+00	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
RE16-12-17681	7440-41-7	Beryllium		Y	2.03E-02	6.81E-01	8/13/2012	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-13-29794	7440-41-7	Beryllium		Y	1.97E-02	6.35E-01	03/27/2013	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-13-29795	7440-41-7	Beryllium		Y	1.92E-02	7.15E-01	03/27/2013	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-13-29796	7440-41-7	Beryllium		Y	1.97E-02	6.39E-01	03/27/2013	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-13-29797	7440-41-7	Beryllium		Y	2.00E-02	6.49E-01	03/27/2013	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-13-29798	7440-41-7	Beryllium		Y	2.02E-02	7.18E-01	03/27/2013	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181353	7440-41-7	Beryllium		Y	2.03E-02	3.66E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181354	7440-41-7	Beryllium		Y	2.10E-02	7.89E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181355	7440-41-7	Beryllium		Y	1.98E-02	4.47E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181357	7440-41-7	Beryllium		Y	1.86E-02	1.43E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181358	7440-41-7	Beryllium		Y	1.86E-02	1.45E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181359	7440-41-7	Beryllium		Y	2.27E-02	6.19E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181361	7440-41-7	Beryllium		Y	2.00E-02	2.78E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181362	7440-41-7	Beryllium		Y	2.21E-02	5.61E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181363	7440-41-7	Beryllium		Y	2.30E-02	5.53E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181364	7440-41-7	Beryllium		Y	2.07E-02	6.79E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181365	7440-41-7	Beryllium		Y	2.14E-02	1.11E+00	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181366	7440-41-7	Beryllium		Y	2.19E-02	9.38E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181367	7440-41-7	Beryllium		Y	2.07E-02	5.10E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
WST16-19-181368	7440-41-7	Beryllium		Y	2.01E-02	6.86E-01	05/07/2019	6.44E+04	FALSE	1.56E+02	FALSE	1.83E+00	FALSE
09RCRA696	7440-43-9	Cadmium		Y	2.00E-02	3.30E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	FALSE
09RCRA698	7440-43-9	Cadmium		Y	2.20E-02	4.93E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	TRUE
09RCRA700	7440-43-9	Cadmium		Y	2.10E-02	3.26E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	FALSE
09RCRA702	7440-43-9	Cadmium		Y	2.20E-02	4.87E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	TRUE
09RCRA704	7440-43-9	Cadmium		Y	2.10E-02	5.55E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	TRUE
09RCRA706	7440-43-9	Cadmium		Y	2.10E-02	5.62E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	TRUE
09RCRA708	7440-43-9	Cadmium		Y	2.00E-02	3.19E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	FALSE
09RCRA710	7440-43-9	Cadmium		Y	2.10E-02	4.53E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	TRUE
09RCRA712	7440-43-9	Cadmium		Y	2.40E-02	4.25E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	TRUE
09RCRA732	7440-43-9	Cadmium		Y	2.10E-02	4.14E-01	2009	8.59E+04	FALSE	7.05E+01	FALSE	4.00E-01	TRUE
RE16-12-17672	7440-43-9	Cadmium	U	N	1.04E-01	ND	8/13/2012						

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
RE16-12-17673	7440-43-9	Cadmium	U	N	1.02E-01	ND	8/13/2012						
RE16-12-17674	7440-43-9	Cadmium	U	N	1.05E-01	ND	8/13/2012						
RE16-12-17675	7440-43-9	Cadmium	U	N	9.27E-02	ND	8/13/2012						
RE16-12-17676	7440-43-9	Cadmium	U	N	9.68E-02	ND	8/13/2012						
RE16-12-17677	7440-43-9	Cadmium	U	N	1.03E-01	ND	8/13/2012						
RE16-12-17678	7440-43-9	Cadmium	U	N	9.16E-02	ND	8/13/2012						
RE16-12-17679	7440-43-9	Cadmium	U	N	1.01E-01	ND	8/13/2012						
RE16-12-17680	7440-43-9	Cadmium	U	N	1.05E-01	ND	8/13/2012						
RE16-12-17681	7440-43-9	Cadmium	U	N	1.00E-01	ND	8/13/2012						
WST16-13-29794	7440-43-9	Cadmium	U	N	1.00E-01	ND	03/27/2013						
WST16-13-29795	7440-43-9	Cadmium	U	N	9.95E-02	ND	03/27/2013						
WST16-13-29796	7440-43-9	Cadmium	U	N	1.01E-01	ND	03/27/2013						
WST16-13-29797	7440-43-9	Cadmium	U	N	9.93E-02	ND	03/27/2013						
WST16-13-29798	7440-43-9	Cadmium	U	N	1.00E-01	ND	03/27/2013						
WST16-19-181353	7440-43-9	Cadmium	U	N	1.00E-01	ND	05/07/2019						
WST16-19-181354	7440-43-9	Cadmium	U	N	1.04E-01	ND	05/07/2019						
WST16-19-181355	7440-43-9	Cadmium	U	N	9.94E-02	ND	05/07/2019						
WST16-19-181357	7440-43-9	Cadmium	U	N	9.49E-02	ND	05/07/2019						
WST16-19-181358	7440-43-9	Cadmium	U	N	1.01E-01	ND	05/07/2019						
WST16-19-181359	7440-43-9	Cadmium	U	N	1.14E-01	ND	05/07/2019						
WST16-19-181361	7440-43-9	Cadmium	U	N	9.78E-02	ND	05/07/2019						
WST16-19-181362	7440-43-9	Cadmium	U	N	1.12E-01	ND	05/07/2019						
WST16-19-181363	7440-43-9	Cadmium	U	N	1.19E-01	ND	05/07/2019						
WST16-19-181364	7440-43-9	Cadmium	U	N	1.04E-01	ND	05/07/2019						
WST16-19-181365	7440-43-9	Cadmium	U	N	1.12E-01	ND	05/07/2019						
WST16-19-181366	7440-43-9	Cadmium	U	N	1.10E-01	ND	05/07/2019						
WST16-19-181367	7440-43-9	Cadmium	U	N	1.02E-01	ND	05/07/2019						
WST16-19-181368	7440-43-9	Cadmium	U	N	1.04E-01	ND	05/07/2019						
RE16-12-17672	Ca	Calcium	N	Y	8.30E+00	1.29E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17673	Ca	Calcium	N	Y	8.19E+00	1.60E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17674	Ca	Calcium	N	Y	8.37E+00	1.31E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17675	Ca	Calcium	N	Y	7.42E+00	7.16E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	TRUE
RE16-12-17676	Ca	Calcium	N	Y	7.74E+00	2.64E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17677	Ca	Calcium	N	Y	8.22E+00	2.21E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17678	Ca	Calcium	N	Y	7.33E+00	1.25E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17679	Ca	Calcium	N	Y	8.09E+00	1.52E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17680	Ca	Calcium	N	Y	8.39E+00	1.87E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
RE16-12-17681	Ca	Calcium	N	Y	8.00E+00	2.15E+03	8/13/2012	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-13-29794	Ca	Calcium	N	Y	8.00E+00	1.93E+03	03/27/2013	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-13-29795	Ca	Calcium	N	Y	7.96E+00	2.37E+03	03/27/2013	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-13-29796	Ca	Calcium	N	Y	8.09E+00	2.48E+03	03/27/2013	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-13-29797	Ca	Calcium	N	Y	7.94E+00	1.79E+03	03/27/2013	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-13-29798	Ca	Calcium	N	Y	8.00E+00	2.50E+03	03/27/2013	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181353	Ca	Calcium	N*	Y	7.94E+00	9.63E+02	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181354	Ca	Calcium	N*	Y	8.04E+00	1.09E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181355	Ca	Calcium	N*	Y	7.62E+00	1.98E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181357	Ca	Calcium	N*	Y	7.70E+00	1.81E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181358	Ca	Calcium	N*	Y	7.68E+00	1.61E+04	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	TRUE
WST16-19-181359	Ca	Calcium	N*	Y	8.61E+00	1.03E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181361	Ca	Calcium	N*	Y	7.93E+00	1.10E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181362	Ca	Calcium	N*	Y	8.79E+00	1.23E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181363	Ca	Calcium	N*	Y	9.59E+00	1.01E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181364	Ca	Calcium	N*	Y	8.09E+00	9.96E+02	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181365	Ca	Calcium	N*	Y	8.54E+00	1.63E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181366	Ca	Calcium	N*	Y	8.26E+00	2.31E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181367	Ca	Calcium	N*	Y	8.12E+00	1.03E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
WST16-19-181368	Ca	Calcium	N*	Y	8.41E+00	1.83E+03	05/07/2019	N/A	FALSE	1.30E+07	FALSE	6.12E+03	FALSE
09RCRA696	16065-83-1	Chromium	*	Y	2.00E-01	7.85E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA698	16065-83-1	Chromium	*	Y	2.20E-01	6.25E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA700	16065-83-1	Chromium	*	Y	2.10E-01	3.05E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA702	16065-83-1	Chromium	*	Y	2.20E-01	1.11E+01	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA704	16065-83-1	Chromium	*	Y	2.10E-01	8.80E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA706	16065-83-1	Chromium	*	Y	2.10E-01	5.20E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA708	16065-83-1	Chromium	*	Y	2.00E-01	4.59E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA710	16065-83-1	Chromium	*	Y	2.10E-01	5.24E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA712	16065-83-1	Chromium	*	Y	2.40E-01	5.16E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
09RCRA732	16065-83-1	Chromium	*	Y	2.10E-01	6.85E+00	2009	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17672	16065-83-1	Chromium		Y	1.56E-01	5.06E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17673	16065-83-1	Chromium		Y	1.53E-01	9.01E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17674	16065-83-1	Chromium		Y	1.57E-01	4.61E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17675	16065-83-1	Chromium		Y	1.39E-01	7.71E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17676	16065-83-1	Chromium		Y	1.45E-01	7.18E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17677	16065-83-1	Chromium		Y	1.54E-01	7.68E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17678	16065-83-1	Chromium		Y	1.37E-01	5.20E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17679	16065-83-1	Chromium		Y	1.52E-01	7.69E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17680	16065-83-1	Chromium		Y	1.57E-01	6.90E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17681	16065-83-1	Chromium		Y	1.50E-01	5.64E+00	8/13/2012	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-13-29794	16065-83-1	Chromium		Y	1.50E-01	5.48E+00	03/27/2013	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-13-29795	16065-83-1	Chromium		Y	1.49E-01	5.75E+00	03/27/2013	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-13-29796	16065-83-1	Chromium		Y	1.52E-01	5.14E+00	03/27/2013	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-13-29797	16065-83-1	Chromium		Y	1.49E-01	5.38E+00	03/27/2013	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-13-29798	16065-83-1	Chromium		Y	1.50E-01	5.38E+00	03/27/2013	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181353	16065-83-1	Chromium	*	Y	1.50E-01	6.17E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181354	16065-83-1	Chromium	*	Y	1.56E-01	6.04E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181355	16065-83-1	Chromium	*	Y	1.49E-01	4.38E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181357	16065-83-1	Chromium	*	Y	1.42E-01	5.92E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181358	16065-83-1	Chromium	*	Y	1.52E-01	5.10E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181359	16065-83-1	Chromium	*	Y	1.71E-01	5.52E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181361	16065-83-1	Chromium	*	Y	1.47E-01	4.16E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181362	16065-83-1	Chromium	*	Y	1.68E-01	5.28E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181363	16065-83-1	Chromium	*	Y	1.78E-01	5.88E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181364	16065-83-1	Chromium	*	Y	1.57E-01	6.49E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181365	16065-83-1	Chromium	*	Y	1.68E-01	7.72E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181366	16065-83-1	Chromium	*	Y	1.65E-01	6.29E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181367	16065-83-1	Chromium	*	Y	1.53E-01	6.52E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
WST16-19-181368	16065-83-1	Chromium	*	Y	1.56E-01	3.65E+00	05/07/2019	9.66E+01	FALSE	4.52E+04	FALSE	1.93E+01	FALSE
RE16-12-17672	7440-48-4	Cobalt		Y	1.56E-01	2.08E+00	8/13/2012	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
RE16-12-17673	7440-48-4	Cobalt	U	N	1.53E+00	ND	8/13/2012						
RE16-12-17674	7440-48-4	Cobalt	U	N	1.57E+00	ND	8/13/2012						
RE16-12-17675	7440-48-4	Cobalt	U	N	1.39E+00	ND	8/13/2012						
RE16-12-17676	7440-48-4	Cobalt	U	N	1.45E+00	ND	8/13/2012						
RE16-12-17677	7440-48-4	Cobalt		Y	1.54E-01	3.19E+00	8/13/2012	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
RE16-12-17678	7440-48-4	Cobalt		Y	1.37E-01	1.09E+00	8/13/2012	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
RE16-12-17679	7440-48-4	Cobalt		Y	1.52E-01	3.40E+00	8/13/2012	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
RE16-12-17680	7440-48-4	Cobalt		Y	1.57E-01	2.64E+00	8/13/2012	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
RE16-12-17681	7440-48-4	Cobalt		Y	1.50E-01	2.81E+00	8/13/2012	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-13-29794	7440-48-4	Cobalt		Y	1.50E-01	2.81E+00	03/27/2013	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-13-29795	7440-48-4	Cobalt		Y	1.49E-01	2.95E+00	03/27/2013	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-13-29796	7440-48-4	Cobalt		Y	1.52E-01	3.31E+00	03/27/2013	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-13-29797	7440-48-4	Cobalt		Y	1.49E-01	3.05E+00	03/27/2013	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-13-29798	7440-48-4	Cobalt		Y	1.50E-01	2.99E+00	03/27/2013	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181353	7440-48-4	Cobalt	U	N	1.49E+00	ND	05/07/2019						
WST16-19-181354	7440-48-4	Cobalt	J	Y	1.51E+00	3.03E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181355	7440-48-4	Cobalt	U	N	1.43E+00	ND	05/07/2019						
WST16-19-181357	7440-48-4	Cobalt	U	N	1.44E+00	ND	05/07/2019						
WST16-19-181358	7440-48-4	Cobalt	U	N	1.44E+00	ND	05/07/2019						
WST16-19-181359	7440-48-4	Cobalt	U	N	1.62E+00	ND	05/07/2019						
WST16-19-181361	7440-48-4	Cobalt		Y	1.49E-01	1.39E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181362	7440-48-4	Cobalt		Y	1.65E-01	1.02E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181363	7440-48-4	Cobalt		Y	1.80E-01	2.34E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181364	7440-48-4	Cobalt		Y	1.52E-01	3.01E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181365	7440-48-4	Cobalt		Y	1.60E-01	2.82E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181366	7440-48-4	Cobalt		Y	1.55E-01	1.49E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181367	7440-48-4	Cobalt		Y	1.52E-01	1.33E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
WST16-19-181368	7440-48-4	Cobalt		Y	1.58E-01	2.72E+00	05/07/2019	1.72E+04	FALSE	2.34E+01	FALSE	8.64E+00	FALSE
RE16-12-17672	7440-50-8	Copper		Y	3.11E-01	1.17E+01	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
RE16-12-17673	7440-50-8	Copper		Y	3.07E-01	3.54E+01	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	TRUE
RE16-12-17674	7440-50-8	Copper		Y	3.14E-01	8.54E+00	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
RE16-12-17675	7440-50-8	Copper		Y	2.78E-01	8.38E+01	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	TRUE
RE16-12-17676	7440-50-8	Copper		Y	2.90E-01	1.13E+02	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	TRUE
RE16-12-17677	7440-50-8	Copper		Y	3.08E-01	7.71E+00	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
RE16-12-17678	7440-50-8	Copper		Y	2.75E-01	6.40E+00	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
RE16-12-17679	7440-50-8	Copper		Y	3.03E-01	9.26E+00	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
RE16-12-17680	7440-50-8	Copper		Y	3.15E-01	1.03E+01	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
RE16-12-17681	7440-50-8	Copper		Y	3.00E-01	1.42E+01	8/13/2012	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-13-29794	7440-50-8	Copper		Y	3.00E-01	5.78E+00	03/27/2013	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-13-29795	7440-50-8	Copper		Y	2.98E-01	1.36E+01	03/27/2013	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-13-29796	7440-50-8	Copper		Y	3.03E-01	7.35E+00	03/27/2013	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-13-29797	7440-50-8	Copper		Y	2.98E-01	8.67E+00	03/27/2013	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-13-29798	7440-50-8	Copper		Y	3.00E-01	7.44E+00	03/27/2013	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181353	7440-50-8	Copper		Y	3.01E-01	2.10E+01	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	TRUE
WST16-19-181354	7440-50-8	Copper		Y	3.11E-01	8.79E+00	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181355	7440-50-8	Copper		Y	2.98E-01	6.35E+00	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181357	7440-50-8	Copper		Y	2.85E-01	3.04E+01	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	TRUE
WST16-19-181358	7440-50-8	Copper		Y	3.04E-01	2.65E+01	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	TRUE
WST16-19-181359	7440-50-8	Copper		Y	3.42E-01	1.15E+01	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181361	7440-50-8	Copper		Y	2.93E-01	7.20E+00	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181362	7440-50-8	Copper		Y	3.35E-01	1.01E+01	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181363	7440-50-8	Copper		N	3.56E-01	ND	05/07/2019						
WST16-19-181364	7440-50-8	Copper		Y	3.13E-01	7.40E+00	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181365	7440-50-8	Copper		Y	3.36E-01	8.29E+00	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181366	7440-50-8	Copper		Y	3.30E-01	6.61E+00	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181367	7440-50-8	Copper		Y	3.06E-01	7.35E+00	05/07/2019	N/A	FALSE	3.13E+03	FALSE	1.47E+01	FALSE
WST16-19-181368	7440-50-8	Copper		N	3.12E-01	ND	05/07/2019						
RE16-12-17672	7439-89-6	Iron		Y	8.30E+00	1.13E+04	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17673	7439-89-6	Iron		Y	8.19E+00	1.08E+04	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17674	7439-89-6	Iron		Y	8.37E+00	9.89E+03	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17675	7439-89-6	Iron		Y	7.42E+00	6.67E+03	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17676	7439-89-6	Iron		Y	7.74E+00	6.81E+03	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17677	7439-89-6	Iron		Y	8.22E+00	1.70E+04	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17678	7439-89-6	Iron		Y	7.33E+00	1.05E+04	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17679	7439-89-6	Iron		Y	8.09E+00	1.29E+04	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17680	7439-89-6	Iron		Y	8.39E+00	9.23E+03	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
RE16-12-17681	7439-89-6	Iron		Y	8.00E+00	1.02E+04	8/13/2012	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-13-29794	7439-89-6	Iron		Y	8.00E+00	1.11E+04	03/27/2013	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-13-29795	7439-89-6	Iron		Y	7.96E+00	9.91E+03	03/27/2013	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-13-29796	7439-89-6	Iron		Y	8.09E+00	9.88E+03	03/27/2013	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-13-29797	7439-89-6	Iron		Y	7.94E+00	1.05E+04	03/27/2013	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-13-29798	7439-89-6	Iron		Y	8.00E+00	1.02E+04	03/27/2013	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181353	7439-89-6	Iron	*	Y	7.94E+00	3.66E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181354	7439-89-6	Iron	*	Y	8.04E+00	6.44E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181355	7439-89-6	Iron	*	Y	7.62E+00	4.05E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181357	7439-89-6	Iron	*	Y	7.70E+00	3.06E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181358	7439-89-6	Iron	*	Y	7.68E+00	3.55E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181359	7439-89-6	Iron	*	Y	8.61E+00	4.19E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181361	7439-89-6	Iron	*	Y	7.93E+00	4.19E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181362	7439-89-6	Iron	*	Y	8.79E+00	5.16E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181363	7439-89-6	Iron	*	Y	9.59E+00	5.53E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181364	7439-89-6	Iron	*	Y	8.09E+00	6.05E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181365	7439-89-6	Iron	*	Y	8.54E+00	6.73E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181366	7439-89-6	Iron	*	Y	8.26E+00	4.86E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181367	7439-89-6	Iron	*	Y	8.12E+00	6.57E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
WST16-19-181368	7439-89-6	Iron	*	Y	8.41E+00	5.27E+03	05/07/2019	N/A	FALSE	5.48E+04	FALSE	2.15E+04	FALSE
09RCRA696	7439-92-1	Lead	EN*	Y	1.00E-01	1.10E+01	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA698	7439-92-1	Lead	EN*	Y	1.10E-01	1.15E+01	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA700	7439-92-1	Lead	EN*	Y	1.10E-01	6.03E+00	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA702	7439-92-1	Lead	EN*	Y	1.10E-01	1.30E+01	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA704	7439-92-1	Lead	EN*	Y	1.10E-01	1.97E+01	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA706	7439-92-1	Lead	EN*	Y	1.00E-01	1.15E+01	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA708	7439-92-1	Lead	EN*	Y	1.00E-01	9.16E+00	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA710	7439-92-1	Lead	EN*	Y	1.10E-01	1.35E+01	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA712	7439-92-1	Lead	EN*	Y	1.20E-01	9.48E+00	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
09RCRA732	7439-92-1	Lead	EN*	Y	1.00E-01	1.18E+01	2009	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17672	7439-92-1	Lead		Y	3.42E-01	1.20E+01	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17673	7439-92-1	Lead		Y	3.38E-01	2.28E+02	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	TRUE
RE16-12-17674	7439-92-1	Lead		Y	3.45E-01	9.28E+00	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17675	7439-92-1	Lead		Y	3.06E-01	7.06E+01	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	TRUE
RE16-12-17676	7439-92-1	Lead		Y	3.19E-01	3.38E+01	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	TRUE
RE16-12-17677	7439-92-1	Lead		Y	3.39E-01	1.31E+01	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17678	7439-92-1	Lead		Y	3.02E-01	7.26E+00	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17679	7439-92-1	Lead		Y	3.34E-01	1.11E+01	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17680	7439-92-1	Lead		Y	3.46E-01	8.48E+00	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17681	7439-92-1	Lead		Y	3.30E-01	1.19E+01	8/13/2012	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-13-29794	7439-92-1	Lead		Y	3.30E-01	8.91E+00	03/27/2013	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-13-29795	7439-92-1	Lead		Y	3.28E-01	1.27E+01	03/27/2013	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-13-29796	7439-92-1	Lead		Y	3.34E-01	1.06E+01	03/27/2013	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-13-29797	7439-92-1	Lead		Y	3.28E-01	1.04E+01	03/27/2013	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-13-29798	7439-92-1	Lead		Y	3.30E-01	1.10E+01	03/27/2013	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181353	7439-92-1	Lead	*	Y	3.31E-01	2.01E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181354	7439-92-1	Lead	*	Y	3.42E-01	1.08E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181355	7439-92-1	Lead	*	Y	3.28E-01	9.59E+00	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181357	7439-92-1	Lead	*	Y	3.13E-01	2.56E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	TRUE
WST16-19-181358	7439-92-1	Lead	*	Y	3.35E-01	2.81E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	TRUE
WST16-19-181359	7439-92-1	Lead	*	Y	3.76E-01	1.02E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181361	7439-92-1	Lead	*	Y	3.23E-01	8.19E+00	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181362	7439-92-1	Lead	*	Y	3.69E-01	8.38E+00	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181363	7439-92-1	Lead	*	Y	3.92E-01	5.19E+00	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181364	7439-92-1	Lead	*	Y	3.45E-01	8.39E+00	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181365	7439-92-1	Lead	*	Y	3.69E-01	1.01E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181366	7439-92-1	Lead	*	Y	3.63E-01	8.84E+00	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181367	7439-92-1	Lead	*	Y	3.36E-01	1.15E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
WST16-19-181368	7439-92-1	Lead	*	Y	3.43E-01	1.35E+01	05/07/2019	N/A	FALSE	4.00E+02	FALSE	2.23E+01	FALSE
RE16-12-17672	Mg	Magnesium	*	Y	8.81E+00	1.06E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17673	Mg	Magnesium	*	Y	8.70E+00	1.00E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17674	Mg	Magnesium	*	Y	8.90E+00	9.75E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17675	Mg	Magnesium	*	Y	7.88E+00	7.60E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17676	Mg	Magnesium	*	Y	8.23E+00	1.03E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17677	Mg	Magnesium	*	Y	8.73E+00	2.24E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17678	Mg	Magnesium	*	Y	7.78E+00	1.10E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17679	Mg	Magnesium	*	Y	8.59E+00	1.37E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17680	Mg	Magnesium	*	Y	8.92E+00	1.26E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17681	Mg	Magnesium	*	Y	8.50E+00	1.26E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-13-29794	Mg	Magnesium		Y	8.50E+00	1.17E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-13-29795	Mg	Magnesium		Y	8.45E+00	1.35E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-13-29796	Mg	Magnesium		Y	8.59E+00	1.26E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-13-29797	Mg	Magnesium		Y	8.44E+00	1.14E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-13-29798	Mg	Magnesium		Y	8.50E+00	1.22E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181353	Mg	Magnesium	E	Y	8.52E+00	1.22E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181354	Mg	Magnesium	E	Y	8.81E+00	1.23E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181355	Mg	Magnesium	E	Y	8.45E+00	1.01E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181357	Mg	Magnesium	E	Y	8.06E+00	9.89E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181358	Mg	Magnesium	E	Y	8.63E+00	8.01E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181359	Mg	Magnesium	E	Y	9.69E+00	1.17E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181361	Mg	Magnesium	E	Y	8.31E+00	8.79E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181362	Mg	Magnesium	E	Y	9.51E+00	1.38E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181363	Mg	Magnesium	E	Y	1.01E+01	1.20E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181364	Mg	Magnesium	E	Y	8.87E+00	1.38E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181365	Mg	Magnesium	E	Y	9.51E+00	1.84E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181366	Mg	Magnesium	E	Y	9.34E+00	1.35E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181367	Mg	Magnesium	E	Y	8.66E+00	1.24E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
WST16-19-181368	Mg	Magnesium	E	Y	8.84E+00	8.76E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	4.61E+03	FALSE
RE16-12-17672	7439-96-5	Manganese		Y	2.07E-01	3.08E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17673	7439-96-5	Manganese		Y	2.05E-01	2.53E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17674	7439-96-5	Manganese		Y	2.09E-01	1.97E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17675	7439-96-5	Manganese		Y	1.85E-01	1.34E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17676	7439-96-5	Manganese		Y	1.94E-01	9.81E+01	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17677	7439-96-5	Manganese		Y	2.05E-01	3.02E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17678	7439-96-5	Manganese		Y	1.83E-01	2.25E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17679	7439-96-5	Manganese		Y	2.02E-01	5.38E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17680	7439-96-5	Manganese		Y	2.10E-01	1.14E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
RE16-12-17681	7439-96-5	Manganese		Y	2.00E-01	2.50E+02	8/13/2012	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-13-29794	7439-96-5	Manganese		Y	2.00E-01	2.31E+02	03/27/2013	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-13-29795	7439-96-5	Manganese		Y	1.99E-01	2.78E+02	03/27/2013	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-13-29796	7439-96-5	Manganese		Y	2.02E-01	3.01E+02	03/27/2013	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-13-29797	7439-96-5	Manganese		Y	1.99E-01	2.73E+02	03/27/2013	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-13-29798	7439-96-5	Manganese		Y	2.00E-01	3.14E+02	03/27/2013	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181353	7439-96-5	Manganese	N*	Y	1.99E-01	7.83E+01	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181354	7439-96-5	Manganese	N*	Y	2.01E-01	1.97E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181355	7439-96-5	Manganese	N*	Y	1.91E-01	9.39E+01	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181357	7439-96-5	Manganese	N*	Y	1.93E-01	6.36E+01	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181358	7439-96-5	Manganese	N*	Y	1.92E-01	1.04E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181359	7439-96-5	Manganese	N*	Y	2.15E-01	1.21E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181361	7439-96-5	Manganese	N*	Y	1.98E-01	1.43E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181362	7439-96-5	Manganese	N*	Y	2.20E-01	1.49E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181363	7439-96-5	Manganese	N*	Y	2.40E-01	2.91E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181364	7439-96-5	Manganese	N*	Y	2.02E-01	2.65E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181365	7439-96-5	Manganese	N*	Y	2.13E-01	2.64E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181366	7439-96-5	Manganese	N*	Y	2.06E-01	2.26E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181367	7439-96-5	Manganese	N*	Y	2.03E-01	1.70E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
WST16-19-181368	7439-96-5	Manganese	N*	Y	2.10E-01	2.24E+02	05/07/2019	N/A	FALSE	1.05E+04	FALSE	6.71E+02	FALSE
09RCRA696	7487-94-7	Mercury		Y	4.00E-03	1.54E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA698	7487-94-7	Mercury		Y	3.70E-03	1.63E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA700	7487-94-7	Mercury	J	Y	4.10E-03	5.68E-03	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA702	7487-94-7	Mercury		Y	4.60E-03	1.96E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA704	7487-94-7	Mercury	J	Y	4.30E-03	1.22E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA706	7487-94-7	Mercury	J	Y	4.20E-03	1.03E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA708	7487-94-7	Mercury	J	Y	4.10E-03	6.10E-03	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA710	7487-94-7	Mercury		Y	4.10E-03	4.00E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA712	7487-94-7	Mercury		Y	4.60E-03	2.03E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
09RCRA732	7487-94-7	Mercury		Y	3.60E-03	1.18E-02	2009	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
RE16-12-17672	7487-94-7	Mercury	J	Y	4.07E-03	7.17E-03	8/13/2012	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
RE16-12-17673	7487-94-7	Mercury	J	Y	4.15E-03	9.61E-03	8/13/2012	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
RE16-12-17674	7487-94-7	Mercury	U	N	4.22E-03	ND	8/13/2012						
RE16-12-17675	7487-94-7	Mercury	U	N	3.96E-03	ND	8/13/2012						
RE16-12-17676	7487-94-7	Mercury	U	N	3.88E-03	ND	8/13/2012						
RE16-12-17677	7487-94-7	Mercury		Y	4.29E-03	1.47E-02	8/13/2012	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
RE16-12-17678	7487-94-7	Mercury	J	Y	4.14E-03	1.01E-02	8/13/2012	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
RE16-12-17679	7487-94-7	Mercury	J	Y	4.18E-03	1.13E-02	8/13/2012	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
RE16-12-17680	7487-94-7	Mercury		Y	4.05E-03	1.60E-02	8/13/2012	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
RE16-12-17681	7487-94-7	Mercury		Y	4.04E-03	1.42E-02	8/13/2012	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-13-29794	7487-94-7	Mercury	J	Y	4.05E-03	8.90E-03	03/27/2013	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-13-29795	7487-94-7	Mercury		Y	3.81E-03	1.79E-02	03/27/2013	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-13-29796	7487-94-7	Mercury	J	Y	3.95E-03	9.66E-03	03/27/2013	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-13-29797	7487-94-7	Mercury	J	Y	4.04E-03	1.03E-02	03/27/2013	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-13-29798	7487-94-7	Mercury		Y	3.93E-03	1.47E-02	03/27/2013	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181353	7487-94-7	Mercury		Y	3.98E-03	2.05E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181354	7487-94-7	Mercury		Y	3.83E-03	1.18E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181355	7487-94-7	Mercury	J	Y	3.64E-03	3.86E-03	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181359	7487-94-7	Mercury	J	Y	4.14E-03	1.09E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181361	7487-94-7	Mercury	J	Y	3.57E-03	3.68E-03	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181362	7487-94-7	Mercury		Y	4.00E-03	1.60E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181364	7487-94-7	Mercury	J	Y	4.10E-03	1.01E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181365	7487-94-7	Mercury		Y	3.90E-03	1.36E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181366	7487-94-7	Mercury		Y	4.06E-03	1.42E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181367	7487-94-7	Mercury		Y	4.18E-03	1.31E-02	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-181368	7487-94-7	Mercury	J	Y	3.86E-03	7.03E-03	05/07/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-184749	7487-94-7	Mercury	J	Y	4.06E-03	6.36E-03	08/06/2019	N/A	FALSE	2.38E+01	FALSE	1.00E-01	FALSE
WST16-19-184752	7487-94-7	Mercury	U	N	3.69E-03	ND	08/06/2019						
WST16-19-184753	7487-94-7	Mercury	U	N	3.97E-03	ND	08/06/2019						
RE16-12-17672	7440-02-0	Nickel	N*	Y	9.69E-02	3.55E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17673	7440-02-0	Nickel	N*	Y	9.82E-02	3.62E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17674	7440-02-0	Nickel	N*	Y	1.06E-01	3.58E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17675	7440-02-0	Nickel	N*	Y	1.00E-01	6.04E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17676	7440-02-0	Nickel	N*	Y	8.95E-02	5.38E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17677	7440-02-0	Nickel	N*	Y	1.06E-01	7.39E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17678	7440-02-0	Nickel	N*	Y	1.02E-01	3.46E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17679	7440-02-0	Nickel	N*	Y	1.01E-01	3.67E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17680	7440-02-0	Nickel	N*	Y	9.72E-02	8.34E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17681	7440-02-0	Nickel	N*	Y	1.01E-01	5.22E+00	8/13/2012	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-13-29794	7440-02-0	Nickel		Y	9.87E-02	5.46E+00	03/27/2013	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-13-29795	7440-02-0	Nickel		Y	9.62E-02	5.75E+00	03/27/2013	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-13-29796	7440-02-0	Nickel		Y	9.85E-02	5.26E+00	03/27/2013	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-13-29797	7440-02-0	Nickel		Y	1.00E-01	5.51E+00	03/27/2013	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-13-29798	7440-02-0	Nickel		Y	1.01E-01	6.23E+00	03/27/2013	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181353	7440-02-0	Nickel		Y	1.01E-01	3.89E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181354	7440-02-0	Nickel		Y	1.05E-01	5.98E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181355	7440-02-0	Nickel		Y	9.92E-02	3.84E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181357	7440-02-0	Nickel		Y	9.28E-02	6.51E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181358	7440-02-0	Nickel		Y	9.31E-02	1.07E+01	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181359	7440-02-0	Nickel		Y	1.13E-01	5.13E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181361	7440-02-0	Nickel		Y	9.99E-02	3.69E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181362	7440-02-0	Nickel		Y	1.11E-01	3.30E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181363	7440-02-0	Nickel		Y	1.15E-01	3.35E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181364	7440-02-0	Nickel		Y	1.04E-01	6.00E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181365	7440-02-0	Nickel		Y	1.07E-01	7.35E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181366	7440-02-0	Nickel		Y	1.10E-01	5.83E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181367	7440-02-0	Nickel		Y	1.04E-01	3.71E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
WST16-19-181368	7440-02-0	Nickel		Y	1.01E-01	5.46E+00	05/07/2019	5.95E+05	FALSE	1.56E+03	FALSE	1.54E+01	FALSE
RE16-12-17672	K	Potassium	*	Y	6.64E+00	9.81E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17673	K	Potassium	*	Y	6.55E+00	8.79E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
RE16-12-17674	K	Potassium	*	Y	6.70E+00	9.90E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17675	K	Potassium	*	Y	5.93E+00	3.27E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17676	K	Potassium	*	Y	6.19E+00	3.37E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17677	K	Potassium	*	Y	6.57E+00	1.80E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17678	K	Potassium	*	Y	5.86E+00	9.26E+02	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17679	K	Potassium	*	Y	6.47E+00	1.26E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17680	K	Potassium	*	Y	6.71E+00	1.28E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
RE16-12-17681	K	Potassium	*	Y	6.40E+00	1.79E+03	8/13/2012	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-13-29794	K	Potassium		Y	6.40E+00	1.49E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-13-29795	K	Potassium		Y	6.37E+00	1.61E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-13-29796	K	Potassium		Y	6.47E+00	1.58E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-13-29797	K	Potassium		Y	6.35E+00	1.37E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-13-29798	K	Potassium		Y	6.40E+00	1.44E+03	03/27/2013	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181353	K	Potassium	*	Y	6.42E+00	8.63E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181354	K	Potassium	*	Y	6.64E+00	1.23E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181355	K	Potassium	*	Y	6.36E+00	7.28E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181357	K	Potassium	*	Y	6.07E+00	2.59E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181358	K	Potassium	*	Y	6.49E+00	2.47E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181359	K	Potassium	*	Y	7.30E+00	1.16E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181361	K	Potassium	*	Y	6.26E+00	8.22E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181362	K	Potassium	*	Y	7.16E+00	6.84E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181363	K	Potassium	*	Y	7.60E+00	9.60E+02	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181364	K	Potassium	*	Y	6.68E+00	1.33E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181365	K	Potassium	*	Y	7.16E+00	1.78E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181366	K	Potassium	*	Y	7.03E+00	1.31E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181367	K	Potassium	*	Y	6.52E+00	1.64E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
WST16-19-181368	K	Potassium	*	Y	6.66E+00	1.08E+03	05/07/2019	N/A	FALSE	1.56E+07	FALSE	3.46E+03	FALSE
09RCRA696	7782-49-2	Selenium	UN	N	5.10E-01	ND	2009						
09RCRA698	7782-49-2	Selenium	UN	N	5.40E-01	ND	2009						
09RCRA700	7782-49-2	Selenium	UN	N	5.30E-01	ND	2009						
09RCRA702	7782-49-2	Selenium	UN	N	5.60E-01	ND	2009						
09RCRA704	7782-49-2	Selenium	UN	N	5.20E-01	ND	2009						
09RCRA706	7782-49-2	Selenium	UN	N	5.10E-01	ND	2009						
09RCRA708	7782-49-2	Selenium	UN	N	5.00E-01	ND	2009						
09RCRA710	7782-49-2	Selenium	UN	N	5.30E-01	ND	2009						
09RCRA712	7782-49-2	Selenium	UN	N	5.90E-01	ND	2009						
09RCRA732	7782-49-2	Selenium	UN	N	5.20E-01	ND	2009						
RE16-12-17672	7782-49-2	Selenium	U	N	3.20E-01	ND	8/13/2012						
RE16-12-17673	7782-49-2	Selenium	U	N	3.24E-01	ND	8/13/2012						
RE16-12-17674	7782-49-2	Selenium	U	N	3.49E-01	ND	8/13/2012						
RE16-12-17675	7782-49-2	Selenium	U	N	3.30E-01	ND	8/13/2012						
RE16-12-17676	7782-49-2	Selenium	U	N	2.95E-01	ND	8/13/2012						
RE16-12-17677	7782-49-2	Selenium	U	N	3.50E-01	ND	8/13/2012						

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
RE16-12-17678	7782-49-2	Selenium	U	N	3.36E-01	ND	8/13/2012						
RE16-12-17679	7782-49-2	Selenium	U	N	3.34E-01	ND	8/13/2012						
RE16-12-17680	7782-49-2	Selenium	U	N	3.21E-01	ND	8/13/2012						
RE16-12-17681	7782-49-2	Selenium	U	N	3.34E-01	ND	8/13/2012						
WST16-13-29794	7782-49-2	Selenium	U	N	3.26E-01	ND	03/27/2013						
WST16-13-29795	7782-49-2	Selenium	U	N	3.18E-01	ND	03/27/2013						
WST16-13-29796	7782-49-2	Selenium	U	N	3.25E-01	ND	03/27/2013						
WST16-13-29797	7782-49-2	Selenium	U	N	3.31E-01	ND	03/27/2013						
WST16-13-29798	7782-49-2	Selenium	U	N	3.32E-01	ND	03/27/2013						
WST16-19-181353	7782-49-2	Selenium		Y	3.65E-01	1.79E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181354	7782-49-2	Selenium		Y	3.78E-01	1.13E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	FALSE
WST16-19-181355	7782-49-2	Selenium		Y	3.57E-01	1.07E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	FALSE
WST16-19-181357	7782-49-2	Selenium		Y	3.34E-01	3.05E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181358	7782-49-2	Selenium		Y	3.35E-01	2.50E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181359	7782-49-2	Selenium		Y	4.08E-01	1.61E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181361	7782-49-2	Selenium	J	Y	3.60E-01	9.58E-01	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	FALSE
WST16-19-181362	7782-49-2	Selenium		Y	3.98E-01	1.92E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181363	7782-49-2	Selenium		Y	4.15E-01	2.03E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181364	7782-49-2	Selenium		Y	3.73E-01	1.35E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	FALSE
WST16-19-181365	7782-49-2	Selenium		Y	3.86E-01	1.62E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181366	7782-49-2	Selenium		Y	3.95E-01	1.78E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	TRUE
WST16-19-181367	7782-49-2	Selenium		Y	3.73E-01	1.38E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	FALSE
WST16-19-181368	7782-49-2	Selenium		Y	3.62E-01	1.12E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.52E+00	FALSE
09RCRA696	7440-22-4	Silver		Y	1.00E-01	5.74E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
09RCRA698	7440-22-4	Silver		Y	1.10E-01	6.34E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
09RCRA700	7440-22-4	Silver	J	Y	1.00E-01	3.98E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
09RCRA702	7440-22-4	Silver	J	Y	1.10E-01	4.52E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
09RCRA704	7440-22-4	Silver		Y	1.00E-01	5.37E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
09RCRA706	7440-22-4	Silver	J	Y	1.10E-01	3.90E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
09RCRA708	7440-22-4	Silver		Y	1.00E-01	6.92E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
09RCRA710	7440-22-4	Silver		Y	1.10E-01	7.95E+00	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
09RCRA712	7440-22-4	Silver		Y	1.20E-01	1.59E+00	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
09RCRA732	7440-22-4	Silver	J	Y	1.00E-01	2.97E-01	2009	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
RE16-12-17672	7440-22-4	Silver		Y	1.04E-01	8.45E-01	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
RE16-12-17673	7440-22-4	Silver		Y	1.02E-01	1.80E+00	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
RE16-12-17674	7440-22-4	Silver		Y	1.05E-01	1.72E+00	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
RE16-12-17675	7440-22-4	Silver		Y	9.27E-02	1.13E+00	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
RE16-12-17676	7440-22-4	Silver		Y	9.68E-02	9.95E-01	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
RE16-12-17677	7440-22-4	Silver		Y	1.03E-01	5.17E-01	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
RE16-12-17678	7440-22-4	Silver		Y	9.16E-02	2.40E+00	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
RE16-12-17679	7440-22-4	Silver		Y	1.01E-01	4.56E+00	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
RE16-12-17680	7440-22-4	Silver	J	Y	1.05E-01	4.38E-01	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
RE16-12-17681	7440-22-4	Silver	J	Y	1.00E-01	3.19E-01	8/13/2012	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-13-29794	7440-22-4	Silver	J	Y	1.00E-01	1.64E-01	03/27/2013	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-13-29795	7440-22-4	Silver	J	Y	9.95E-02	2.87E-01	03/27/2013	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-13-29796	7440-22-4	Silver	J	Y	1.01E-01	1.57E-01	03/27/2013	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-13-29797	7440-22-4	Silver	J	Y	9.93E-02	1.61E-01	03/27/2013	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-13-29798	7440-22-4	Silver	J	Y	1.00E-01	3.03E-01	03/27/2013	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-19-181353	7440-22-4	Silver		Y	1.00E-01	5.52E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
WST16-19-181354	7440-22-4	Silver		Y	1.04E-01	8.15E-01	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-19-181355	7440-22-4	Silver	J	Y	9.94E-02	4.94E-01	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-19-181357	7440-22-4	Silver	J	Y	9.49E-02	3.76E-01	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-19-181358	7440-22-4	Silver		Y	1.01E-01	5.40E-01	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-19-181359	7440-22-4	Silver		Y	1.14E-01	1.22E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
WST16-19-181361	7440-22-4	Silver		Y	9.78E-02	4.32E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
WST16-19-181362	7440-22-4	Silver	J	Y	1.12E-01	3.00E-01	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-19-181363	7440-22-4	Silver	J	Y	1.19E-01	5.83E-01	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	FALSE
WST16-19-181364	7440-22-4	Silver	U	N	1.04E-01	ND	05/07/2019						
WST16-19-181365	7440-22-4	Silver	U	N	1.12E-01	ND	05/07/2019						
WST16-19-181366	7440-22-4	Silver		Y	1.10E-01	1.62E+00	05/07/2019	N/A	FALSE	3.91E+02	FALSE	1.00E+00	TRUE
WST16-19-181367	7440-22-4	Silver	U	N	1.02E-01	ND	05/07/2019						
WST16-19-181368	7440-22-4	Silver	U	N	1.04E-01	ND	05/07/2019						
RE16-12-17672	Na	Sodium		Y	7.26E+00	1.21E+02	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17673	Na	Sodium		Y	7.16E+00	1.26E+02	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17674	Na	Sodium		Y	7.33E+00	9.47E+01	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17675	Na	Sodium		Y	6.49E+00	5.99E+01	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17676	Na	Sodium		Y	6.78E+00	6.69E+01	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17677	Na	Sodium		Y	7.19E+00	1.07E+02	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17678	Na	Sodium		Y	6.41E+00	1.19E+02	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17679	Na	Sodium		Y	7.08E+00	1.01E+02	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17680	Na	Sodium		Y	7.34E+00	8.68E+01	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17681	Na	Sodium		Y	7.00E+00	7.12E+01	8/13/2012	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-13-29794	Na	Sodium		Y	7.00E+00	1.05E+02	03/27/2013	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-13-29795	Na	Sodium		Y	6.96E+00	8.14E+01	03/27/2013	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-13-29796	Na	Sodium		Y	7.08E+00	7.07E+01	03/27/2013	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-13-29797	Na	Sodium		Y	6.95E+00	7.00E+01	03/27/2013	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-13-29798	Na	Sodium		Y	7.00E+00	6.63E+01	03/27/2013	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181353	Na	Sodium		Y	7.02E+00	1.05E+02	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181354	Na	Sodium		Y	7.26E+00	6.17E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181355	Na	Sodium		Y	6.96E+00	5.85E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181357	Na	Sodium		Y	6.64E+00	7.53E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181358	Na	Sodium		Y	7.10E+00	6.85E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181359	Na	Sodium		Y	7.98E+00	8.58E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181361	Na	Sodium		Y	6.85E+00	9.39E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181362	Na	Sodium		Y	7.83E+00	9.86E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181363	Na	Sodium		Y	8.31E+00	1.54E+02	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181364	Na	Sodium		Y	7.31E+00	7.36E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181365	Na	Sodium		Y	7.83E+00	1.46E+02	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181366	Na	Sodium		Y	7.69E+00	1.03E+02	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181367	Na	Sodium		Y	7.14E+00	8.20E+01	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
WST16-19-181368	Na	Sodium		Y	7.28E+00	1.40E+02	05/07/2019	N/A	FALSE	7.82E+06	FALSE	9.15E+02	FALSE
RE16-12-17672	7440-28-0	Thallium	J	Y	5.82E-02	9.44E-02	8/13/2012	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
RE16-12-17673	7440-28-0	Thallium	J	Y	5.89E-02	7.72E-02	8/13/2012	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
RE16-12-17674	7440-28-0	Thallium	U	N	6.35E-02	ND	8/13/2012						
RE16-12-17675	7440-28-0	Thallium	U	N	6.00E-02	ND	8/13/2012						
RE16-12-17676	7440-28-0	Thallium	U	N	5.37E-02	ND	8/13/2012						
RE16-12-17677	7440-28-0	Thallium		Y	6.37E-02	4.55E-01	8/13/2012	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
RE16-12-17678	7440-28-0	Thallium	J	Y	6.11E-02	7.92E-02	8/13/2012	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
RE16-12-17679	7440-28-0	Thallium	J	Y	6.07E-02	8.59E-02	8/13/2012	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
RE16-12-17680	7440-28-0	Thallium	J	Y	5.83E-02	1.75E-01	8/13/2012	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
RE16-12-17681	7440-28-0	Thallium	J	Y	6.08E-02	2.18E-01	8/13/2012	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-13-29794	7440-28-0	Thallium	J	Y	5.92E-02	2.66E-01	03/27/2013	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-13-29795	7440-28-0	Thallium	J	Y	5.77E-02	2.87E-01	03/27/2013	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-13-29796	7440-28-0	Thallium	J	Y	5.91E-02	2.48E-01	03/27/2013	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-13-29797	7440-28-0	Thallium	J	Y	6.01E-02	2.02E-01	03/27/2013	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-13-29798	7440-28-0	Thallium	J	Y	6.05E-02	2.34E-01	03/27/2013	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-19-181353	7440-28-0	Thallium	U	N	1.42E-01	ND	05/07/2019						
WST16-19-181354	7440-28-0	Thallium	J	Y	1.47E-01	2.37E-01	05/07/2019	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-19-181355	7440-28-0	Thallium	J	Y	1.39E-01	1.65E-01	05/07/2019	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-19-181357	7440-28-0	Thallium	U	N	1.30E-01	ND	05/07/2019						
WST16-19-181358	7440-28-0	Thallium	U	N	1.30E-01	ND	05/07/2019						
WST16-19-181359	7440-28-0	Thallium	J	Y	1.59E-01	1.88E-01	05/07/2019	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-19-181361	7440-28-0	Thallium	U	N	1.40E-01	ND	05/07/2019						
WST16-19-181362	7440-28-0	Thallium	U	N	1.55E-01	ND	05/07/2019						
WST16-19-181363	7440-28-0	Thallium	U	N	1.61E-01	ND	05/07/2019						
WST16-19-181364	7440-28-0	Thallium	J	Y	1.45E-01	2.36E-01	05/07/2019	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-19-181365	7440-28-0	Thallium	J	Y	1.50E-01	2.26E-01	05/07/2019	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-19-181366	7440-28-0	Thallium	J	Y	1.54E-01	1.59E-01	05/07/2019	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
WST16-19-181367	7440-28-0	Thallium	U	N	1.45E-01	ND	05/07/2019						
WST16-19-181368	7440-28-0	Thallium	J	Y	1.41E-01	2.44E-01	05/07/2019	N/A	FALSE	7.82E-01	FALSE	7.30E-01	FALSE
RE16-12-17672	7440-62-2	Vanadium		Y	1.04E-01	1.06E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17673	7440-62-2	Vanadium		Y	1.02E-01	1.12E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17674	7440-62-2	Vanadium		Y	1.05E-01	1.04E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17675	7440-62-2	Vanadium		Y	9.27E-02	1.36E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17676	7440-62-2	Vanadium		Y	9.68E-02	1.47E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17677	7440-62-2	Vanadium		Y	1.03E-01	1.85E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17678	7440-62-2	Vanadium		Y	9.16E-02	8.02E+00	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17679	7440-62-2	Vanadium		Y	1.01E-01	1.55E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17680	7440-62-2	Vanadium		Y	1.05E-01	1.68E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17681	7440-62-2	Vanadium		Y	1.00E-01	1.46E+01	8/13/2012	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-13-29794	7440-62-2	Vanadium		Y	1.00E-01	1.58E+01	03/27/2013	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-13-29795	7440-62-2	Vanadium		Y	9.95E-02	1.47E+01	03/27/2013	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-13-29796	7440-62-2	Vanadium		Y	1.01E-01	1.51E+01	03/27/2013	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-13-29797	7440-62-2	Vanadium		Y	9.93E-02	1.69E+01	03/27/2013	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-13-29798	7440-62-2	Vanadium		Y	1.00E-01	1.52E+01	03/27/2013	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181353	7440-62-2	Vanadium		Y	1.00E-01	1.12E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181354	7440-62-2	Vanadium		Y	1.04E-01	1.42E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181355	7440-62-2	Vanadium		Y	9.94E-02	1.23E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181357	7440-62-2	Vanadium		Y	9.49E-02	1.24E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181358	7440-62-2	Vanadium		Y	1.01E-01	9.94E+00	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181359	7440-62-2	Vanadium		Y	1.14E-01	1.18E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181361	7440-62-2	Vanadium		Y	9.78E-02	6.99E+00	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181362	7440-62-2	Vanadium		Y	1.12E-01	1.09E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181363	7440-62-2	Vanadium		Y	1.19E-01	8.49E+00	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181364	7440-62-2	Vanadium		Y	1.04E-01	1.76E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181365	7440-62-2	Vanadium		Y	1.12E-01	1.90E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181366	7440-62-2	Vanadium		Y	1.10E-01	1.41E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181367	7440-62-2	Vanadium		Y	1.02E-01	1.62E+01	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
WST16-19-181368	7440-62-2	Vanadium		Y	1.04E-01	9.09E+00	05/07/2019	N/A	FALSE	3.94E+02	FALSE	3.96E+01	FALSE
RE16-12-17672	7440-66-6	Zinc		Y	4.15E-01	5.71E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
RE16-12-17673	7440-66-6	Zinc		Y	4.09E-01	1.15E+02	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
RE16-12-17674	7440-66-6	Zinc		Y	4.19E-01	5.73E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
RE16-12-17675	7440-66-6	Zinc		Y	3.71E-01	5.41E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
RE16-12-17676	7440-66-6	Zinc		Y	3.87E-01	4.65E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
RE16-12-17677	7440-66-6	Zinc		Y	4.11E-01	4.55E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
RE16-12-17678	7440-66-6	Zinc		Y	3.66E-01	5.05E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
RE16-12-17679	7440-66-6	Zinc		Y	4.04E-01	6.57E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
RE16-12-17680	7440-66-6	Zinc		Y	4.20E-01	2.64E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
RE16-12-17681	7440-66-6	Zinc		Y	4.00E-01	3.59E+01	8/13/2012	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-13-29794	7440-66-6	Zinc		Y	4.00E-01	2.95E+01	03/27/2013	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-13-29795	7440-66-6	Zinc		Y	3.98E-01	3.98E+01	03/27/2013	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-13-29796	7440-66-6	Zinc		Y	4.04E-01	3.33E+01	03/27/2013	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-13-29797	7440-66-6	Zinc		Y	3.97E-01	3.28E+01	03/27/2013	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-13-29798	7440-66-6	Zinc		Y	4.00E-01	3.66E+01	03/27/2013	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-19-181353	7440-66-6	Zinc		Y	4.01E-01	1.00E+02	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
WST16-19-181354	7440-66-6	Zinc		Y	4.15E-01	6.74E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
WST16-19-181355	7440-66-6	Zinc		Y	3.98E-01	3.76E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-19-181357	7440-66-6	Zinc		Y	3.79E-01	6.35E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
WST16-19-181358	7440-66-6	Zinc		Y	4.06E-01	5.77E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
WST16-19-181359	7440-66-6	Zinc		Y	4.56E-01	7.36E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
WST16-19-181361	7440-66-6	Zinc		Y	3.91E-01	6.90E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
WST16-19-181362	7440-66-6	Zinc		Y	4.47E-01	5.93E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	TRUE
WST16-19-181363	7440-66-6	Zinc		Y	4.75E-01	4.87E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-19-181364	7440-66-6	Zinc		Y	4.18E-01	2.96E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-19-181365	7440-66-6	Zinc		Y	4.47E-01	3.60E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-19-181366	7440-66-6	Zinc		Y	4.40E-01	4.02E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison	Background Concentration	Background Comparison
WST16-19-181367	7440-66-6	Zinc		Y	4.08E-01	2.98E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE
WST16-19-181368	7440-66-6	Zinc		Y	4.16E-01	3.52E+01	05/07/2019	N/A	FALSE	2.35E+04	FALSE	4.88E+01	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17672	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17673	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17674	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17675	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17676	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17677	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17678	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17679	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17680	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
RE16-12-17681	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	8/13/2012				
WST16-13-29794	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	03/27/2013				
WST16-13-29795	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	03/27/2013				
WST16-13-29796	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	03/27/2013				
WST16-13-29797	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	03/27/2013				
WST16-13-29798	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	03/27/2013				
WST16-19-181353	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	05/07/2019				
WST16-19-181354	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	05/07/2019				
WST16-19-181355	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	05/07/2019				
WST16-19-181357	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.95E-01	ND	05/07/2019				
WST16-19-181358	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.98E-01	ND	05/07/2019				
WST16-19-181359	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	05/07/2019				
WST16-19-181361	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	05/07/2019				
WST16-19-181362	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.95E-01	ND	05/07/2019				
WST16-19-181363	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.98E-01	ND	05/07/2019				
WST16-19-181364	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.98E-01	ND	05/07/2019				
WST16-19-181365	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.98E-01	ND	05/07/2019				
WST16-19-181366	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	05/07/2019				
WST16-19-181367	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.00E-01	ND	05/07/2019				
WST16-19-181368	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.98E-01	ND	05/07/2019				
WST16-20-191427	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.95E-01	ND	12/04/2019				
WST16-20-191428	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.90E-01	ND	12/04/2019				
WST16-20-191429	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.88E-01	ND	12/04/2019				
WST16-20-191430	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.85E-01	ND	12/04/2019				
WST16-20-191431	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.95E-01	ND	12/04/2019				
WST16-20-191432	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.93E-01	ND	12/04/2019				
WST16-20-191433	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.78E-01	ND	12/04/2019				
WST16-20-191434	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.88E-01	ND	12/04/2019				
WST16-20-191435	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	5.08E-01	ND	12/04/2019				
WST16-20-191735	6629-29-4	2,4-Diamino-6-nitrotoluene	U	N	4.90E-01	ND	12/04/2019				
RE16-12-17672	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	8/13/2012				
RE16-12-17673	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	8/13/2012				
RE16-12-17674	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	8/13/2012				
RE16-12-17675	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	8/13/2012				
RE16-12-17676	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	8/13/2012				
RE16-12-17677	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	8/13/2012				
RE16-12-17678	59229-75-3	2,6-Diamino-4-nitrotoluene	UQ	N	6.60E-01	ND	8/13/2012				
RE16-12-17679	59229-75-3	2,6-Diamino-4-nitrotoluene	UQ	N	6.60E-01	ND	8/13/2012				
RE16-12-17680	59229-75-3	2,6-Diamino-4-nitrotoluene	UQ	N	6.60E-01	ND	8/13/2012				
RE16-12-17681	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	8/13/2012				
WST16-13-29794	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	03/27/2013				
WST16-13-29795	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	03/27/2013				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29796	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	03/27/2013				
WST16-13-29797	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	03/27/2013				
WST16-13-29798	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	03/27/2013				
WST16-19-181353	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	05/07/2019				
WST16-19-181354	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	05/07/2019				
WST16-19-181355	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	05/07/2019				
WST16-19-181357	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.53E-01	ND	05/07/2019				
WST16-19-181358	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.57E-01	ND	05/07/2019				
WST16-19-181359	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	05/07/2019				
WST16-19-181361	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	05/07/2019				
WST16-19-181362	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.53E-01	ND	05/07/2019				
WST16-19-181363	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.57E-01	ND	05/07/2019				
WST16-19-181364	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.57E-01	ND	05/07/2019				
WST16-19-181365	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.57E-01	ND	05/07/2019				
WST16-19-181366	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	05/07/2019				
WST16-19-181367	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.60E-01	ND	05/07/2019				
WST16-19-181368	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.57E-01	ND	05/07/2019				
WST16-20-191427	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.53E-01	ND	12/04/2019				
WST16-20-191428	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.47E-01	ND	12/04/2019				
WST16-20-191429	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.44E-01	ND	12/04/2019				
WST16-20-191430	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.41E-01	ND	12/04/2019				
WST16-20-191431	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.53E-01	ND	12/04/2019				
WST16-20-191432	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.50E-01	ND	12/04/2019				
WST16-20-191433	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.32E-01	ND	12/04/2019				
WST16-20-191434	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.44E-01	ND	12/04/2019				
WST16-20-191435	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.70E-01	ND	12/04/2019				
WST16-20-191735	59229-75-3	2,6-Diamino-4-nitrotoluene	U	N	6.47E-01	ND	12/04/2019				
RE16-12-17672	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17673	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17674	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17675	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17676	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17677	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17678	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17679	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17680	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17681	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	8/13/2012				
WST16-13-29794	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29795	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29796	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29797	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29798	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	03/27/2013				
WST16-19-181353	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181354	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181355	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181357	618-87-1	3,5-Dinitroaniline	U	N	2.97E-01	ND	05/07/2019				
WST16-19-181358	618-87-1	3,5-Dinitroaniline		Y	2.99E-01	1.33E+00	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181359	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181361	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181362	618-87-1	3,5-Dinitroaniline	U	N	2.97E-01	ND	05/07/2019				
WST16-19-181363	618-87-1	3,5-Dinitroaniline	U	N	2.99E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181364	618-87-1	3,5-Dinitroaniline	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181365	618-87-1	3,5-Dinitroaniline	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181366	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181367	618-87-1	3,5-Dinitroaniline	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181368	618-87-1	3,5-Dinitroaniline	U	N	2.99E-01	ND	05/07/2019				
WST16-20-191427	618-87-1	3,5-Dinitroaniline	U	N	2.97E-01	ND	12/04/2019				
WST16-20-191428	618-87-1	3,5-Dinitroaniline	U	N	2.94E-01	ND	12/04/2019				
WST16-20-191429	618-87-1	3,5-Dinitroaniline	U	N	2.93E-01	ND	12/04/2019				
WST16-20-191430	618-87-1	3,5-Dinitroaniline	U	N	2.91E-01	ND	12/04/2019				
WST16-20-191431	618-87-1	3,5-Dinitroaniline	U	N	2.97E-01	ND	12/04/2019				
WST16-20-191432	618-87-1	3,5-Dinitroaniline	U	N	2.96E-01	ND	12/04/2019				
WST16-20-191433	618-87-1	3,5-Dinitroaniline	U	N	2.87E-01	ND	12/04/2019				
WST16-20-191434	618-87-1	3,5-Dinitroaniline	U	N	2.93E-01	ND	12/04/2019				
WST16-20-191435	618-87-1	3,5-Dinitroaniline	U	N	3.05E-01	ND	12/04/2019				
WST16-20-191735	618-87-1	3,5-Dinitroaniline	U	N	2.94E-01	ND	12/04/2019				
RE16-12-17672	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	19406-51-0	Amino-2,6-dinitrotoluene[4-]	J	Y	1.50E-01	3.40E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181354	19406-51-0	Amino-2,6-dinitrotoluene[4-]	J	Y	1.50E-01	4.65E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181355	19406-51-0	Amino-2,6-dinitrotoluene[4-]		Y	1.50E-01	6.21E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181357	19406-51-0	Amino-2,6-dinitrotoluene[4-]		Y	1.49E-01	3.24E+00	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181358	19406-51-0	Amino-2,6-dinitrotoluene[4-]		Y	1.49E-01	1.85E+00	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181359	19406-51-0	Amino-2,6-dinitrotoluene[4-]		Y	1.50E-01	1.38E+00	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181361	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	19406-51-0	Amino-2,6-dinitrotoluene[4-]		Y	1.46E-01	9.81E-01	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191430	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.49E-01	ND	12/04/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-20-191432	19406-51-0	Amino-2,6-dinitrotoluene[4-]	J	Y	1.48E-01	2.10E-01	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191433	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	19406-51-0	Amino-2,6-dinitrotoluene[4-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	35572-78-2	Amino-4,6-dinitrotoluene[2-]	J	Y	1.50E-01	2.77E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181354	35572-78-2	Amino-4,6-dinitrotoluene[2-]	J	Y	1.50E-01	4.68E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181355	35572-78-2	Amino-4,6-dinitrotoluene[2-]	J	Y	1.50E-01	3.02E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181357	35572-78-2	Amino-4,6-dinitrotoluene[2-]	J	Y	1.49E-01	3.89E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181358	35572-78-2	Amino-4,6-dinitrotoluene[2-]		Y	1.49E-01	7.59E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181359	35572-78-2	Amino-4,6-dinitrotoluene[2-]		Y	1.50E-01	1.49E+00	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181361	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	35572-78-2	Amino-4,6-dinitrotoluene[2-]		Y	1.46E-01	1.41E+00	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191430	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	35572-78-2	Amino-4,6-dinitrotoluene[2-]	J	Y	1.48E-01	3.33E-01	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191433	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	35572-78-2	Amino-4,6-dinitrotoluene[2-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17677	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181355	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181358	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181359	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	99-65-0	Dinitrobenzene[1,3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	99-65-0	Dinitrobenzene[1,3-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	99-65-0	Dinitrobenzene[1,3-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	99-65-0	Dinitrobenzene[1,3-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	99-65-0	Dinitrobenzene[1,3-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	99-65-0	Dinitrobenzene[1,3-]	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	99-65-0	Dinitrobenzene[1,3-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	99-65-0	Dinitrobenzene[1,3-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	99-65-0	Dinitrobenzene[1,3-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	99-65-0	Dinitrobenzene[1,3-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181355	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181358	121-14-2	Dinitrotoluene[2,4-]	J	Y	1.49E-01	1.72E-01	05/07/2019	1.71E+01	FALSE	1.23E+02	FALSE
WST16-19-181359	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	121-14-2	Dinitrotoluene[2,4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	121-14-2	Dinitrotoluene[2,4-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	121-14-2	Dinitrotoluene[2,4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	121-14-2	Dinitrotoluene[2,4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	121-14-2	Dinitrotoluene[2,4-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	121-14-2	Dinitrotoluene[2,4-]	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	121-14-2	Dinitrotoluene[2,4-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	121-14-2	Dinitrotoluene[2,4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	121-14-2	Dinitrotoluene[2,4-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	121-14-2	Dinitrotoluene[2,4-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181355	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181358	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181359	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	606-20-2	Dinitrotoluene[2,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-20-191427	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	606-20-2	Dinitrotoluene[2,6-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	606-20-2	Dinitrotoluene[2,6-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	606-20-2	Dinitrotoluene[2,6-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	606-20-2	Dinitrotoluene[2,6-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	606-20-2	Dinitrotoluene[2,6-]	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	606-20-2	Dinitrotoluene[2,6-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	606-20-2	Dinitrotoluene[2,6-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	606-20-2	Dinitrotoluene[2,6-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	606-20-2	Dinitrotoluene[2,6-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	2691-41-0	HMX		Y	1.50E-01	7.99E+00	8/13/2012	N/A	FALSE	3.85E+03	FALSE
RE16-12-17676	2691-41-0	HMX		Y	1.50E-01	7.02E+00	8/13/2012	N/A	FALSE	3.85E+03	FALSE
RE16-12-17677	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	2691-41-0	HMX	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	2691-41-0	HMX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	2691-41-0	HMX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	2691-41-0	HMX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	2691-41-0	HMX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	2691-41-0	HMX	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	2691-41-0	HMX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	2691-41-0	HMX		Y	1.50E-01	2.31E+00	05/07/2019	N/A	FALSE	3.85E+03	FALSE
WST16-19-181355	2691-41-0	HMX		Y	3.75E+00	1.25E+01	05/07/2019	N/A	FALSE	3.85E+03	FALSE
WST16-19-181357	2691-41-0	HMX		Y	3.71E+01	1.50E+02	05/07/2019	N/A	FALSE	3.85E+03	FALSE
WST16-19-181358	2691-41-0	HMX		Y	3.73E+01	1.60E+02	05/07/2019	N/A	FALSE	3.85E+03	FALSE
WST16-19-181359	2691-41-0	HMX		Y	1.50E-01	7.00E+00	05/07/2019	N/A	FALSE	3.85E+03	FALSE
WST16-19-181361	2691-41-0	HMX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	2691-41-0	HMX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	2691-41-0	HMX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	2691-41-0	HMX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	2691-41-0	HMX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	2691-41-0	HMX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	2691-41-0	HMX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	2691-41-0	HMX	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	2691-41-0	HMX	J	Y	1.49E-01	4.79E-01	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191428	2691-41-0	HMX		Y	1.47E-01	1.95E+00	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191429	2691-41-0	HMX		Y	1.46E-01	5.13E+00	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191430	2691-41-0	HMX		Y	1.46E-01	2.04E+00	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191431	2691-41-0	HMX		Y	1.49E-01	2.06E+00	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191432	2691-41-0	HMX		Y	1.48E-01	3.14E+00	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191433	2691-41-0	HMX		Y	1.44E-01	7.71E-01	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191434	2691-41-0	HMX		Y	1.46E-01	6.38E-01	12/04/2019	N/A	FALSE	3.85E+03	FALSE
WST16-20-191435	2691-41-0	HMX	J	Y	1.52E-01	1.82E-01	12/04/2019	N/A	FALSE	3.85E+03	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-20-191735	2691-41-0	HMX	J	Y	1.47E-01	3.94E-01	12/04/2019	N/A	FALSE	3.85E+03	FALSE
RE16-12-17672	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181355	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181358	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181359	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	98-95-3	Nitrobenzene	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	98-95-3	Nitrobenzene	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	98-95-3	Nitrobenzene	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	98-95-3	Nitrobenzene	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	98-95-3	Nitrobenzene	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	98-95-3	Nitrobenzene	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	98-95-3	Nitrobenzene	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	98-95-3	Nitrobenzene	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	98-95-3	Nitrobenzene	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	98-95-3	Nitrobenzene	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29795	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181355	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181358	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181359	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	88-72-2	Nitrotoluene[2-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	88-72-2	Nitrotoluene[2-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	88-72-2	Nitrotoluene[2-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	88-72-2	Nitrotoluene[2-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	88-72-2	Nitrotoluene[2-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	88-72-2	Nitrotoluene[2-]	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	88-72-2	Nitrotoluene[2-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	88-72-2	Nitrotoluene[2-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	88-72-2	Nitrotoluene[2-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	88-72-2	Nitrotoluene[2-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181355	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181358	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181359	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181363	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	99-08-1	Nitrotoluene[3-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	99-08-1	Nitrotoluene[3-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	99-08-1	Nitrotoluene[3-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	99-08-1	Nitrotoluene[3-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	99-08-1	Nitrotoluene[3-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	99-08-1	Nitrotoluene[3-]	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	99-08-1	Nitrotoluene[3-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	99-08-1	Nitrotoluene[3-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	99-08-1	Nitrotoluene[3-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	99-08-1	Nitrotoluene[3-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181355	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181358	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181359	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	99-99-0	Nitrotoluene[4-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	99-99-0	Nitrotoluene[4-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	99-99-0	Nitrotoluene[4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	99-99-0	Nitrotoluene[4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	99-99-0	Nitrotoluene[4-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	99-99-0	Nitrotoluene[4-]	U	N	1.48E-01	ND	12/04/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-20-191433	99-99-0	Nitrotoluene[4-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	99-99-0	Nitrotoluene[4-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	99-99-0	Nitrotoluene[4-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	99-99-0	Nitrotoluene[4-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17673	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17674	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17675	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17676	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17677	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17678	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17679	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17680	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
RE16-12-17681	78-11-5	PETN	U	N	2.50E-01	ND	8/13/2012				
WST16-13-29794	78-11-5	PETN	U	N	2.50E-01	ND	03/27/2013				
WST16-13-29795	78-11-5	PETN	U	N	2.50E-01	ND	03/27/2013				
WST16-13-29796	78-11-5	PETN	U	N	2.50E-01	ND	03/27/2013				
WST16-13-29797	78-11-5	PETN	U	N	2.50E-01	ND	03/27/2013				
WST16-13-29798	78-11-5	PETN	U	N	2.50E-01	ND	03/27/2013				
WST16-19-181353	78-11-5	PETN	U	N	2.50E-01	ND	05/07/2019				
WST16-19-181354	78-11-5	PETN	U	N	2.50E-01	ND	05/07/2019				
WST16-19-181355	78-11-5	PETN		Y	6.25E+00	3.88E+01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181357	78-11-5	PETN	U	N	2.48E-01	ND	05/07/2019				
WST16-19-181358	78-11-5	PETN	U	N	2.49E-01	ND	05/07/2019				
WST16-19-181359	78-11-5	PETN	U	N	2.50E-01	ND	05/07/2019				
WST16-19-181363	78-11-5	PETN	U	N	2.49E-01	ND	05/07/2019				
WST16-19-181364	78-11-5	PETN	U	N	2.49E-01	ND	05/07/2019				
WST16-19-181365	78-11-5	PETN	U	N	2.49E-01	ND	05/07/2019				
WST16-19-181366	78-11-5	PETN	U	N	2.50E-01	ND	05/07/2019				
WST16-19-181367	78-11-5	PETN	U	N	2.50E-01	ND	05/07/2019				
WST16-19-181368	78-11-5	PETN	U	N	2.49E-01	ND	05/07/2019				
WST16-20-191427	78-11-5	PETN	U	N	2.48E-01	ND	12/04/2019				
WST16-20-191428	78-11-5	PETN	U	N	2.45E-01	ND	12/04/2019				
WST16-20-191429	78-11-5	PETN	U	N	2.44E-01	ND	12/04/2019				
WST16-20-191430	78-11-5	PETN	U	N	2.43E-01	ND	12/04/2019				
WST16-20-191431	78-11-5	PETN	U	N	2.48E-01	ND	12/04/2019				
WST16-20-191432	78-11-5	PETN	U	N	2.46E-01	ND	12/04/2019				
WST16-20-191433	78-11-5	PETN	U	N	2.39E-01	ND	12/04/2019				
WST16-20-191434	78-11-5	PETN	U	N	2.44E-01	ND	12/04/2019				
WST16-20-191435	78-11-5	PETN	U	N	2.54E-01	ND	12/04/2019				
WST16-20-191735	78-11-5	PETN	U	N	2.45E-01	ND	12/04/2019				
RE16-12-17672	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	121-82-4	RDX	J	Y	1.50E-01	1.56E-01	8/13/2012	8.31E+01	FALSE	3.01E+02	FALSE
RE16-12-17675	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	121-82-4	RDX		Y	1.50E-01	5.50E-01	8/13/2012	8.31E+01	FALSE	3.01E+02	FALSE
RE16-12-17680	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	121-82-4	RDX	U	N	1.50E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29794	121-82-4	RDX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	121-82-4	RDX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	121-82-4	RDX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	121-82-4	RDX	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	121-82-4	RDX	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	121-82-4	RDX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	121-82-4	RDX		Y	1.50E+00	3.72E+01	05/07/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-19-181355	121-82-4	RDX		Y	3.75E+00	7.24E+01	05/07/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-19-181357	121-82-4	RDX		Y	1.49E-01	5.13E+00	05/07/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-19-181358	121-82-4	RDX		Y	1.49E-01	3.92E+00	05/07/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-19-181359	121-82-4	RDX		Y	1.50E+00	2.98E+01	05/07/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-19-181361	121-82-4	RDX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	121-82-4	RDX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	121-82-4	RDX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	121-82-4	RDX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	121-82-4	RDX	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	121-82-4	RDX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	121-82-4	RDX	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	121-82-4	RDX	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	121-82-4	RDX		Y	1.49E-01	5.65E+00	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191428	121-82-4	RDX		Y	7.35E-01	1.61E+01	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191429	121-82-4	RDX		Y	7.32E-01	3.56E+01	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191430	121-82-4	RDX		Y	7.28E-01	1.47E+01	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191431	121-82-4	RDX		Y	7.43E-01	1.98E+01	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191432	121-82-4	RDX		Y	7.39E-01	2.07E+01	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191433	121-82-4	RDX		Y	7.18E-01	9.42E+00	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191434	121-82-4	RDX		Y	1.46E-01	2.53E+00	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191435	121-82-4	RDX		Y	1.52E-01	2.96E+00	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
WST16-20-191735	121-82-4	RDX		Y	1.47E-01	2.69E+00	12/04/2019	8.31E+01	FALSE	3.01E+02	FALSE
RE16-12-17672	3058-38-6	TATB		Y	3.00E-01	3.29E+00	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17673	3058-38-6	TATB		Y	1.50E+00	1.99E+01	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17674	3058-38-6	TATB		Y	3.00E-01	4.52E+00	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17675	3058-38-6	TATB		Y	3.00E+00	3.15E+01	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17676	3058-38-6	TATB		Y	3.00E+00	3.15E+01	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17677	3058-38-6	TATB	J	Y	3.00E-01	4.37E-01	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17678	3058-38-6	TATB	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17679	3058-38-6	TATB		Y	3.00E-01	1.88E+00	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17680	3058-38-6	TATB		Y	3.00E-01	4.55E+00	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17681	3058-38-6	TATB	U	N	3.00E-01	ND	8/13/2012				
WST16-13-29794	3058-38-6	TATB	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29795	3058-38-6	TATB	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29796	3058-38-6	TATB	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29797	3058-38-6	TATB	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29798	3058-38-6	TATB	U	N	3.00E-01	ND	03/27/2013				
WST16-19-181353	3058-38-6	TATB		Y	3.00E+00	3.28E+01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181354	3058-38-6	TATB		Y	3.00E+00	1.41E+01	05/07/2019	N/A	FALSE	N/A	FALSE

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181357	3058-38-6	TATB		Y	2.97E+00	4.32E+01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181358	3058-38-6	TATB		Y	2.99E+00	2.25E+01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181359	3058-38-6	TATB		Y	3.00E-01	5.97E+00	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181361	3058-38-6	TATB		Y	7.50E-01	1.16E+01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181362	3058-38-6	TATB	J	Y	2.97E-01	8.24E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181363	3058-38-6	TATB	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181364	3058-38-6	TATB	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181365	3058-38-6	TATB	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181366	3058-38-6	TATB	J	Y	3.00E-01	9.33E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181367	3058-38-6	TATB	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181368	3058-38-6	TATB		Y	2.99E-01	1.12E+00	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-20-191427	3058-38-6	TATB		Y	2.97E-01	3.76E+00	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191428	3058-38-6	TATB	U	N	2.94E-01	ND	12/04/2019				
WST16-20-191429	3058-38-6	TATB	U	N	2.93E-01	ND	12/04/2019				
WST16-20-191430	3058-38-6	TATB	J	Y	2.91E-01	3.65E-01	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191431	3058-38-6	TATB	U	N	2.97E-01	ND	12/04/2019				
WST16-20-191432	3058-38-6	TATB	U	N	2.96E-01	ND	12/04/2019				
WST16-20-191433	3058-38-6	TATB		Y	2.87E-01	1.04E+00	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191434	3058-38-6	TATB	U	N	2.93E-01	ND	12/04/2019				
WST16-20-191435	3058-38-6	TATB	J	Y	3.05E-01	5.49E-01	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191735	3058-38-6	TATB	J	Y	2.94E-01	4.03E-01	12/04/2019	N/A	FALSE	N/A	FALSE
RE16-12-17672	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	479-45-8	Tetryl	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	479-45-8	Tetryl	U	N	1.50E-01	ND	03/27/2013				
WST16-20-191427	479-45-8	Tetryl	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	479-45-8	Tetryl	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	479-45-8	Tetryl	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191430	479-45-8	Tetryl	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	479-45-8	Tetryl	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	479-45-8	Tetryl	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	479-45-8	Tetryl	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	479-45-8	Tetryl	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	479-45-8	Tetryl	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	479-45-8	Tetryl	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17675	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29798	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181354	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181355	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181357	99-35-4	Trinitrobenzene[1,3,5-]	J	Y	1.49E-01	4.14E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181358	99-35-4	Trinitrobenzene[1,3,5-]	J	Y	1.49E-01	4.60E-01	05/07/2019	N/A	FALSE	N/A	FALSE
WST16-19-181359	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181361	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	99-35-4	Trinitrobenzene[1,3,5-]	J	Y	1.46E-01	3.97E-01	12/04/2019	N/A	FALSE	N/A	FALSE
WST16-20-191430	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	99-35-4	Trinitrobenzene[1,3,5-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17673	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17674	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17675	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17676	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17677	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17678	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17679	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17680	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
RE16-12-17681	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	8/13/2012				
WST16-13-29794	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29795	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29796	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-13-29797	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	03/27/2013				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29798	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	03/27/2013				
WST16-19-181353	118-96-7	Trinitrotoluene[2,4,6-]	J	Y	1.50E-01	2.42E-01	05/07/2019	2.11E+02	FALSE	3.60E+01	FALSE
WST16-19-181354	118-96-7	Trinitrotoluene[2,4,6-]		Y	1.50E-01	7.24E-01	05/07/2019	2.11E+02	FALSE	3.60E+01	FALSE
WST16-19-181355	118-96-7	Trinitrotoluene[2,4,6-]		Y	1.50E-01	1.99E+00	05/07/2019	2.11E+02	FALSE	3.60E+01	FALSE
WST16-19-181357	118-96-7	Trinitrotoluene[2,4,6-]		Y	1.49E+00	1.27E+01	05/07/2019	2.11E+02	FALSE	3.60E+01	FALSE
WST16-19-181358	118-96-7	Trinitrotoluene[2,4,6-]		Y	1.49E-01	3.83E+00	05/07/2019	2.11E+02	FALSE	3.60E+01	FALSE
WST16-19-181359	118-96-7	Trinitrotoluene[2,4,6-]		Y	1.50E-01	2.38E+00	05/07/2019	2.11E+02	FALSE	3.60E+01	FALSE
WST16-19-181361	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181362	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181363	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181364	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181365	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181366	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181367	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.50E-01	ND	05/07/2019				
WST16-19-181368	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.49E-01	ND	05/07/2019				
WST16-20-191427	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191428	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.47E-01	ND	12/04/2019				
WST16-20-191429	118-96-7	Trinitrotoluene[2,4,6-]		Y	1.46E-01	9.67E-01	12/04/2019	2.11E+02	FALSE	3.60E+01	FALSE
WST16-20-191430	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191431	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.49E-01	ND	12/04/2019				
WST16-20-191432	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.48E-01	ND	12/04/2019				
WST16-20-191433	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.44E-01	ND	12/04/2019				
WST16-20-191434	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.46E-01	ND	12/04/2019				
WST16-20-191435	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.52E-01	ND	12/04/2019				
WST16-20-191735	118-96-7	Trinitrotoluene[2,4,6-]	U	N	1.47E-01	ND	12/04/2019				
RE16-12-17672	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17673	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17674	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17675	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17676	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17677	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17678	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17679	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17680	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
RE16-12-17681	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	8/13/2012				
WST16-13-29794	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29795	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29796	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29797	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	03/27/2013				
WST16-13-29798	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	03/27/2013				
WST16-19-181353	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181354	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181355	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181357	78-30-8	Tris (o-cresyl) phosphate	U	N	2.97E-01	ND	05/07/2019				
WST16-19-181358	78-30-8	Tris (o-cresyl) phosphate	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181359	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181361	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181362	78-30-8	Tris (o-cresyl) phosphate	U	N	2.97E-01	ND	05/07/2019				
WST16-19-181363	78-30-8	Tris (o-cresyl) phosphate	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181364	78-30-8	Tris (o-cresyl) phosphate	U	N	2.99E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181365	78-30-8	Tris (o-cresyl) phosphate	U	N	2.99E-01	ND	05/07/2019				
WST16-19-181366	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181367	78-30-8	Tris (o-cresyl) phosphate	U	N	3.00E-01	ND	05/07/2019				
WST16-19-181368	78-30-8	Tris (o-cresyl) phosphate	U	N	2.99E-01	ND	05/07/2019				
WST16-20-191427	78-30-8	Tris (o-cresyl) phosphate	U	N	2.97E-01	ND	12/04/2019				
WST16-20-191428	78-30-8	Tris (o-cresyl) phosphate	U	N	2.94E-01	ND	12/04/2019				
WST16-20-191429	78-30-8	Tris (o-cresyl) phosphate	U	N	2.93E-01	ND	12/04/2019				
WST16-20-191430	78-30-8	Tris (o-cresyl) phosphate	U	N	2.91E-01	ND	12/04/2019				
WST16-20-191431	78-30-8	Tris (o-cresyl) phosphate	U	N	2.97E-01	ND	12/04/2019				
WST16-20-191432	78-30-8	Tris (o-cresyl) phosphate	U	N	2.96E-01	ND	12/04/2019				
WST16-20-191433	78-30-8	Tris (o-cresyl) phosphate	U	N	2.87E-01	ND	12/04/2019				
WST16-20-191434	78-30-8	Tris (o-cresyl) phosphate	U	N	2.93E-01	ND	12/04/2019				
WST16-20-191435	78-30-8	Tris (o-cresyl) phosphate	U	N	3.05E-01	ND	12/04/2019				
WST16-20-191735	78-30-8	Tris (o-cresyl) phosphate	U	N	2.94E-01	ND	12/04/2019				

Sample ID	CAS NO.	Parameter name	Reported Result	Units	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181353	14797-55-8	Nitrate	3.590	mg/kg		Y	3.40E-01	3.59E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-181354	14797-55-8	Nitrate	0.90	mg/kg	J	Y	3.43E-01	8.98E-01	N/A	FALSE	1.25E+05	FALSE
WST16-19-181355	14797-55-8	Nitrate	0.59	mg/kg	J	Y	3.33E-01	5.86E-01	N/A	FALSE	1.25E+05	FALSE
WST16-19-181357	14797-55-8	Nitrate	1.210	mg/kg		Y	3.14E-01	1.21E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-181358	14797-55-8	Nitrate	1.010	mg/kg		Y	3.26E-01	1.01E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-181359	14797-55-8	Nitrate	0.51	mg/kg	J	Y	3.67E-01	5.14E-01	N/A	FALSE	1.25E+05	FALSE
WST16-19-181361	14797-55-8	Nitrate	1.07	mg/kg		Y	3.12E-01	1.07E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-181362	14797-55-8	Nitrate	3.150	mg/kg		Y	3.56E-01	3.15E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-181366	14797-55-8	Nitrate	1.34	mg/kg		Y	3.65E-01	1.34E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-181367	14797-55-8	Nitrate	2.87	mg/kg		Y	3.50E-01	2.87E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-184757	14797-55-8	Nitrate	4.02	mg/kg		Y	3.60E-01	4.02E+00	N/A	FALSE	1.25E+05	FALSE
WST16-19-184758	14797-55-8	Nitrate	0.684	mg/kg	J	Y	3.49E-01	6.84E-01	N/A	FALSE	1.25E+05	FALSE
RE16-12-17672	14797-73-0	Perchlorate	0.000599	mg/kg	J	Y	5.20E-04	5.99E-04	N/A	FALSE	5.48E+01	FALSE
RE16-12-17673	14797-73-0	Perchlorate	0.000839	mg/kg	J	Y	5.12E-04	8.39E-04	N/A	FALSE	5.48E+01	FALSE
RE16-12-17674	14797-73-0	Perchlorate	0.000773	mg/kg	J	Y	5.44E-04	7.73E-04	N/A	FALSE	5.48E+01	FALSE
RE16-12-17675	14797-73-0	Perchlorate	0.00204	mg/kg	U	N	5.10E-04	ND				
RE16-12-17676	14797-73-0	Perchlorate	0.00202	mg/kg	U	N	5.04E-04	ND				
RE16-12-17677	14797-73-0	Perchlorate	0.00216	mg/kg	U	N	5.39E-04	ND				
RE16-12-17678	14797-73-0	Perchlorate	0.00206	mg/kg	U	N	5.15E-04	ND				
RE16-12-17679	14797-73-0	Perchlorate	0.000623	mg/kg	J	Y	5.19E-04	6.23E-04	N/A	FALSE	5.48E+01	FALSE
RE16-12-17680	14797-73-0	Perchlorate	0.000594	mg/kg	J	Y	5.26E-04	5.94E-04	N/A	FALSE	5.48E+01	FALSE
RE16-12-17681	14797-73-0	Perchlorate	0.00173	mg/kg	J	Y	5.28E-04	1.73E-03	N/A	FALSE	5.48E+01	FALSE
WST16-13-29794	14797-73-0	Perchlorate	0.002	mg/kg	U	N	5.04E-04	ND				
WST16-13-29795	14797-73-0	Perchlorate	0.001	mg/kg	J	Y	5.00E-04	5.17E-04	N/A	FALSE	5.48E+01	FALSE
WST16-13-29796	14797-73-0	Perchlorate	0.002	mg/kg	U	N	5.06E-04	ND				
WST16-13-29797	14797-73-0	Perchlorate	0.002	mg/kg	U	N	5.04E-04	ND				
WST16-13-29798	14797-73-0	Perchlorate	0.002	mg/kg	U	N	5.02E-04	ND				
WST16-19-181353	14797-73-0	Perchlorate	0.001	mg/kg	U	N	5.16E-04	ND				
WST16-19-181354	14797-73-0	Perchlorate	0.00052	mg/kg	U	N	5.23E-04	ND				
WST16-19-181355	14797-73-0	Perchlorate	0.000502	mg/kg	U	N	5.02E-04	ND				
WST16-19-181357	14797-73-0	Perchlorate	0.001	mg/kg	U	N	5.05E-04	ND				
WST16-19-181358	14797-73-0	Perchlorate	0.00051	mg/kg	U	N	5.05E-04	ND				
WST16-19-181359	14797-73-0	Perchlorate	0.000573	mg/kg	U	N	5.73E-04	ND				
WST16-19-181361	14797-73-0	Perchlorate	0.001	mg/kg	U	N	5.02E-04	ND				
WST16-19-181362	14797-73-0	Perchlorate	0.001	mg/kg	U	N	5.67E-04	ND				
WST16-19-181363	14797-73-0	Perchlorate	0.00061	mg/kg	U	N	6.10E-04	ND				
WST16-19-181364	14797-73-0	Perchlorate	0.000539	mg/kg	U	N	5.39E-04	ND				
WST16-19-181365	14797-73-0	Perchlorate	0.000579	mg/kg	U	N	5.79E-04	ND				
WST16-19-181366	14797-73-0	Perchlorate	0.001	mg/kg	U	N	5.57E-04	ND				
WST16-19-181367	14797-73-0	Perchlorate	0.0005	mg/kg	U	N	5.29E-04	ND				
WST16-19-181368	14797-73-0	Perchlorate	0.0005	mg/kg	U	N	5.27E-04	ND				
WST16-19-181353	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	22.000	mg/kg		Y	2.24E+00	2.20E+01	1.00E+03	FALSE	N/A	FALSE
WST16-19-181354	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	16.000000	mg/kg		Y	2.28E+00	1.60E+01	1.00E+03	FALSE	N/A	FALSE
WST16-19-181355	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	3.68	mg/kg	J	Y	2.20E+00	3.68E+00	1.00E+03	FALSE	N/A	FALSE
WST16-19-181357	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	20.20	mg/kg		Y	2.19E+00	2.02E+01	1.00E+03	FALSE	N/A	FALSE
WST16-19-181358	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	79.100000	mg/kg		Y	2.21E+00	7.91E+01	1.00E+03	FALSE	N/A	FALSE
WST16-19-181359	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	12.40	mg/kg		Y	2.50E+00	1.24E+01	1.00E+03	FALSE	N/A	FALSE
WST16-19-181361	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	14.400	mg/kg		Y	2.19E+00	1.44E+01	1.00E+03	FALSE	N/A	FALSE
WST16-19-181362	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	8.5200	mg/kg		Y	2.48E+00	8.52E+00	1.00E+03	FALSE	N/A	FALSE
WST16-19-181363	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	5.0200	mg/kg	J	Y	2.64E+00	5.02E+00	1.00E+03	FALSE	N/A	FALSE
WST16-19-181364	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	4.2200	mg/kg	J	Y	2.32E+00	4.22E+00	1.00E+03	FALSE	N/A	FALSE
WST16-19-181365	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	3.5400	mg/kg	J	Y	2.51E+00	3.54E+00	1.00E+03	FALSE	N/A	FALSE

WST16-19-181366	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	7.1000	mg/kg	J	Y	2.42E+00	7.10E+00	1.00E+03	FALSE	N/A	FALSE
WST16-19-181367	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	9.4300	mg/kg		Y	2.30E+00	9.43E+00	1.00E+03	FALSE	N/A	FALSE
WST16-19-181368	TPH-DRO	Total Petroleum Hydrocarbons Diesel Range Organics	13.8000	mg/kg		Y	2.27E+00	1.38E+01	1.00E+03	FALSE	N/A	FALSE
WST16-19-181353	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.0169	mg/kg	U	N	1.69E-02	ND				
WST16-19-181354	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.0175	mg/kg	U	N	1.75E-02	ND				
WST16-19-181355	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.0172	mg/kg	U	N	1.72E-02	ND				
WST16-19-181357	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.01	mg/kg	U	N	1.41E-02	ND				
WST16-19-181358	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.02	mg/kg	U	N	1.70E-02	ND				
WST16-19-181359	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.0205	mg/kg	U	N	2.05E-02	ND				
WST16-19-181361	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.018000	mg/kg	U	N	1.80E-02	ND				
WST16-19-181362	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.022700	mg/kg	U	N	2.27E-02	ND				
WST16-19-181363	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.023100	mg/kg	U	N	2.31E-02	ND				
WST16-19-181364	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.020400	mg/kg	U	N	2.04E-02	ND				
WST16-19-181365	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.020100	mg/kg	U	N	2.01E-02	ND				
WST16-19-181366	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.02	mg/kg	U	N	2.17E-02	ND				
WST16-19-181367	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.02	mg/kg	U	N	1.74E-02	ND				
WST16-19-181368	TPH-GRO	Total Petroleum Hydrocarbons Gasoline Range Org.	0.018	mg/kg	U	N	1.83E-02	ND				

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
09RCRA695	1746-01-6	2,3,7,8-TCDD	U	9.11E-08	ND	0	2009	DIOXINS FURANS
09RCRA695	40321-76-4	1,2,3,7,8-PeCDD	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	39227-28-6	1,2,3,4,7,8-HxCDD	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	57653-85-7	1,2,3,6,7,8-HxCDD	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	19408-74-3	1,2,3,7,8,9-HxCDD	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.36E-07	4.50E-06	1	2009	DIOXINS FURANS
09RCRA695	3268-87-9	1,2,3,4,5,6,7,8-OCDD		8.72E-07	3.41E-05	1	2009	DIOXINS FURANS
09RCRA695	51207-31-9	2,3,7,8-TCDF		2.67E-07	3.14E-06	1	2009	DIOXINS FURANS
09RCRA695	57117-41-6	1,2,3,7,8-PeCDF	J	4.36E-07	1.59E-06	1	2009	DIOXINS FURANS
09RCRA695	57117-31-4	2,3,4,7,8-PeCDF	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	70648-26-9	1,2,3,4,7,8-HxCDF	J	4.36E-07	6.73E-07	1	2009	DIOXINS FURANS
09RCRA695	57117-44-9	1,2,3,6,7,8-HxCDF	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	60851-34-5	2,3,4,6,7,8-HxCDF	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	67562-39-4	1,2,3,4,6,7,8-HpCDF	J	4.36E-07	2.33E-06	1	2009	DIOXINS FURANS
09RCRA695	55673-89-7	1,2,3,4,7,8,9-HpCDF	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	8.72E-07	3.98E-06	1	2009	DIOXINS FURANS
09RCRA695	41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	9.11E-08	1.99E-07	1	2009	DIOXINS FURANS
09RCRA695	36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	4.36E-07	ND	0	2009	DIOXINS FURANS
09RCRA695	34465-46-S	Total Hexachlorodibenzo-p-dioxin	J	4.36E-07	1.51E-06	1	2009	DIOXINS FURANS
09RCRA695	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.36E-07	1.05E-05	1	2009	DIOXINS FURANS
09RCRA695	30402-14-3	Total Tetrachlorodibenzofuran		2.67E-07	1.88E-05	1	2009	DIOXINS FURANS
09RCRA695	30402-15-4	Total Pentachlorodibenzofuran		4.36E-07	2.00E-05	1	2009	DIOXINS FURANS
09RCRA695	55684-94-1	Total Hexachlorodibenzofuran		4.36E-07	4.41E-06	1	2009	DIOXINS FURANS
09RCRA695	38998-75-3	Total Heptachlorodibenzofuran		4.36E-07	5.52E-06	1	2009	DIOXINS FURANS
09RCRA697	1746-01-6	2,3,7,8-TCDD	J	1.02E-07	1.03E-07	1	2009	DIOXINS FURANS
09RCRA697	40321-76-4	1,2,3,7,8-PeCDD	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA697	39227-28-6	1,2,3,4,7,8-HxCDD	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA697	57653-85-7	1,2,3,6,7,8-HxCDD	J	4.44E-07	4.67E-07	1	2009	DIOXINS FURANS
09RCRA697	19408-74-3	1,2,3,7,8,9-HxCDD	JK	4.44E-07	ND		2009	DIOXINS FURANS
09RCRA697	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.44E-07	8.35E-06	1	2009	DIOXINS FURANS
09RCRA697	3268-87-9	1,2,3,4,5,6,7,8-OCDD		8.88E-07	8.61E-05	1	2009	DIOXINS FURANS
09RCRA697	51207-31-9	2,3,7,8-TCDF	J	2.04E-07	6.59E-07	1	2009	DIOXINS FURANS
09RCRA697	57117-41-6	1,2,3,7,8-PeCDF	J	4.44E-07	4.83E-07	1	2009	DIOXINS FURANS
09RCRA697	57117-31-4	2,3,4,7,8-PeCDF	J	4.44E-07	5.13E-07	1	2009	DIOXINS FURANS
09RCRA697	70648-26-9	1,2,3,4,7,8-HxCDF	J	4.44E-07	5.88E-07	1	2009	DIOXINS FURANS
09RCRA697	57117-44-9	1,2,3,6,7,8-HxCDF	J	4.44E-07	4.53E-07	1	2009	DIOXINS FURANS
09RCRA697	60851-34-5	2,3,4,6,7,8-HxCDF	J	4.44E-07	6.30E-07	1	2009	DIOXINS FURANS
09RCRA697	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA697	67562-39-4	1,2,3,4,6,7,8-HpCDF	J	4.44E-07	3.50E-06	1	2009	DIOXINS FURANS
09RCRA697	55673-89-7	1,2,3,4,7,8,9-HpCDF	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA697	39001-02-0	1,2,3,4,5,6,7,8-OCDF		8.88E-07	1.25E-05	1	2009	DIOXINS FURANS
09RCRA697	41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	1.02E-07	4.05E-07	1	2009	DIOXINS FURANS
09RCRA697	36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	4.44E-07	5.66E-07	1	2009	DIOXINS FURANS
09RCRA697	34465-46-S	Total Hexachlorodibenzo-p-dioxin	J	4.44E-07	4.04E-06	1	2009	DIOXINS FURANS
09RCRA697	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.44E-07	2.44E-05	1	2009	DIOXINS FURANS
09RCRA697	30402-14-3	Total Tetrachlorodibenzofuran		2.04E-07	3.23E-06	1	2009	DIOXINS FURANS
09RCRA697	30402-15-4	Total Pentachlorodibenzofuran		4.44E-07	7.80E-06	1	2009	DIOXINS FURANS
09RCRA697	55684-94-1	Total Hexachlorodibenzofuran		4.44E-07	8.30E-06	1	2009	DIOXINS FURANS
09RCRA697	38998-75-3	Total Heptachlorodibenzofuran		4.44E-07	1.45E-05	1	2009	DIOXINS FURANS
09RCRA699	1746-01-6	2,3,7,8-TCDD	J	9.77E-08	1.33E-07	1	2009	DIOXINS FURANS
09RCRA699	40321-76-4	1,2,3,7,8-PeCDD	U	4.48E-07	ND	0	2009	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
09RCRA699	39227-28-6	1,2,3,4,7,8-HxCDD	U	4.48E-07	ND	0	2009	DIOXINS FURANS
09RCRA699	57653-85-7	1,2,3,6,7,8-HxCDD	J	4.48E-07	5.61E-07	1	2009	DIOXINS FURANS
09RCRA699	19408-74-3	1,2,3,7,8,9-HxCDD	JK	4.48E-07	ND		2009	DIOXINS FURANS
09RCRA699	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.48E-07	1.31E-05	1	2009	DIOXINS FURANS
09RCRA699	3268-87-9	1,2,3,4,5,6,7,8-OCDD		8.96E-07	1.02E-04	1	2009	DIOXINS FURANS
09RCRA699	51207-31-9	2,3,7,8-TCDF	JK	2.44E-07	ND		2009	DIOXINS FURANS
09RCRA699	57117-41-6	1,2,3,7,8-PeCDF	J	4.48E-07	8.30E-07	1	2009	DIOXINS FURANS
09RCRA699	57117-31-4	2,3,4,7,8-PeCDF	U	4.48E-07	ND	0	2009	DIOXINS FURANS
09RCRA699	70648-26-9	1,2,3,4,7,8-HxCDF	J	4.48E-07	5.83E-07	1	2009	DIOXINS FURANS
09RCRA699	57117-44-9	1,2,3,6,7,8-HxCDF	J	4.48E-07	4.82E-07	1	2009	DIOXINS FURANS
09RCRA699	60851-34-5	2,3,4,6,7,8-HxCDF	J	4.48E-07	5.67E-07	1	2009	DIOXINS FURANS
09RCRA699	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.48E-07	ND	0	2009	DIOXINS FURANS
09RCRA699	67562-39-4	1,2,3,4,6,7,8-HpCDF	J	4.48E-07	4.30E-06	1	2009	DIOXINS FURANS
09RCRA699	55673-89-7	1,2,3,4,7,8,9-HpCDF	U	4.48E-07	ND	0	2009	DIOXINS FURANS
09RCRA699	39001-02-0	1,2,3,4,5,6,7,8-OCDF		8.96E-07	1.27E-05	1	2009	DIOXINS FURANS
09RCRA699	41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	9.77E-08	5.02E-07	1	2009	DIOXINS FURANS
09RCRA699	36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	4.48E-07	8.61E-07	1	2009	DIOXINS FURANS
09RCRA699	34465-46-S	Total Hexachlorodibenzo-p-dioxin	J	4.48E-07	4.43E-06	1	2009	DIOXINS FURANS
09RCRA699	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.48E-07	2.75E-05	1	2009	DIOXINS FURANS
09RCRA699	30402-14-3	Total Tetrachlorodibenzofuran		2.44E-07	6.34E-06	1	2009	DIOXINS FURANS
09RCRA699	30402-15-4	Total Pentachlorodibenzofuran		4.48E-07	9.79E-06	1	2009	DIOXINS FURANS
09RCRA699	55684-94-1	Total Hexachlorodibenzofuran		4.48E-07	9.51E-06	1	2009	DIOXINS FURANS
09RCRA699	38998-75-3	Total Heptachlorodibenzofuran		4.48E-07	1.39E-05	1	2009	DIOXINS FURANS
09RCRA701	1746-01-6	2,3,7,8-TCDD	U	9.37E-08	ND	0	2009	DIOXINS FURANS
09RCRA701	40321-76-4	1,2,3,7,8-PeCDD	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	39227-28-6	1,2,3,4,7,8-HxCDD	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	57653-85-7	1,2,3,6,7,8-HxCDD	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	19408-74-3	1,2,3,7,8,9-HxCDD	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.66E-07	8.37E-06	1	2009	DIOXINS FURANS
09RCRA701	3268-87-9	1,2,3,4,5,6,7,8-OCDD		9.31E-07	5.06E-05	1	2009	DIOXINS FURANS
09RCRA701	51207-31-9	2,3,7,8-TCDF		1.41E-07	1.14E-06	1	2009	DIOXINS FURANS
09RCRA701	57117-41-6	1,2,3,7,8-PeCDF	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	57117-31-4	2,3,4,7,8-PeCDF	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	70648-26-9	1,2,3,4,7,8-HxCDF	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	57117-44-9	1,2,3,6,7,8-HxCDF	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	60851-34-5	2,3,4,6,7,8-HxCDF	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	67562-39-4	1,2,3,4,6,7,8-HpCDF	J	4.66E-07	3.05E-06	1	2009	DIOXINS FURANS
09RCRA701	55673-89-7	1,2,3,4,7,8,9-HpCDF	U	4.66E-07	ND	0	2009	DIOXINS FURANS
09RCRA701	39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	9.31E-07	5.82E-06	1	2009	DIOXINS FURANS
09RCRA701	41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	9.37E-08	2.27E-07	1	2009	DIOXINS FURANS
09RCRA701	36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	4.66E-07	4.82E-07	1	2009	DIOXINS FURANS
09RCRA701	34465-46-S	Total Hexachlorodibenzo-p-dioxin	J	4.66E-07	3.25E-06	1	2009	DIOXINS FURANS
09RCRA701	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.66E-07	1.73E-05	1	2009	DIOXINS FURANS
09RCRA701	30402-14-3	Total Tetrachlorodibenzofuran		1.41E-07	2.31E-06	1	2009	DIOXINS FURANS
09RCRA701	30402-15-4	Total Pentachlorodibenzofuran	J	4.66E-07	3.46E-06	1	2009	DIOXINS FURANS
09RCRA701	55684-94-1	Total Hexachlorodibenzofuran		4.66E-07	6.53E-06	1	2009	DIOXINS FURANS
09RCRA701	38998-75-3	Total Heptachlorodibenzofuran		4.66E-07	7.26E-06	1	2009	DIOXINS FURANS
09RCRA703	1746-01-6	2,3,7,8-TCDD	J	1.00E-07	6.18E-07	1	2009	DIOXINS FURANS
09RCRA703	40321-76-4	1,2,3,7,8-PeCDD	U	4.64E-07	ND	0	2009	DIOXINS FURANS
09RCRA703	39227-28-6	1,2,3,4,7,8-HxCDD	J	4.64E-07	7.33E-07	1	2009	DIOXINS FURANS
09RCRA703	57653-85-7	1,2,3,6,7,8-HxCDD	J	4.64E-07	1.58E-06	1	2009	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
09RCRA703	19408-74-3	1,2,3,7,8,9-HxCDD	J	4.64E-07	1.65E-06	1	2009	DIOXINS FURANS
09RCRA703	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.64E-07	3.67E-05	1	2009	DIOXINS FURANS
09RCRA703	3268-87-9	1,2,3,4,5,6,7,8-OCDD		9.27E-07	2.09E-04	1	2009	DIOXINS FURANS
09RCRA703	51207-31-9	2,3,7,8-TCDF	U	1.82E-07	ND	0	2009	DIOXINS FURANS
09RCRA703	57117-41-6	1,2,3,7,8-PeCDF	U	4.64E-07	ND	0	2009	DIOXINS FURANS
09RCRA703	57117-31-4	2,3,4,7,8-PeCDF	J	4.64E-07	4.66E-07	1	2009	DIOXINS FURANS
09RCRA703	70648-26-9	1,2,3,4,7,8-HxCDF	J	4.64E-07	9.55E-07	1	2009	DIOXINS FURANS
09RCRA703	57117-44-9	1,2,3,6,7,8-HxCDF	J	4.64E-07	8.90E-07	1	2009	DIOXINS FURANS
09RCRA703	60851-34-5	2,3,4,6,7,8-HxCDF	J	4.64E-07	1.13E-06	1	2009	DIOXINS FURANS
09RCRA703	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.64E-07	ND	0	2009	DIOXINS FURANS
09RCRA703	67562-39-4	1,2,3,4,6,7,8-HpCDF		4.64E-07	1.27E-05	1	2009	DIOXINS FURANS
09RCRA703	55673-89-7	1,2,3,4,7,8,9-HpCDF	J	4.64E-07	1.02E-06	1	2009	DIOXINS FURANS
09RCRA703	39001-02-0	1,2,3,4,5,6,7,8-OCDF		9.27E-07	2.93E-05	1	2009	DIOXINS FURANS
09RCRA703	41903-57-5	Total Tetrachlorodibenzo-p-dioxin		1.00E-07	1.76E-06	1	2009	DIOXINS FURANS
09RCRA703	36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	4.64E-07	1.19E-06	1	2009	DIOXINS FURANS
09RCRA703	34465-46-S	Total Hexachlorodibenzo-p-dioxin		4.64E-07	1.51E-05	1	2009	DIOXINS FURANS
09RCRA703	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.64E-07	6.61E-05	1	2009	DIOXINS FURANS
09RCRA703	30402-14-3	Total Tetrachlorodibenzofuran		1.82E-07	6.57E-06	1	2009	DIOXINS FURANS
09RCRA703	30402-15-4	Total Pentachlorodibenzofuran		4.64E-07	1.33E-05	1	2009	DIOXINS FURANS
09RCRA703	55684-94-1	Total Hexachlorodibenzofuran		4.64E-07	2.76E-05	1	2009	DIOXINS FURANS
09RCRA703	38998-75-3	Total Heptachlorodibenzofuran		4.64E-07	3.69E-05	1	2009	DIOXINS FURANS
09RCRA705	1746-01-6	2,3,7,8-TCDD	U	1.11E-07	ND	0	2009	DIOXINS FURANS
09RCRA705	40321-76-4	1,2,3,7,8-PeCDD	U	4.60E-07	ND	0	2009	DIOXINS FURANS
09RCRA705	39227-28-6	1,2,3,4,7,8-HxCDD	J	4.60E-07	7.41E-07	1	2009	DIOXINS FURANS
09RCRA705	57653-85-7	1,2,3,6,7,8-HxCDD	J	4.60E-07	1.40E-06	1	2009	DIOXINS FURANS
09RCRA705	19408-74-3	1,2,3,7,8,9-HxCDD	J	4.60E-07	1.49E-06	1	2009	DIOXINS FURANS
09RCRA705	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.60E-07	3.66E-05	1	2009	DIOXINS FURANS
09RCRA705	3268-87-9	1,2,3,4,5,6,7,8-OCDD		9.20E-07	2.08E-04	1	2009	DIOXINS FURANS
09RCRA705	51207-31-9	2,3,7,8-TCDF	J	1.67E-07	5.45E-07	1	2009	DIOXINS FURANS
09RCRA705	57117-41-6	1,2,3,7,8-PeCDF	U	4.60E-07	ND	0	2009	DIOXINS FURANS
09RCRA705	57117-31-4	2,3,4,7,8-PeCDF	U	4.60E-07	ND	0	2009	DIOXINS FURANS
09RCRA705	70648-26-9	1,2,3,4,7,8-HxCDF	J	4.60E-07	7.64E-07	1	2009	DIOXINS FURANS
09RCRA705	57117-44-9	1,2,3,6,7,8-HxCDF	JK	4.60E-07	ND		2009	DIOXINS FURANS
09RCRA705	60851-34-5	2,3,4,6,7,8-HxCDF	J	4.60E-07	9.33E-07	1	2009	DIOXINS FURANS
09RCRA705	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.60E-07	ND	0	2009	DIOXINS FURANS
09RCRA705	67562-39-4	1,2,3,4,6,7,8-HpCDF		4.60E-07	1.13E-05	1	2009	DIOXINS FURANS
09RCRA705	55673-89-7	1,2,3,4,7,8,9-HpCDF	J	4.60E-07	9.20E-07	1	2009	DIOXINS FURANS
09RCRA705	39001-02-0	1,2,3,4,5,6,7,8-OCDF		9.20E-07	2.79E-05	1	2009	DIOXINS FURANS
09RCRA705	41903-57-5	Total Tetrachlorodibenzo-p-dioxin	U	1.11E-07	ND	0	2009	DIOXINS FURANS
09RCRA705	36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	4.60E-07	8.21E-07	1	2009	DIOXINS FURANS
09RCRA705	34465-46-S	Total Hexachlorodibenzo-p-dioxin		4.60E-07	1.41E-05	1	2009	DIOXINS FURANS
09RCRA705	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.60E-07	7.16E-05	1	2009	DIOXINS FURANS
09RCRA705	30402-14-3	Total Tetrachlorodibenzofuran		1.67E-07	3.90E-06	1	2009	DIOXINS FURANS
09RCRA705	30402-15-4	Total Pentachlorodibenzofuran		4.60E-07	7.55E-06	1	2009	DIOXINS FURANS
09RCRA705	55684-94-1	Total Hexachlorodibenzofuran		4.60E-07	2.28E-05	1	2009	DIOXINS FURANS
09RCRA705	38998-75-3	Total Heptachlorodibenzofuran		4.60E-07	3.43E-05	1	2009	DIOXINS FURANS
09RCRA707	1746-01-6	2,3,7,8-TCDD	JK	1.10E-07	ND		2009	DIOXINS FURANS
09RCRA707	40321-76-4	1,2,3,7,8-PeCDD	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA707	39227-28-6	1,2,3,4,7,8-HxCDD	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA707	57653-85-7	1,2,3,6,7,8-HxCDD	J	4.44E-07	7.53E-07	1	2009	DIOXINS FURANS
09RCRA707	19408-74-3	1,2,3,7,8,9-HxCDD	J	4.44E-07	8.03E-07	1	2009	DIOXINS FURANS
09RCRA707	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.44E-07	2.01E-05	1	2009	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
09RCRA707	3268-87-9	1,2,3,4,5,6,7,8-OCDD		8.88E-07	1.29E-04	1	2009	DIOXINS FURANS
09RCRA707	51207-31-9	2,3,7,8-TCDF	JK	1.68E-07	ND		2009	DIOXINS FURANS
09RCRA707	57117-41-6	1,2,3,7,8-PeCDF	J	4.44E-07	5.72E-07	1	2009	DIOXINS FURANS
09RCRA707	57117-31-4	2,3,4,7,8-PeCDF	J	4.44E-07	6.77E-07	1	2009	DIOXINS FURANS
09RCRA707	70648-26-9	1,2,3,4,7,8-HxCDF	J	4.44E-07	7.87E-07	1	2009	DIOXINS FURANS
09RCRA707	57117-44-9	1,2,3,6,7,8-HxCDF	J	4.44E-07	7.41E-07	1	2009	DIOXINS FURANS
09RCRA707	60851-34-5	2,3,4,6,7,8-HxCDF	JK	4.44E-07	ND		2009	DIOXINS FURANS
09RCRA707	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA707	67562-39-4	1,2,3,4,6,7,8-HpCDF		4.44E-07	7.27E-06	1	2009	DIOXINS FURANS
09RCRA707	55673-89-7	1,2,3,4,7,8,9-HpCDF	J	4.44E-07	7.30E-07	1	2009	DIOXINS FURANS
09RCRA707	39001-02-0	1,2,3,4,5,6,7,8-OCDF		8.88E-07	1.95E-05	1	2009	DIOXINS FURANS
09RCRA707	41903-57-5	Total Tetrachlorodibenzo-p-dioxin		1.10E-07	2.25E-05	1	2009	DIOXINS FURANS
09RCRA707	36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	4.44E-07	1.03E-06	1	2009	DIOXINS FURANS
09RCRA707	34465-46-S	Total Hexachlorodibenzo-p-dioxin		4.44E-07	6.93E-06	1	2009	DIOXINS FURANS
09RCRA707	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.44E-07	3.51E-05	1	2009	DIOXINS FURANS
09RCRA707	30402-14-3	Total Tetrachlorodibenzofuran		1.68E-07	3.27E-05	1	2009	DIOXINS FURANS
09RCRA707	30402-15-4	Total Pentachlorodibenzofuran		4.44E-07	2.39E-05	1	2009	DIOXINS FURANS
09RCRA707	55684-94-1	Total Hexachlorodibenzofuran		4.44E-07	1.60E-05	1	2009	DIOXINS FURANS
09RCRA707	38998-75-3	Total Heptachlorodibenzofuran		4.44E-07	2.26E-05	1	2009	DIOXINS FURANS
09RCRA709	1746-01-6	2,3,7,8-TCDD	J	8.88E-08	5.49E-07	1	2009	DIOXINS FURANS
09RCRA709	40321-76-4	1,2,3,7,8-PeCDD	JK	4.44E-07	ND		2009	DIOXINS FURANS
09RCRA709	39227-28-6	1,2,3,4,7,8-HxCDD	J	4.44E-07	7.71E-07	1	2009	DIOXINS FURANS
09RCRA709	57653-85-7	1,2,3,6,7,8-HxCDD	J	4.44E-07	1.28E-06	1	2009	DIOXINS FURANS
09RCRA709	19408-74-3	1,2,3,7,8,9-HxCDD	JK	4.44E-07	ND		2009	DIOXINS FURANS
09RCRA709	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.44E-07	3.23E-05	1	2009	DIOXINS FURANS
09RCRA709	3268-87-9	1,2,3,4,5,6,7,8-OCDD		8.88E-07	1.85E-04	1	2009	DIOXINS FURANS
09RCRA709	51207-31-9	2,3,7,8-TCDF	J	1.85E-07	5.95E-07	1	2009	DIOXINS FURANS
09RCRA709	57117-41-6	1,2,3,7,8-PeCDF	J	4.44E-07	4.76E-07	1	2009	DIOXINS FURANS
09RCRA709	57117-31-4	2,3,4,7,8-PeCDF	JK	4.44E-07	ND		2009	DIOXINS FURANS
09RCRA709	70648-26-9	1,2,3,4,7,8-HxCDF	J	4.44E-07	7.66E-07	1	2009	DIOXINS FURANS
09RCRA709	57117-44-9	1,2,3,6,7,8-HxCDF	J	4.44E-07	7.37E-07	1	2009	DIOXINS FURANS
09RCRA709	60851-34-5	2,3,4,6,7,S-HxCDF	J	4.44E-07	8.63E-07	1	2009	DIOXINS FURANS
09RCRA709	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.44E-07	ND	0	2009	DIOXINS FURANS
09RCRA709	67562-39-4	1,2,3,4,6,7,8-HpCDF		4.44E-07	8.71E-06	1	2009	DIOXINS FURANS
09RCRA709	55673-89-7	1,2,3,4,7,8,9-HpCDF	J	4.44E-07	7.41E-07	1	2009	DIOXINS FURANS
09RCRA709	39001-02-0	1,2,3,4,5,6,7,8-OCDF		8.88E-07	2.19E-05	1	2009	DIOXINS FURANS
09RCRA709	41903-57-5	Total Tetrachlorodibenzo-p-dioxin		8.88E-08	3.15E-06	1	2009	DIOXINS FURANS
09RCRA709	36088-22-9	Total Pentachlorodibenzo-p-dioxin	J	4.44E-07	2.32E-06	1	2009	DIOXINS FURANS
09RCRA709	34465-46-S	Total Hexachlorodibenzo-p-dioxin		4.44E-07	1.44E-05	1	2009	DIOXINS FURANS
09RCRA709	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.44E-07	6.94E-05	1	2009	DIOXINS FURANS
09RCRA709	30402-14-3	Total Tetrachlorodibenzofuran		1.85E-07	6.13E-06	1	2009	DIOXINS FURANS
09RCRA709	30402-15-4	Total Pentachlorodibenzofuran		4.44E-07	1.08E-05	1	2009	DIOXINS FURANS
09RCRA709	55684-94-1	Total Hexachlorodibenzofuran		4.44E-07	1.81E-05	1	2009	DIOXINS FURANS
09RCRA709	38998-75-3	Total Heptachlorodibenzofuran		4.44E-07	2.72E-05	1	2009	DIOXINS FURANS
09RCRA711	1746-01-6	2,3,7,8-TCDD		1.35E-07	1.34E-06	1	2009	DIOXINS FURANS
09RCRA711	40321-76-4	1,2,3,7,8-PeCDD		4.93E-07	6.99E-06	1	2009	DIOXINS FURANS
09RCRA711	39227-28-6	1,2,3,4,7,8-HxCDD		7.33E-07	1.79E-05	1	2009	DIOXINS FURANS
09RCRA711	57653-85-7	1,2,3,6,7,8-HxCDD		7.06E-07	3.33E-05	1	2009	DIOXINS FURANS
09RCRA711	19408-74-3	1,2,3,7,8,9-HxCDD		7.55E-07	4.07E-05	1	2009	DIOXINS FURANS
09RCRA711	35822-46-9	1,2,3,4,6,7,8-HpCDD		1.78E-06	9.00E-04	1	2009	DIOXINS FURANS
09RCRA711	3268-87-9	1,2,3,4,5,6,7,8-OCDD		9.86E-07	4.80E-03	1	2009	DIOXINS FURANS
09RCRA711	51207-31-9	2,3,7,8-TCDF		2.92E-07	1.51E-06	1	2009	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
09RCRA711	57117-41-6	1,2,3,7,8-PeCDF	J	4.93E-07	1.65E-06	1	2009	DIOXINS FURANS
09RCRA711	57117-31-4	2,3,4,7,8-PeCDF	J	4.93E-07	1.97E-06	1	2009	DIOXINS FURANS
09RCRA711	70648-26-9	1,2,3,4,7,8-HxCDF		4.93E-07	1.21E-05	1	2009	DIOXINS FURANS
09RCRA711	57117-44-9	1,2,3,6,7,8-HxCDF		4.93E-07	1.44E-05	1	2009	DIOXINS FURANS
09RCRA711	60851-34-5	2,3,4,6,7,8-HxCDF		4.93E-07	1.78E-05	1	2009	DIOXINS FURANS
09RCRA711	72918-21-9	1,2,3,7,8,9-HxCDF	J	5.26E-07	2.02E-06	1	2009	DIOXINS FURANS
09RCRA711	67562-39-4	1,2,3,4,6,7,8-HpCDF		4.93E-07	2.88E-04	1	2009	DIOXINS FURANS
09RCRA711	55673-89-7	1,2,3,4,7,8,9-HpCDF		7.22E-07	1.92E-05	1	2009	DIOXINS FURANS
09RCRA711	39001-02-0	1,2,3,4,5,6,7,8-OCDF		9.86E-07	6.57E-04	1	2009	DIOXINS FURANS
09RCRA711	41903-57-5	Total Tetrachlorodibenzo-p-dioxin		1.35E-07	1.57E-05	1	2009	DIOXINS FURANS
09RCRA711	36088-22-9	Total Pentachlorodibenzo-p-dioxin		4.93E-07	4.30E-05	1	2009	DIOXINS FURANS
09RCRA711	34465-46-S	Total Hexachlorodibenzo-p-dioxin		7.31E-07	3.06E-04	1	2009	DIOXINS FURANS
09RCRA711	37871-00-4	Total Heptachlorodibenzo-p-dioxin		1.78E-06	1.55E-03	1	2009	DIOXINS FURANS
09RCRA711	30402-14-3	Total Tetrachlorodibenzofuran		2.92E-07	2.64E-05	1	2009	DIOXINS FURANS
09RCRA711	30402-15-4	Total Pentachlorodibenzofuran		4.93E-07	1.21E-04	1	2009	DIOXINS FURANS
09RCRA711	55684-94-1	Total Hexachlorodibenzofuran		7.73E-07	5.63E-04	1	2009	DIOXINS FURANS
09RCRA711	38998-75-3	Total Heptachlorodibenzofuran		4.93E-07	9.63E-04	1	2009	DIOXINS FURANS
09RCRA711	51207-31-9	2,3,7,8-TCDF		2.39E-07	8.99E-07	1	2009	DIOXINS FURANS
09RCRA731	1746-01-6	2,3,7,8-TCDD	J	8.83E-08	4.61E-07	1	2009	DIOXINS FURANS
09RCRA731	40321-76-4	1,2,3,7,8-PeCDD	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	39227-28-6	1,2,3,4,7,8-HxCDD	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	57653-85-7	1,2,3,6,7,8-HxCDD	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	19408-74-3	1,2,3,7,8,9-HxCDD	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	35822-46-9	1,2,3,4,6,7,8-HpCDD		4.42E-07	5.93E-06	1	2009	DIOXINS FURANS
09RCRA731	3268-87-9	1,2,3,4,5,6,7,8-OCDD		8.83E-07	3.18E-05	1	2009	DIOXINS FURANS
09RCRA731	51207-31-9	2,3,7,8-TCDF	J	1.18E-07	2.45E-07	1	2009	DIOXINS FURANS
09RCRA731	57117-41-6	1,2,3,7,8-PeCDF	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	57117-31-4	2,3,4,7,8-PeCDF	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	70648-26-9	1,2,3,4,7,8-HxCDF	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	57117-44-9	1,2,3,6,7,8-HxCDF	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	60851-34-5	2,3,4,6,7,8-HxCDF	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	72918-21-9	1,2,3,7,8,9-HxCDF	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	67562-39-4	1,2,3,4,6,7,8-HpCDF	J	4.42E-07	2.02E-06	1	2009	DIOXINS FURANS
09RCRA731	55673-89-7	1,2,3,4,7,8,9-HpCDF	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	39001-02-0	1,2,3,4,5,6,7,8-OCDF	J	8.83E-07	3.64E-06	1	2009	DIOXINS FURANS
09RCRA731	41903-57-5	Total Tetrachlorodibenzo-p-dioxin	J	8.83E-08	4.61E-07	1	2009	DIOXINS FURANS
09RCRA731	36088-22-9	Total Pentachlorodibenzo-p-dioxin	U	4.42E-07	ND	0	2009	DIOXINS FURANS
09RCRA731	34465-46-8	Total Hexachlorodibenzo-p-dioxin	J	4.42E-07	1.23E-06	1	2009	DIOXINS FURANS
09RCRA731	37871-00-4	Total Heptachlorodibenzo-p-dioxin		4.42E-07	1.48E-05	1	2009	DIOXINS FURANS
09RCRA731	30402-14-3	Total Tetrachlorodibenzofuran		1.18E-07	1.46E-06	1	2009	DIOXINS FURANS
09RCRA731	30402-15-4	Total Pentachlorodibenzofuran	J	4.42E-07	2.07E-06	1	2009	DIOXINS FURANS
09RCRA731	55684-94-1	Total Hexachlorodibenzofuran	J	4.42E-07	2.83E-06	1	2009	DIOXINS FURANS
09RCRA731	38998-75-3	Total Heptachlorodibenzofuran		4.42E-07	4.83E-06	1	2009	DIOXINS FURANS
RE16-12-17672	30402-15-4	Pentachlorodibenzofurans (Totals)	J	1.73E-06	2.42E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	J	3.46E-06	8.05E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.73E-06	7.01E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	JK	1.73E-06	9.02E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.73E-06	8.23E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.73E-06	7.80E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.73E-06	9.68E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.46E-06	6.68E-05	1	8/13/2012	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
RE16-12-17672	34465-46-8	Hexachlorodibenzodioxins (Total)		1.73E-06	7.75E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.73E-06	1.20E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	37871-00-4	Heptachlorodibenzodioxins (Total)		1.73E-06	2.66E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	38998-75-3	Heptachlorodibenzofurans (Total)		1.73E-06	9.91E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	41903-57-5	Tetrachlorodibenzodioxins (Total)		3.46E-07	1.23E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	55684-94-1	Hexachlorodibenzofurans (Total)		1.73E-06	8.76E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.46E-07	2.22E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.73E-06	5.75E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17672	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.46E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	U	1.73E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	36088-22-9	Pentachlorodibenzodioxins (Total)	U	1.73E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.73E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.73E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	B	3.46E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.46E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.73E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.73E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17672	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.73E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17673	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.67E-06	2.63E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	36088-22-9	Pentachlorodibenzodioxins (Total)	J	1.67E-06	2.51E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.67E-06	1.20E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	JK	1.67E-06	7.45E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	41903-57-5	Tetrachlorodibenzodioxins (Total)	J	3.34E-07	9.51E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.67E-06	1.39E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	JK	1.67E-06	8.97E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	JK	1.67E-06	1.61E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.67E-06	1.10E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.67E-06	2.52E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.67E-06	1.49E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.67E-06	1.75E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	30402-15-4	Pentachlorodibenzofurans (Totals)		1.67E-06	6.29E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.34E-06	3.81E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	34465-46-8	Hexachlorodibenzodioxins (Total)		1.67E-06	2.41E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.67E-06	5.27E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	37871-00-4	Heptachlorodibenzodioxins (Total)		1.67E-06	9.77E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	38998-75-3	Heptachlorodibenzofurans (Total)		1.67E-06	3.91E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.34E-06	4.53E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	55684-94-1	Hexachlorodibenzofurans (Total)		1.67E-06	2.03E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.34E-07	9.15E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.67E-06	1.72E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17673	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.34E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17673	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.34E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17673	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.67E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.81E-06	9.98E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	30402-15-4	Pentachlorodibenzofurans (Totals)	J	1.81E-06	7.15E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	55684-94-1	Hexachlorodibenzofurans (Total)	J	1.81E-06	3.44E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	3.63E-07	3.52E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.81E-06	1.04E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.63E-06	1.08E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	34465-46-8	Hexachlorodibenzodioxins (Total)		1.81E-06	7.75E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.81E-06	1.81E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	37871-00-4	Heptachlorodibenzodioxins (Total)		1.81E-06	3.37E-05	1	8/13/2012	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
RE16-12-17674	38998-75-3	Heptachlorodibenzofurans (Total)		1.81E-06	1.16E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.63E-06	1.18E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.81E-06	5.49E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17674	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.63E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	36088-22-9	Pentachlorodibenzodioxins (Total)	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.63E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.63E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17674	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.81E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.56E-06	1.71E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	30402-15-4	Pentachlorodibenzofurans (Totals)	J	1.56E-06	1.96E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	JK	1.56E-06	7.40E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.56E-06	8.79E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	3.12E-07	3.57E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	JK	1.56E-06	7.05E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.56E-06	1.58E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.56E-06	9.09E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.56E-06	7.33E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.12E-06	2.40E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	34465-46-8	Hexachlorodibenzodioxins (Total)		1.56E-06	1.16E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.56E-06	3.48E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	37871-00-4	Heptachlorodibenzodioxins (Total)		1.56E-06	5.99E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	38998-75-3	Heptachlorodibenzofurans (Total)		1.56E-06	2.70E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.12E-06	2.82E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	55684-94-1	Hexachlorodibenzofurans (Total)		1.56E-06	1.31E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.56E-06	1.32E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17675	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.12E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	36088-22-9	Pentachlorodibenzodioxins (Total)	U	1.56E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.56E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.12E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.12E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.56E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.56E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17675	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.56E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.60E-06	1.98E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	30402-15-4	Pentachlorodibenzofurans (Totals)	J	1.60E-06	1.07E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	JK	1.60E-06	8.66E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.60E-06	1.17E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.60E-06	7.81E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.60E-06	1.75E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.60E-06	7.41E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.60E-06	8.23E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.21E-06	3.32E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	34465-46-8	Hexachlorodibenzodioxins (Total)		1.60E-06	1.33E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.60E-06	4.21E-05	1	8/13/2012	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
RE16-12-17676	37871-00-4	Heptachlorodibenzodioxins (Total)		1.60E-06	7.38E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	38998-75-3	Heptachlorodibenzofurans (Total)		1.60E-06	3.28E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.21E-06	3.63E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	55684-94-1	Hexachlorodibenzofurans (Total)		1.60E-06	1.24E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.21E-07	1.31E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.60E-06	1.42E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17676	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.21E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	36088-22-9	Pentachlorodibenzodioxins (Total)	U	1.60E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.60E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.21E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.21E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.60E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.60E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17676	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.60E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	34465-46-8	Hexachlorodibenzodioxins (Total)	J	1.74E-06	1.98E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17677	38998-75-3	Heptachlorodibenzofurans (Total)	J	1.74E-06	3.89E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17677	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	J	3.49E-06	3.56E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17677	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	J	1.74E-06	2.05E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17677	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.49E-06	3.77E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17677	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.74E-06	5.33E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17677	37871-00-4	Heptachlorodibenzodioxins (Total)		1.74E-06	1.15E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17677	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.49E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	30402-15-4	Pentachlorodibenzofurans (Totals)	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	36088-22-9	Pentachlorodibenzodioxins (Total)	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.49E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.49E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	55684-94-1	Hexachlorodibenzofurans (Total)	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	55722-27-5	Tetrachlorodibenzofurans (Totals)	U	3.49E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17677	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.74E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	JK	1.71E-06	6.99E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	36088-22-9	Pentachlorodibenzodioxins (Total)	J	1.71E-06	7.26E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	J	3.44E-06	1.01E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	55684-94-1	Hexachlorodibenzofurans (Total)	J	1.71E-06	2.17E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	3.44E-07	8.11E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.71E-06	7.55E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	J	1.71E-06	2.94E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.44E-06	1.09E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	34465-46-8	Hexachlorodibenzodioxins (Total)		1.71E-06	7.84E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.71E-06	1.49E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	37871-00-4	Heptachlorodibenzodioxins (Total)		1.71E-06	4.58E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	38998-75-3	Heptachlorodibenzofurans (Total)		1.71E-06	9.38E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17678	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.44E-07	ND	0	8/13/2012	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
RE16-12-17678	30402-15-4	Pentachlorodibenzofurans (Totals)	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.44E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.44E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17678	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17679	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	J	3.43E-07	4.17E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.71E-06	4.34E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	30402-15-4	Pentachlorodibenzofurans (Totals)	J	1.71E-06	4.50E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	36088-22-9	Pentachlorodibenzodioxins (Total)	J	1.71E-06	3.26E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.71E-06	1.61E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	JK	1.71E-06	8.39E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	41903-57-5	Tetrachlorodibenzodioxins (Total)	J	3.43E-07	7.36E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	JK	1.71E-06	1.50E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.71E-06	6.50E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.71E-06	1.32E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.71E-06	3.69E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.71E-06	1.57E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.71E-06	9.85E-07	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.43E-06	4.81E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	34465-46-8	Hexachlorodibenzodioxins (Total)		1.71E-06	3.57E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.71E-06	8.02E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	37871-00-4	Heptachlorodibenzodioxins (Total)		1.71E-06	1.49E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	38998-75-3	Heptachlorodibenzofurans (Total)		1.71E-06	5.15E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.43E-06	4.94E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	55684-94-1	Hexachlorodibenzofurans (Total)		1.71E-06	2.46E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.43E-07	3.62E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.71E-06	2.57E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17679	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.43E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17679	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17679	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.71E-06	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17680	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.71E-06	3.00E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.71E-06	1.77E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	J	1.71E-06	2.88E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]		3.43E-07	1.49E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.71E-06	8.71E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	30402-15-4	Pentachlorodibenzofurans (Totals)		1.71E-06	7.97E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	34465-46-8	Hexachlorodibenzodioxins (Total)		1.71E-06	5.38E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.71E-06	1.70E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	36088-22-9	Pentachlorodibenzodioxins (Total)		1.71E-06	5.10E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	38998-75-3	Heptachlorodibenzofurans (Total)		1.71E-06	1.27E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.43E-06	1.28E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]		1.71E-06	3.08E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]		1.71E-06	1.11E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	41903-57-5	Tetrachlorodibenzodioxins (Total)		3.43E-07	5.16E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]		1.71E-06	3.30E-05	1	8/13/2012	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
RE16-12-17680	55684-94-1	Hexachlorodibenzofurans (Total)		1.71E-06	5.03E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.43E-07	2.19E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]		1.71E-06	2.23E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.71E-06	7.18E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]		1.71E-06	2.66E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.71E-06	5.61E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]		1.71E-06	1.69E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17680	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.43E-07	ND	0	8/13/2012	DIOXINS FURANS
RE16-12-17681	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	JK	3.45E-06	3.09E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	JK	1.72E-05	1.25E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	JK	1.72E-05	7.35E-06	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	J	1.72E-05	1.41E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.72E-05	3.71E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	30402-15-4	Pentachlorodibenzofurans (Totals)		1.72E-05	4.49E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	34465-46-8	Hexachlorodibenzodioxins (Total)		1.72E-05	2.59E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.72E-05	8.77E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	36088-22-9	Pentachlorodibenzodioxins (Total)		1.72E-05	2.85E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	37871-00-4	Heptachlorodibenzodioxins (Total)		1.72E-05	1.50E-02	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	38998-75-3	Heptachlorodibenzofurans (Total)		1.72E-05	5.77E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.45E-05	6.32E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]		1.72E-05	1.52E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]		1.72E-05	5.63E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	41903-57-5	Tetrachlorodibenzodioxins (Total)		3.45E-06	1.31E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]		1.72E-05	1.59E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	55684-94-1	Hexachlorodibenzofurans (Total)		1.72E-05	2.62E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.45E-06	7.17E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]		1.72E-05	1.07E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.72E-05	3.33E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]		1.72E-05	1.37E-04	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.72E-05	2.35E-03	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]		1.72E-05	8.36E-05	1	8/13/2012	DIOXINS FURANS
RE16-12-17681	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.45E-06	ND	0	8/13/2012	DIOXINS FURANS
WST16-13-29794	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.38E-07	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29794	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.69E-06	5.94E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	30402-15-4	Pentachlorodibenzofurans (Totals)		1.69E-06	7.14E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.38E-06	5.63E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	34465-46-8	Hexachlorodibenzodioxins (Total)		1.69E-06	4.27E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.69E-06	9.21E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	36088-22-9	Pentachlorodibenzodioxins (Total)	J	1.69E-06	2.05E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	37871-00-4	Heptachlorodibenzodioxins (Total)		1.69E-06	1.62E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	38998-75-3	Heptachlorodibenzofurans (Total)		1.69E-06	7.24E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.38E-06	6.17E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.69E-06	2.45E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	J	1.69E-06	6.20E-07	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.38E-07	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29794	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.38E-07	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29794	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.69E-06	1.97E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	55684-94-1	Hexachlorodibenzofurans (Total)		1.69E-06	3.90E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.38E-07	1.03E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.69E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29794	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.69E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29794	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.69E-06	1.87E-06	1	03/27/2013	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-13-29794	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.69E-06	4.76E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.69E-06	2.21E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.69E-06	3.96E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.69E-06	1.15E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29794	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.69E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29795	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.36E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29795	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.68E-05	3.23E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	30402-15-4	Pentachlorodibenzofurans (Totals)		1.68E-05	3.93E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.36E-05	5.51E-02	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	34465-46-8	Hexachlorodibenzodioxins (Total)		1.68E-05	2.21E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.68E-05	7.44E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	36088-22-9	Pentachlorodibenzodioxins (Total)		1.68E-05	1.75E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	37871-00-4	Heptachlorodibenzodioxins (Total)		1.68E-05	1.21E-02	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	38998-75-3	Heptachlorodibenzofurans (Total)		1.68E-05	5.97E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.36E-05	7.03E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]		1.68E-05	1.41E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	J	1.68E-05	3.83E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.36E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29795	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.36E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29795	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]		1.68E-05	1.49E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	55684-94-1	Hexachlorodibenzofurans (Total)		1.68E-05	2.47E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.36E-06	4.04E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	JK	1.68E-05	1.05E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.68E-05	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29795	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]		1.68E-05	9.84E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.68E-05	3.02E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]		1.68E-05	1.37E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.68E-05	2.51E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]		1.68E-05	8.96E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29795	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.68E-05	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29796	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	J	3.34E-07	3.44E-07	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.66E-06	6.26E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	30402-15-4	Pentachlorodibenzofurans (Totals)		1.66E-06	7.96E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.34E-06	6.70E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	34465-46-8	Hexachlorodibenzodioxins (Total)		1.66E-06	4.64E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.66E-06	1.11E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	36088-22-9	Pentachlorodibenzodioxins (Total)		1.66E-06	5.08E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	37871-00-4	Heptachlorodibenzodioxins (Total)		1.66E-06	1.90E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	38998-75-3	Heptachlorodibenzofurans (Total)		1.66E-06	8.08E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.34E-06	7.40E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]		1.66E-06	2.48E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]		1.66E-06	7.93E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	41903-57-5	Tetrachlorodibenzodioxins (Total)		3.34E-07	3.36E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.34E-07	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29796	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]		1.66E-06	1.78E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	55684-94-1	Hexachlorodibenzofurans (Total)		1.66E-06	4.25E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.34E-07	8.42E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.66E-06	1.81E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.66E-06	1.18E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]		1.66E-06	1.93E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.66E-06	5.18E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]		1.66E-06	2.41E-05	1	03/27/2013	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-13-29796	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.66E-06	4.11E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]		1.66E-06	1.27E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29796	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	J	1.66E-06	1.93E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.35E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29797	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.67E-05	2.82E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	30402-15-4	Pentachlorodibenzofurans (Totals)		1.67E-05	3.30E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.35E-05	5.06E-02	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	34465-46-8	Hexachlorodibenzodioxins (Total)		1.67E-05	1.86E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.67E-05	6.81E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	36088-22-9	Pentachlorodibenzodioxins (Total)		1.67E-05	1.33E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	37871-00-4	Heptachlorodibenzodioxins (Total)		1.67E-05	1.08E-02	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	38998-75-3	Heptachlorodibenzofurans (Total)		1.67E-05	5.69E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.35E-05	7.63E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]		1.67E-05	1.24E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	J	1.67E-05	3.22E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	3.35E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29797	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.35E-06	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29797	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]		1.67E-05	1.44E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	55684-94-1	Hexachlorodibenzofurans (Total)		1.67E-05	2.17E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.35E-06	3.18E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.67E-05	7.67E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.67E-05	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29797	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]		1.67E-05	8.49E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.67E-05	2.74E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]		1.67E-05	1.10E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.67E-05	2.22E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]		1.67E-05	7.31E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29797	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.67E-05	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29798	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.34E-07	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29798	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.67E-06	5.09E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	30402-15-4	Pentachlorodibenzofurans (Totals)		1.67E-06	5.72E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.34E-06	6.65E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	34465-46-8	Hexachlorodibenzodioxins (Total)		1.67E-06	2.20E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.67E-06	9.64E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	36088-22-9	Pentachlorodibenzodioxins (Total)		1.67E-06	3.73E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	37871-00-4	Heptachlorodibenzodioxins (Total)		1.67E-06	1.63E-03	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	38998-75-3	Heptachlorodibenzofurans (Total)		1.67E-06	7.46E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.34E-06	8.40E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]		1.67E-06	1.89E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]		1.67E-06	5.83E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	41903-57-5	Tetrachlorodibenzodioxins (Total)		3.34E-07	1.82E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.34E-07	ND	0	03/27/2013	DIOXINS FURANS
WST16-13-29798	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]		1.67E-06	2.01E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	55684-94-1	Hexachlorodibenzofurans (Total)		1.67E-06	3.26E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	55722-27-5	Tetrachlorodibenzofurans (Totals)		3.34E-07	1.08E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.67E-06	1.42E-06	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.67E-06	8.73E-07	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]		1.67E-06	1.47E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.67E-06	4.40E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]		1.67E-06	1.84E-05	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.67E-06	3.37E-04	1	03/27/2013	DIOXINS FURANS
WST16-13-29798	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]		1.67E-06	1.18E-05	1	03/27/2013	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-13-29798	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	J	1.67E-06	1.87E-06	1	03/27/2013	DIOXINS FURANS
WST16-19-181353	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	JK	3.20E-07	2.15E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.60E-06	1.90E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	1.49E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.20E-06	3.01E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	1.81E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.60E-06	4.52E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	36088-22-9	Pentachlorodibenzodioxins (Total)	J	0.00E+00	1.74E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	8.33E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	4.42E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.20E-06	4.39E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.60E-06	9.07E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	J	1.60E-06	4.88E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	41903-57-5	Tetrachlorodibenzodioxins (Total)	J	0.00E+00	2.04E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]		3.20E-07	1.66E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]		3.20E-07	1.21E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.60E-06	1.89E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	2.33E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	1.52E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.60E-06	1.43E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.60E-06	2.03E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.60E-06	1.71E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.60E-06	1.87E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.60E-06	2.45E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.60E-06	1.80E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.60E-06	2.44E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181353	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	JK	1.60E-06	4.96E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.17E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181354	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.59E-06	2.19E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	4.48E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.17E-06	3.50E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	2.04E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.59E-06	5.55E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	36088-22-9	Pentachlorodibenzodioxins (Total)	J	0.00E+00	1.67E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	1.07E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	3.78E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.17E-06	3.27E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.59E-06	1.14E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	J	1.59E-06	5.71E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181354	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJK	3.17E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181354	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.59E-06	9.85E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	1.89E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	2.41E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.59E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181354	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.59E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181354	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.59E-06	9.81E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.59E-06	2.08E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.59E-06	1.14E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.59E-06	1.82E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	JK	1.59E-06	8.29E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181354	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.59E-06	ND	0	05/07/2019	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-19-181355	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.10E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	JK	1.55E-06	5.75E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	4.88E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.10E-06	5.32E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	4.11E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.55E-06	1.00E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	36088-22-9	Pentachlorodibenzodioxins (Total)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	1.96E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	6.69E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	J	3.10E-06	5.67E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	U	3.10E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	2.37E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	55722-27-5	Tetrachlorodibenzofurans (Totals)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.55E-06	5.40E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	J	1.55E-06	3.96E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181355	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181355	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181357	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	2.96E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181357	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.48E-06	1.12E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	30402-15-4	Pentachlorodibenzofurans (Totals)	JQ	0.00E+00	3.07E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		2.96E-06	1.48E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	1.17E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Q	1.48E-06	2.24E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	36088-22-9	Pentachlorodibenzodioxins (Total)	JQ	0.00E+00	1.41E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	6.78E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	1.92E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		2.96E-06	1.85E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.48E-06	6.78E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.48E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181357	41903-57-5	Tetrachlorodibenzodioxins (Total)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181357	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	2.96E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181357	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.48E-06	7.85E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	9.76E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	2.21E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.48E-06	4.69E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.48E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181357	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.48E-06	6.89E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	JK	1.48E-06	1.16E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	JK	1.48E-06	8.59E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.48E-06	9.10E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.48E-06	7.14E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181357	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.48E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181358	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.03E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181358	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.52E-06	1.72E-06	1	05/07/2019	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-19-181358	30402-15-4	Pentachlorodibenzofurans (Totals)	JQ	0.00E+00	8.86E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.03E-06	2.19E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	1.70E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Q	1.52E-06	3.34E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	36088-22-9	Pentachlorodibenzodioxins (Total)	JQ	0.00E+00	2.49E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	9.15E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	2.86E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.03E-06	2.88E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.52E-06	8.31E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.52E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181358	41903-57-5	Tetrachlorodibenzodioxins (Total)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181358	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJK	3.03E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181358	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.52E-06	1.07E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	1.73E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	3.42E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.52E-06	1.06E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.52E-06	5.99E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.52E-06	1.04E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.52E-06	1.58E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.52E-06	1.55E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.52E-06	1.30E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.52E-06	1.42E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181358	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.52E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181359	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	J	3.20E-07	2.03E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.60E-06	4.20E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	6.52E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.20E-06	6.50E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	3.19E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.60E-06	1.05E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	36088-22-9	Pentachlorodibenzodioxins (Total)	J	0.00E+00	4.00E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	1.79E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	8.14E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.20E-06	8.35E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.60E-06	1.95E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	J	1.60E-06	6.70E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	41903-57-5	Tetrachlorodibenzodioxins (Total)	J	0.00E+00	1.82E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.20E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181359	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.60E-06	2.20E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	3.55E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	3.35E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.60E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181359	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	JK	1.60E-06	5.68E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.60E-06	1.56E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.60E-06	4.06E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.60E-06	1.91E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.60E-06	3.47E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.60E-06	1.64E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181359	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.60E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181361	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.10E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181361	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	JK	1.55E-06	1.04E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	7.03E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.10E-06	1.26E-04	1	05/07/2019	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-19-181361	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	1.07E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.55E-06	2.15E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	36088-22-9	Pentachlorodibenzodioxins (Total)	J	0.00E+00	2.02E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	4.35E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	1.81E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.10E-06	1.45E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.55E-06	7.03E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181361	41903-57-5	Tetrachlorodibenzodioxins (Total)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181361	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJK	3.10E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181361	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.55E-06	5.71E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	1.23E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	55722-27-5	Tetrachlorodibenzofurans (Totals)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181361	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181361	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.55E-06	6.81E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.55E-06	7.59E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	JK	1.55E-06	1.13E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.55E-06	1.03E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.55E-06	9.10E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.55E-06	8.72E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181361	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.55E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181362	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	JK	3.16E-07	2.10E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.58E-06	7.43E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	3.04E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.16E-06	1.71E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	1.51E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.58E-06	2.40E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	36088-22-9	Pentachlorodibenzodioxins (Total)	J	0.00E+00	2.33E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	7.55E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	38998-75-3	Heptachlorodibenzofurans (Total)		0.00E+00	1.77E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.16E-06	1.93E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.58E-06	5.72E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.58E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181362	41903-57-5	Tetrachlorodibenzodioxins (Total)	J	0.00E+00	3.27E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJK	3.16E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181362	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.58E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181362	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	5.09E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	2.59E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.58E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181362	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.58E-06	8.34E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.58E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181362	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	J	1.58E-06	8.53E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.58E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181362	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.58E-06	5.40E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.58E-06	8.57E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181362	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.58E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.12E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	30402-15-4	Pentachlorodibenzofurans (Totals)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.12E-06	4.61E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	2.96E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.57E-06	6.19E-06	1	05/07/2019	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-19-181363	36088-22-9	Pentachlorodibenzodioxins (Total)	J	0.00E+00	5.24E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	2.09E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	4.78E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	J	3.12E-06	4.89E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	41903-57-5	Tetrachlorodibenzodioxins (Total)	J	0.00E+00	1.90E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJK	3.12E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	5.35E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	55722-27-5	Tetrachlorodibenzofurans (Totals)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	J	1.57E-06	1.22E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181363	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181363	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.57E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181364	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.24E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181364	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.63E-06	8.50E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	1.12E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.24E-06	1.13E-03	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	7.61E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.63E-06	1.99E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	36088-22-9	Pentachlorodibenzodioxins (Total)	J	0.00E+00	7.72E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	3.61E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	1.24E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.24E-06	1.17E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	J	1.63E-06	4.13E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	J	1.63E-06	1.53E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	41903-57-5	Tetrachlorodibenzodioxins (Total)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181364	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.24E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181364	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	J	1.63E-06	3.26E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	5.85E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	2.16E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.63E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181364	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.63E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181364	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	J	1.63E-06	2.57E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.63E-06	7.10E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	J	1.63E-06	3.56E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.63E-06	5.96E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	J	1.63E-06	2.06E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181364	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.63E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.22E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.62E-06	1.13E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	30402-15-4	Pentachlorodibenzofurans (Totals)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.22E-06	1.28E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	6.12E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.62E-06	2.10E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	36088-22-9	Pentachlorodibenzodioxins (Total)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	3.73E-05	1	05/07/2019	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-19-181365	38998-75-3	Heptachlorodibenzofurans (Total)		0.00E+00	6.41E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.22E-06	1.28E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	41903-57-5	Tetrachlorodibenzodioxins (Total)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.22E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	5.26E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	55722-27-5	Tetrachlorodibenzofurans (Totals)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	JK	1.62E-06	7.06E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.62E-06	6.41E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181365	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181365	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.62E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.00E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	J	1.50E-06	5.09E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	30402-15-4	Pentachlorodibenzofurans (Totals)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.00E-06	6.72E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	3.94E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.50E-06	1.01E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	36088-22-9	Pentachlorodibenzodioxins (Total)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	37871-00-4	Heptachlorodibenzodioxins (Total)		0.00E+00	2.11E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	7.12E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	J	3.00E-06	7.18E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	41903-57-5	Tetrachlorodibenzodioxins (Total)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.00E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	1.60E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	55722-27-5	Tetrachlorodibenzofurans (Totals)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	J	1.50E-06	3.30E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181366	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181366	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.50E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181367	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	J	3.24E-07	7.57E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]		1.63E-06	7.04E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	30402-15-4	Pentachlorodibenzofurans (Totals)	JQ	0.00E+00	1.32E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	34465-46-8	Hexachlorodibenzodioxins (Total)		0.00E+00	5.86E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]		1.63E-06	1.40E-03	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	36088-22-9	Pentachlorodibenzodioxins (Total)	JQ	0.00E+00	9.02E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	38998-75-3	Heptachlorodibenzofurans (Total)		0.00E+00	9.52E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]		3.24E-06	8.31E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]		1.63E-06	3.20E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]		1.63E-06	1.23E-05	1	05/07/2019	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	MDL Use (mg/kg)	Result Use (mg/kg)	Detect Code	Date	Method Category
WST16-19-181367	41903-57-5	Tetrachlorodibenzodioxins (Total)	J	0.00E+00	9.77E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJ	3.24E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181367	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]		1.63E-06	2.38E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	5.64E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	55722-27-5	Tetrachlorodibenzofurans (Totals)	J	0.00E+00	2.47E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	J	1.63E-06	3.11E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.63E-06	2.27E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]		1.63E-06	2.54E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]		1.63E-06	6.02E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]		1.63E-06	3.19E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]		1.63E-06	4.66E-04	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]		1.63E-06	1.70E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181367	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	J	1.63E-06	1.79E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	1746-01-6	Tetrachlorodibenzodioxin[2,3,7,8-]	U	3.20E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	19408-74-3	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	30402-15-4	Pentachlorodibenzofurans (Totals)	J	0.00E+00	1.95E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	3268-87-9	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]		3.20E-06	1.70E-05	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	34465-46-8	Hexachlorodibenzodioxins (Total)	J	0.00E+00	5.87E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	35822-46-9	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	J	1.61E-06	2.98E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	36088-22-9	Pentachlorodibenzodioxins (Total)	U	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	37871-00-4	Heptachlorodibenzodioxins (Total)	J	0.00E+00	7.18E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	38998-75-3	Heptachlorodibenzofurans (Total)	J	0.00E+00	3.71E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	39001-02-0	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	J	3.20E-06	3.31E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	39227-28-6	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	40321-76-4	Pentachlorodibenzodioxin[1,2,3,7,8-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	41903-57-5	Tetrachlorodibenzodioxins (Total)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	51207-31-9	Tetrachlorodibenzofuran[2,3,7,8-]	BJK	3.20E-07	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	55673-89-7	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	55684-94-1	Hexachlorodibenzofurans (Total)	J	0.00E+00	1.86E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	55722-27-5	Tetrachlorodibenzofurans (Totals)	BJ	0.00E+00	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	57117-31-4	Pentachlorodibenzofuran[2,3,4,7,8-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	57117-41-6	Pentachlorodibenzofuran[1,2,3,7,8-]	J	1.61E-06	6.14E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	57117-44-9	Hexachlorodibenzofuran[1,2,3,6,7,8-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	57653-85-7	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	60851-34-5	Hexachlorodibenzofuran[2,3,4,6,7,8-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS
WST16-19-181368	67562-39-4	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	J	1.61E-06	2.60E-06	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	70648-26-9	Hexachlorodibenzofuran[1,2,3,4,7,8-]	JK	1.61E-06	6.08E-07	1	05/07/2019	DIOXINS FURANS
WST16-19-181368	72918-21-9	Hexachlorodibenzofuran[1,2,3,7,8,9-]	U	1.61E-06	ND	0	05/07/2019	DIOXINS FURANS

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17672	83-32-9	Acenaphthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	83-32-9	Acenaphthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	83-32-9	Acenaphthene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	83-32-9	Acenaphthene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	83-32-9	Acenaphthene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	83-32-9	Acenaphthene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	83-32-9	Acenaphthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	83-32-9	Acenaphthene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	83-32-9	Acenaphthene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	83-32-9	Acenaphthene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	83-32-9	Acenaphthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	83-32-9	Acenaphthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	83-32-9	Acenaphthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	83-32-9	Acenaphthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	83-32-9	Acenaphthene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	83-32-9	Acenaphthene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	83-32-9	Acenaphthene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	83-32-9	Acenaphthene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	83-32-9	Acenaphthene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	83-32-9	Acenaphthene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	83-32-9	Acenaphthene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	83-32-9	Acenaphthene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	83-32-9	Acenaphthene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	83-32-9	Acenaphthene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	83-32-9	Acenaphthene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	83-32-9	Acenaphthene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	83-32-9	Acenaphthene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	83-32-9	Acenaphthene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	83-32-9	Acenaphthene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	208-96-8	Acenaphthylene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	208-96-8	Acenaphthylene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	208-96-8	Acenaphthylene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	208-96-8	Acenaphthylene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	208-96-8	Acenaphthylene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	208-96-8	Acenaphthylene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	208-96-8	Acenaphthylene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	208-96-8	Acenaphthylene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	208-96-8	Acenaphthylene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	208-96-8	Acenaphthylene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	208-96-8	Acenaphthylene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	208-96-8	Acenaphthylene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	208-96-8	Acenaphthylene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	208-96-8	Acenaphthylene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	208-96-8	Acenaphthylene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	208-96-8	Acenaphthylene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	208-96-8	Acenaphthylene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	208-96-8	Acenaphthylene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	208-96-8	Acenaphthylene	U	N	5.07E-02	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181358	208-96-8	Acenaphthylene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	208-96-8	Acenaphthylene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	208-96-8	Acenaphthylene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	208-96-8	Acenaphthylene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	208-96-8	Acenaphthylene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	208-96-8	Acenaphthylene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	208-96-8	Acenaphthylene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	208-96-8	Acenaphthylene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	208-96-8	Acenaphthylene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	208-96-8	Acenaphthylene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	62-53-3	Aniline	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	62-53-3	Aniline	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	62-53-3	Aniline	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	62-53-3	Aniline	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	62-53-3	Aniline	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	62-53-3	Aniline	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	62-53-3	Aniline	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	62-53-3	Aniline	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	62-53-3	Aniline	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	62-53-3	Aniline	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	62-53-3	Aniline	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	62-53-3	Aniline	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	62-53-3	Aniline	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	62-53-3	Aniline	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	62-53-3	Aniline	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	62-53-3	Aniline	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	62-53-3	Aniline	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	62-53-3	Aniline	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	62-53-3	Aniline	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	62-53-3	Aniline	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	62-53-3	Aniline	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	62-53-3	Aniline	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	62-53-3	Aniline	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	62-53-3	Aniline	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	62-53-3	Aniline	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	62-53-3	Aniline	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	62-53-3	Aniline	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	62-53-3	Aniline	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	62-53-3	Aniline	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	120-12-7	Anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	120-12-7	Anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	120-12-7	Anthracene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	120-12-7	Anthracene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	120-12-7	Anthracene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	120-12-7	Anthracene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	120-12-7	Anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	120-12-7	Anthracene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	120-12-7	Anthracene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	120-12-7	Anthracene	U	N	1.06E-02	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29794	120-12-7	Anthracene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	120-12-7	Anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	120-12-7	Anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	120-12-7	Anthracene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	120-12-7	Anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	120-12-7	Anthracene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	120-12-7	Anthracene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	120-12-7	Anthracene	J	Y	1.01E-02	1.42E-02	05/07/2019	N/A	FALSE	1.74E+04	FALSE
WST16-19-181357	120-12-7	Anthracene	J	Y	5.07E-02	1.49E-01	05/07/2019	N/A	FALSE	1.74E+04	FALSE
WST16-19-181358	120-12-7	Anthracene	J	Y	3.05E-01	5.09E-01	05/07/2019	N/A	FALSE	1.74E+04	FALSE
WST16-19-181359	120-12-7	Anthracene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	120-12-7	Anthracene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	120-12-7	Anthracene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	120-12-7	Anthracene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	120-12-7	Anthracene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	120-12-7	Anthracene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	120-12-7	Anthracene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	120-12-7	Anthracene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	120-12-7	Anthracene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	103-33-3	Azobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	103-33-3	Azobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	103-33-3	Azobenzene	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	103-33-3	Azobenzene	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	103-33-3	Azobenzene	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	103-33-3	Azobenzene	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	103-33-3	Azobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	103-33-3	Azobenzene	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	103-33-3	Azobenzene	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	103-33-3	Azobenzene	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	103-33-3	Azobenzene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	103-33-3	Azobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	103-33-3	Azobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	103-33-3	Azobenzene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	103-33-3	Azobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	103-33-3	Azobenzene	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	103-33-3	Azobenzene	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	103-33-3	Azobenzene	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	103-33-3	Azobenzene	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	103-33-3	Azobenzene	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	103-33-3	Azobenzene	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	103-33-3	Azobenzene	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	103-33-3	Azobenzene	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	103-33-3	Azobenzene	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	103-33-3	Azobenzene	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	103-33-3	Azobenzene	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	103-33-3	Azobenzene	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	103-33-3	Azobenzene	U	N	1.06E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181368	103-33-3	Azobenzene	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	56-55-3	Benzo(a)anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	56-55-3	Benzo(a)anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	56-55-3	Benzo(a)anthracene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	56-55-3	Benzo(a)anthracene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	56-55-3	Benzo(a)anthracene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	56-55-3	Benzo(a)anthracene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	56-55-3	Benzo(a)anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	56-55-3	Benzo(a)anthracene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	56-55-3	Benzo(a)anthracene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	56-55-3	Benzo(a)anthracene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	56-55-3	Benzo(a)anthracene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	56-55-3	Benzo(a)anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	56-55-3	Benzo(a)anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	56-55-3	Benzo(a)anthracene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	56-55-3	Benzo(a)anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	56-55-3	Benzo(a)anthracene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	56-55-3	Benzo(a)anthracene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	56-55-3	Benzo(a)anthracene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	56-55-3	Benzo(a)anthracene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	56-55-3	Benzo(a)anthracene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	56-55-3	Benzo(a)anthracene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	56-55-3	Benzo(a)anthracene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	56-55-3	Benzo(a)anthracene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	56-55-3	Benzo(a)anthracene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	56-55-3	Benzo(a)anthracene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	56-55-3	Benzo(a)anthracene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	56-55-3	Benzo(a)anthracene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	56-55-3	Benzo(a)anthracene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	56-55-3	Benzo(a)anthracene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	50-32-8	Benzo(a)pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	50-32-8	Benzo(a)pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	50-32-8	Benzo(a)pyrene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	50-32-8	Benzo(a)pyrene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	50-32-8	Benzo(a)pyrene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	50-32-8	Benzo(a)pyrene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	50-32-8	Benzo(a)pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	50-32-8	Benzo(a)pyrene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	50-32-8	Benzo(a)pyrene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	50-32-8	Benzo(a)pyrene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	50-32-8	Benzo(a)pyrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	50-32-8	Benzo(a)pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	50-32-8	Benzo(a)pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	50-32-8	Benzo(a)pyrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	50-32-8	Benzo(a)pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181358	50-32-8	Benzo(a)pyrene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181353	50-32-8	Benzo(a)pyrene	U	N	1.04E-02	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181354	50-32-8	Benzo(a)pyrene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	50-32-8	Benzo(a)pyrene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	50-32-8	Benzo(a)pyrene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181359	50-32-8	Benzo(a)pyrene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	50-32-8	Benzo(a)pyrene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	50-32-8	Benzo(a)pyrene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	50-32-8	Benzo(a)pyrene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	50-32-8	Benzo(a)pyrene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	50-32-8	Benzo(a)pyrene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	50-32-8	Benzo(a)pyrene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	50-32-8	Benzo(a)pyrene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	50-32-8	Benzo(a)pyrene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	205-99-2	Benzo(b)fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	205-99-2	Benzo(b)fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	205-99-2	Benzo(b)fluoranthene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	205-99-2	Benzo(b)fluoranthene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	205-99-2	Benzo(b)fluoranthene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	205-99-2	Benzo(b)fluoranthene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	205-99-2	Benzo(b)fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	205-99-2	Benzo(b)fluoranthene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	205-99-2	Benzo(b)fluoranthene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	205-99-2	Benzo(b)fluoranthene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	205-99-2	Benzo(b)fluoranthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	205-99-2	Benzo(b)fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	205-99-2	Benzo(b)fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	205-99-2	Benzo(b)fluoranthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	205-99-2	Benzo(b)fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	205-99-2	Benzo(b)fluoranthene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	205-99-2	Benzo(b)fluoranthene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	205-99-2	Benzo(b)fluoranthene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	205-99-2	Benzo(b)fluoranthene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	205-99-2	Benzo(b)fluoranthene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	205-99-2	Benzo(b)fluoranthene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	205-99-2	Benzo(b)fluoranthene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	205-99-2	Benzo(b)fluoranthene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	205-99-2	Benzo(b)fluoranthene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	205-99-2	Benzo(b)fluoranthene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	205-99-2	Benzo(b)fluoranthene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	205-99-2	Benzo(b)fluoranthene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	205-99-2	Benzo(b)fluoranthene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	205-99-2	Benzo(b)fluoranthene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	191-24-2	Benzo(g,h,i)perylene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	191-24-2	Benzo(g,h,i)perylene	U	N	1.03E-02	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17674	191-24-2	Benzo(g,h,i)perylene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	191-24-2	Benzo(g,h,i)perylene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	191-24-2	Benzo(g,h,i)perylene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	191-24-2	Benzo(g,h,i)perylene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	191-24-2	Benzo(g,h,i)perylene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	191-24-2	Benzo(g,h,i)perylene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	191-24-2	Benzo(g,h,i)perylene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	191-24-2	Benzo(g,h,i)perylene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	191-24-2	Benzo(g,h,i)perylene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	191-24-2	Benzo(g,h,i)perylene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	191-24-2	Benzo(g,h,i)perylene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	191-24-2	Benzo(g,h,i)perylene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	191-24-2	Benzo(g,h,i)perylene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	191-24-2	Benzo(g,h,i)perylene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	191-24-2	Benzo(g,h,i)perylene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	191-24-2	Benzo(g,h,i)perylene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	191-24-2	Benzo(g,h,i)perylene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	191-24-2	Benzo(g,h,i)perylene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	191-24-2	Benzo(g,h,i)perylene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	191-24-2	Benzo(g,h,i)perylene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	191-24-2	Benzo(g,h,i)perylene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	191-24-2	Benzo(g,h,i)perylene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	191-24-2	Benzo(g,h,i)perylene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	191-24-2	Benzo(g,h,i)perylene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	191-24-2	Benzo(g,h,i)perylene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	191-24-2	Benzo(g,h,i)perylene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	191-24-2	Benzo(g,h,i)perylene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	207-08-9	Benzo(k)fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	207-08-9	Benzo(k)fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	207-08-9	Benzo(k)fluoranthene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	207-08-9	Benzo(k)fluoranthene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	207-08-9	Benzo(k)fluoranthene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	207-08-9	Benzo(k)fluoranthene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	207-08-9	Benzo(k)fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	207-08-9	Benzo(k)fluoranthene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	207-08-9	Benzo(k)fluoranthene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	207-08-9	Benzo(k)fluoranthene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	207-08-9	Benzo(k)fluoranthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	207-08-9	Benzo(k)fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	207-08-9	Benzo(k)fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	207-08-9	Benzo(k)fluoranthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	207-08-9	Benzo(k)fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	207-08-9	Benzo(k)fluoranthene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	207-08-9	Benzo(k)fluoranthene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	207-08-9	Benzo(k)fluoranthene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	207-08-9	Benzo(k)fluoranthene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	207-08-9	Benzo(k)fluoranthene	U	N	3.05E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181359	207-08-9	Benzo(k)fluoranthene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	207-08-9	Benzo(k)fluoranthene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	207-08-9	Benzo(k)fluoranthene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	207-08-9	Benzo(k)fluoranthene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	207-08-9	Benzo(k)fluoranthene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	207-08-9	Benzo(k)fluoranthene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	207-08-9	Benzo(k)fluoranthene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	207-08-9	Benzo(k)fluoranthene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	207-08-9	Benzo(k)fluoranthene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	65-85-0	Benzoic Acid	J	Y	1.72E-01	4.83E-01	8/13/2012	N/A	FALSE	N/A	FALSE
RE16-12-17673	65-85-0	Benzoic Acid	U	N	1.72E-01	ND	8/13/2012				
RE16-12-17674	65-85-0	Benzoic Acid	U	N	1.80E-01	ND	8/13/2012				
RE16-12-17675	65-85-0	Benzoic Acid	U	N	1.69E-01	ND	8/13/2012				
RE16-12-17676	65-85-0	Benzoic Acid	U	N	1.69E-01	ND	8/13/2012				
RE16-12-17677	65-85-0	Benzoic Acid	U	N	1.78E-01	ND	8/13/2012				
RE16-12-17678	65-85-0	Benzoic Acid	U	N	1.72E-01	ND	8/13/2012				
RE16-12-17679	65-85-0	Benzoic Acid	U	N	1.73E-01	ND	8/13/2012				
RE16-12-17680	65-85-0	Benzoic Acid	U	N	1.76E-01	ND	8/13/2012				
RE16-12-17681	65-85-0	Benzoic Acid	J	Y	1.76E-01	4.90E-01	8/13/2012	N/A	FALSE	N/A	FALSE
WST16-13-29794	65-85-0	Benzoic Acid	U	N	1.67E-01	ND	03/27/2013				
WST16-13-29795	65-85-0	Benzoic Acid	U	N	1.68E-01	ND	03/27/2013				
WST16-13-29796	65-85-0	Benzoic Acid	U	N	1.68E-01	ND	03/27/2013				
WST16-13-29797	65-85-0	Benzoic Acid	U	N	1.67E-01	ND	03/27/2013				
WST16-13-29798	65-85-0	Benzoic Acid	U	N	1.68E-01	ND	03/27/2013				
WST16-19-181353	65-85-0	Benzoic Acid	U	N	1.73E-01	ND	05/07/2019				
WST16-19-181354	65-85-0	Benzoic Acid	U	N	1.75E-01	ND	05/07/2019				
WST16-19-181355	65-85-0	Benzoic Acid	U	N	1.69E-01	ND	05/07/2019				
WST16-19-181357	65-85-0	Benzoic Acid	U	N	8.45E-01	ND	05/07/2019				
WST16-19-181358	65-85-0	Benzoic Acid	U	N	5.09E+00	ND	05/07/2019				
WST16-19-181359	65-85-0	Benzoic Acid	U	N	1.92E-01	ND	05/07/2019				
WST16-19-181361	65-85-0	Benzoic Acid	U	N	8.41E-01	ND	05/07/2019				
WST16-19-181362	65-85-0	Benzoic Acid	U	N	1.91E-01	ND	05/07/2019				
WST16-19-181363	65-85-0	Benzoic Acid	U	N	2.03E-01	ND	05/07/2019				
WST16-19-181364	65-85-0	Benzoic Acid	U	N	1.79E-01	ND	05/07/2019				
WST16-19-181365	65-85-0	Benzoic Acid	U	N	1.93E-01	ND	05/07/2019				
WST16-19-181366	65-85-0	Benzoic Acid	U	N	1.86E-01	ND	05/07/2019				
WST16-19-181367	65-85-0	Benzoic Acid	U	N	1.76E-01	ND	05/07/2019				
WST16-19-181368	65-85-0	Benzoic Acid	U	N	1.76E-01	ND	05/07/2019				
RE16-12-17672	100-51-6	Benzyl Alcohol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	100-51-6	Benzyl Alcohol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	100-51-6	Benzyl Alcohol	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	100-51-6	Benzyl Alcohol	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	100-51-6	Benzyl Alcohol	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	100-51-6	Benzyl Alcohol	U	N	1.07E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17678	100-51-6	Benzyl Alcohol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	100-51-6	Benzyl Alcohol	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	100-51-6	Benzyl Alcohol	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	100-51-6	Benzyl Alcohol	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	100-51-6	Benzyl Alcohol	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	100-51-6	Benzyl Alcohol	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	100-51-6	Benzyl Alcohol	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	100-51-6	Benzyl Alcohol	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	100-51-6	Benzyl Alcohol	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	100-51-6	Benzyl Alcohol	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	100-51-6	Benzyl Alcohol	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	100-51-6	Benzyl Alcohol	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	100-51-6	Benzyl Alcohol	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	100-51-6	Benzyl Alcohol	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	100-51-6	Benzyl Alcohol	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	100-51-6	Benzyl Alcohol	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	100-51-6	Benzyl Alcohol	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	100-51-6	Benzyl Alcohol	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	100-51-6	Benzyl Alcohol	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	100-51-6	Benzyl Alcohol	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	100-51-6	Benzyl Alcohol	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	100-51-6	Benzyl Alcohol	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	100-51-6	Benzyl Alcohol	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	111-91-1	Bis(2-chloroethoxy)methane	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	111-91-1	Bis(2-chloroethoxy)methane	U	N	3.05E+00	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181359	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	111-91-1	Bis(2-chloroethoxy)methane	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	111-91-1	Bis(2-chloroethoxy)methane	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	111-44-4	Bis(2-chloroethyl)ether	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	111-44-4	Bis(2-chloroethyl)ether	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	111-44-4	Bis(2-chloroethyl)ether	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	111-44-4	Bis(2-chloroethyl)ether	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	111-44-4	Bis(2-chloroethyl)ether	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	111-44-4	Bis(2-chloroethyl)ether	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	111-44-4	Bis(2-chloroethyl)ether	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	111-44-4	Bis(2-chloroethyl)ether	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	111-44-4	Bis(2-chloroethyl)ether	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	111-44-4	Bis(2-chloroethyl)ether	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	111-44-4	Bis(2-chloroethyl)ether	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	111-44-4	Bis(2-chloroethyl)ether	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	111-44-4	Bis(2-chloroethyl)ether	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	111-44-4	Bis(2-chloroethyl)ether	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	111-44-4	Bis(2-chloroethyl)ether	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	111-44-4	Bis(2-chloroethyl)ether	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181357	111-44-4	Bis(2-chloroethyl)ether	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181361	111-44-4	Bis(2-chloroethyl)ether	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181353	111-44-4	Bis(2-chloroethyl)ether	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	111-44-4	Bis(2-chloroethyl)ether	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	111-44-4	Bis(2-chloroethyl)ether	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181359	111-44-4	Bis(2-chloroethyl)ether	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181362	111-44-4	Bis(2-chloroethyl)ether	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	111-44-4	Bis(2-chloroethyl)ether	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	111-44-4	Bis(2-chloroethyl)ether	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	111-44-4	Bis(2-chloroethyl)ether	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	111-44-4	Bis(2-chloroethyl)ether	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	111-44-4	Bis(2-chloroethyl)ether	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	111-44-4	Bis(2-chloroethyl)ether	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.07E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17678	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	117-81-7	Bis(2-ethylhexyl)phthalate	J	Y	1.04E-01	1.49E-01	8/13/2012	3.80E+02	FALSE	1.23E+03	FALSE
RE16-12-17680	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	117-81-7	Bis(2-ethylhexyl)phthalate	J	Y	1.04E-02	1.11E-02	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181354	117-81-7	Bis(2-ethylhexyl)phthalate		Y	1.05E-02	3.46E+00	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181355	117-81-7	Bis(2-ethylhexyl)phthalate		Y	1.01E-02	1.10E+00	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181357	117-81-7	Bis(2-ethylhexyl)phthalate		Y	5.07E-02	6.21E+00	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181358	117-81-7	Bis(2-ethylhexyl)phthalate		Y	3.05E-01	5.66E+01	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181359	117-81-7	Bis(2-ethylhexyl)phthalate		Y	1.15E-02	2.26E+00	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181361	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	117-81-7	Bis(2-ethylhexyl)phthalate	J	Y	1.14E-02	2.17E-02	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181363	117-81-7	Bis(2-ethylhexyl)phthalate	J	Y	1.22E-02	1.34E-02	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
WST16-19-181364	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	117-81-7	Bis(2-ethylhexyl)phthalate	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	117-81-7	Bis(2-ethylhexyl)phthalate		Y	1.05E-02	4.46E-02	05/07/2019	3.80E+02	FALSE	1.23E+03	FALSE
RE16-12-17672	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	101-55-3	Bromophenyl-phenylether[4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	101-55-3	Bromophenyl-phenylether[4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	101-55-3	Bromophenyl-phenylether[4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.16E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181366	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	101-55-3	Bromophenyl-phenylether[4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	85-68-7	Butylbenzylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	85-68-7	Butylbenzylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	85-68-7	Butylbenzylphthalate	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	85-68-7	Butylbenzylphthalate	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	85-68-7	Butylbenzylphthalate	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	85-68-7	Butylbenzylphthalate	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	85-68-7	Butylbenzylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	85-68-7	Butylbenzylphthalate	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	85-68-7	Butylbenzylphthalate	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	85-68-7	Butylbenzylphthalate	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	85-68-7	Butylbenzylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	85-68-7	Butylbenzylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	85-68-7	Butylbenzylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	85-68-7	Butylbenzylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	85-68-7	Butylbenzylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	85-68-7	Butylbenzylphthalate	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	85-68-7	Butylbenzylphthalate	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	85-68-7	Butylbenzylphthalate	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	85-68-7	Butylbenzylphthalate	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	85-68-7	Butylbenzylphthalate	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	85-68-7	Butylbenzylphthalate	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	85-68-7	Butylbenzylphthalate	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	85-68-7	Butylbenzylphthalate	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	85-68-7	Butylbenzylphthalate	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	85-68-7	Butylbenzylphthalate	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	85-68-7	Butylbenzylphthalate	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	85-68-7	Butylbenzylphthalate	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	85-68-7	Butylbenzylphthalate	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	85-68-7	Butylbenzylphthalate	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.38E-01	ND	8/13/2012				
RE16-12-17673	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.38E-01	ND	8/13/2012				
RE16-12-17674	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.44E-01	ND	8/13/2012				
RE16-12-17675	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.35E-01	ND	8/13/2012				
RE16-12-17676	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.35E-01	ND	8/13/2012				
RE16-12-17677	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.42E-01	ND	8/13/2012				
RE16-12-17678	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.37E-01	ND	8/13/2012				
RE16-12-17679	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.39E-01	ND	8/13/2012				
RE16-12-17680	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.41E-01	ND	8/13/2012				
RE16-12-17681	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.41E-01	ND	8/13/2012				
WST16-13-29794	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.34E-01	ND	03/27/2013				
WST16-13-29795	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.34E-01	ND	03/27/2013				
WST16-13-29796	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.34E-01	ND	03/27/2013				
WST16-13-29797	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.34E-01	ND	03/27/2013				
WST16-13-29798	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.34E-01	ND	03/27/2013				
WST16-19-181353	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.38E-01	ND	05/07/2019				
WST16-19-181354	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.40E-01	ND	05/07/2019				
WST16-19-181355	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.35E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181357	59-50-7	Chloro-3-methylphenol[4-]	U	N	6.76E-01	ND	05/07/2019				
WST16-19-181358	59-50-7	Chloro-3-methylphenol[4-]	U	N	4.07E+00	ND	05/07/2019				
WST16-19-181359	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.54E-01	ND	05/07/2019				
WST16-19-181361	59-50-7	Chloro-3-methylphenol[4-]	U	N	6.73E-01	ND	05/07/2019				
WST16-19-181362	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.52E-01	ND	05/07/2019				
WST16-19-181363	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.63E-01	ND	05/07/2019				
WST16-19-181364	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.43E-01	ND	05/07/2019				
WST16-19-181365	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.54E-01	ND	05/07/2019				
WST16-19-181366	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.49E-01	ND	05/07/2019				
WST16-19-181367	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.41E-01	ND	05/07/2019				
WST16-19-181368	59-50-7	Chloro-3-methylphenol[4-]	U	N	1.40E-01	ND	05/07/2019				
RE16-12-17672	106-47-8	Chloroaniline[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	106-47-8	Chloroaniline[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	106-47-8	Chloroaniline[4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	106-47-8	Chloroaniline[4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	106-47-8	Chloroaniline[4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	106-47-8	Chloroaniline[4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	106-47-8	Chloroaniline[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	106-47-8	Chloroaniline[4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	106-47-8	Chloroaniline[4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	106-47-8	Chloroaniline[4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	106-47-8	Chloroaniline[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	106-47-8	Chloroaniline[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	106-47-8	Chloroaniline[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	106-47-8	Chloroaniline[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	106-47-8	Chloroaniline[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	106-47-8	Chloroaniline[4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	106-47-8	Chloroaniline[4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	106-47-8	Chloroaniline[4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	106-47-8	Chloroaniline[4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	106-47-8	Chloroaniline[4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	106-47-8	Chloroaniline[4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	106-47-8	Chloroaniline[4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	106-47-8	Chloroaniline[4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	106-47-8	Chloroaniline[4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	106-47-8	Chloroaniline[4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	106-47-8	Chloroaniline[4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	106-47-8	Chloroaniline[4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	106-47-8	Chloroaniline[4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	106-47-8	Chloroaniline[4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	91-58-7	Chloronaphthalene[2-]	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	91-58-7	Chloronaphthalene[2-]	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	91-58-7	Chloronaphthalene[2-]	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	91-58-7	Chloronaphthalene[2-]	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	91-58-7	Chloronaphthalene[2-]	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	91-58-7	Chloronaphthalene[2-]	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	91-58-7	Chloronaphthalene[2-]	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	91-58-7	Chloronaphthalene[2-]	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	91-58-7	Chloronaphthalene[2-]	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	91-58-7	Chloronaphthalene[2-]	U	N	1.06E-02	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29794	91-58-7	Chloronaphthalene[2-]	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	91-58-7	Chloronaphthalene[2-]	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	91-58-7	Chloronaphthalene[2-]	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	91-58-7	Chloronaphthalene[2-]	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	91-58-7	Chloronaphthalene[2-]	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	91-58-7	Chloronaphthalene[2-]	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	91-58-7	Chloronaphthalene[2-]	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	91-58-7	Chloronaphthalene[2-]	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	91-58-7	Chloronaphthalene[2-]	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	91-58-7	Chloronaphthalene[2-]	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	91-58-7	Chloronaphthalene[2-]	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	91-58-7	Chloronaphthalene[2-]	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	91-58-7	Chloronaphthalene[2-]	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	91-58-7	Chloronaphthalene[2-]	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	91-58-7	Chloronaphthalene[2-]	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	91-58-7	Chloronaphthalene[2-]	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	91-58-7	Chloronaphthalene[2-]	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	91-58-7	Chloronaphthalene[2-]	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	91-58-7	Chloronaphthalene[2-]	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	95-57-8	Chlorophenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	95-57-8	Chlorophenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	95-57-8	Chlorophenol[2-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	95-57-8	Chlorophenol[2-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	95-57-8	Chlorophenol[2-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	95-57-8	Chlorophenol[2-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	95-57-8	Chlorophenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	95-57-8	Chlorophenol[2-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	95-57-8	Chlorophenol[2-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	95-57-8	Chlorophenol[2-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	95-57-8	Chlorophenol[2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	95-57-8	Chlorophenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	95-57-8	Chlorophenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	95-57-8	Chlorophenol[2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	95-57-8	Chlorophenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	95-57-8	Chlorophenol[2-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	95-57-8	Chlorophenol[2-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	95-57-8	Chlorophenol[2-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	95-57-8	Chlorophenol[2-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	95-57-8	Chlorophenol[2-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	95-57-8	Chlorophenol[2-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	95-57-8	Chlorophenol[2-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	95-57-8	Chlorophenol[2-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	95-57-8	Chlorophenol[2-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	95-57-8	Chlorophenol[2-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	95-57-8	Chlorophenol[2-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	95-57-8	Chlorophenol[2-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	95-57-8	Chlorophenol[2-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	95-57-8	Chlorophenol[2-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.03E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17674	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	7005-72-3	Chlorophenyl-phenyl[4-] Ether	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	218-01-9	Chrysene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	218-01-9	Chrysene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	218-01-9	Chrysene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	218-01-9	Chrysene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	218-01-9	Chrysene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	218-01-9	Chrysene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	218-01-9	Chrysene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	218-01-9	Chrysene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	218-01-9	Chrysene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	218-01-9	Chrysene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	218-01-9	Chrysene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	218-01-9	Chrysene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	218-01-9	Chrysene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	218-01-9	Chrysene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	218-01-9	Chrysene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	218-01-9	Chrysene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	218-01-9	Chrysene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	218-01-9	Chrysene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	218-01-9	Chrysene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	218-01-9	Chrysene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	218-01-9	Chrysene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	218-01-9	Chrysene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	218-01-9	Chrysene	U	N	1.14E-02	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181363	218-01-9	Chrysene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	218-01-9	Chrysene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	218-01-9	Chrysene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	218-01-9	Chrysene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	218-01-9	Chrysene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	218-01-9	Chrysene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	53-70-3	Dibenz(a,h)anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	53-70-3	Dibenz(a,h)anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	53-70-3	Dibenz(a,h)anthracene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	53-70-3	Dibenz(a,h)anthracene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	53-70-3	Dibenz(a,h)anthracene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	53-70-3	Dibenz(a,h)anthracene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	53-70-3	Dibenz(a,h)anthracene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	53-70-3	Dibenz(a,h)anthracene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	53-70-3	Dibenz(a,h)anthracene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	53-70-3	Dibenz(a,h)anthracene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	53-70-3	Dibenz(a,h)anthracene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	53-70-3	Dibenz(a,h)anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	53-70-3	Dibenz(a,h)anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	53-70-3	Dibenz(a,h)anthracene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	53-70-3	Dibenz(a,h)anthracene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	53-70-3	Dibenz(a,h)anthracene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	53-70-3	Dibenz(a,h)anthracene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	53-70-3	Dibenz(a,h)anthracene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	53-70-3	Dibenz(a,h)anthracene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181359	53-70-3	Dibenz(a,h)anthracene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	53-70-3	Dibenz(a,h)anthracene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	53-70-3	Dibenz(a,h)anthracene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	53-70-3	Dibenz(a,h)anthracene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	53-70-3	Dibenz(a,h)anthracene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	53-70-3	Dibenz(a,h)anthracene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	53-70-3	Dibenz(a,h)anthracene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	53-70-3	Dibenz(a,h)anthracene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	53-70-3	Dibenz(a,h)anthracene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181358	53-70-3	Dibenz(a,h)anthracene	U	N	3.05E-01	ND	05/07/2019				
RE16-12-17672	132-64-9	Dibenzofuran	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	132-64-9	Dibenzofuran	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	132-64-9	Dibenzofuran	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	132-64-9	Dibenzofuran	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	132-64-9	Dibenzofuran	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	132-64-9	Dibenzofuran	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	132-64-9	Dibenzofuran	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	132-64-9	Dibenzofuran	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	132-64-9	Dibenzofuran	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	132-64-9	Dibenzofuran	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	132-64-9	Dibenzofuran	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	132-64-9	Dibenzofuran	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	132-64-9	Dibenzofuran	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	132-64-9	Dibenzofuran	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	132-64-9	Dibenzofuran	U	N	1.01E-01	ND	03/27/2013				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181353	132-64-9	Dibenzofuran	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	132-64-9	Dibenzofuran	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	132-64-9	Dibenzofuran	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	132-64-9	Dibenzofuran	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	132-64-9	Dibenzofuran	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	132-64-9	Dibenzofuran	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	132-64-9	Dibenzofuran	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	132-64-9	Dibenzofuran	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	132-64-9	Dibenzofuran	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	132-64-9	Dibenzofuran	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	132-64-9	Dibenzofuran	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	132-64-9	Dibenzofuran	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	132-64-9	Dibenzofuran	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	132-64-9	Dibenzofuran	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	95-50-1	Dichlorobenzene[1,2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	95-50-1	Dichlorobenzene[1,2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	95-50-1	Dichlorobenzene[1,2-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	95-50-1	Dichlorobenzene[1,2-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	95-50-1	Dichlorobenzene[1,2-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	95-50-1	Dichlorobenzene[1,2-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	95-50-1	Dichlorobenzene[1,2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	95-50-1	Dichlorobenzene[1,2-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	95-50-1	Dichlorobenzene[1,2-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	95-50-1	Dichlorobenzene[1,2-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	95-50-1	Dichlorobenzene[1,2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	95-50-1	Dichlorobenzene[1,2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	95-50-1	Dichlorobenzene[1,2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	95-50-1	Dichlorobenzene[1,2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	95-50-1	Dichlorobenzene[1,2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	95-50-1	Dichlorobenzene[1,2-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	95-50-1	Dichlorobenzene[1,2-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	95-50-1	Dichlorobenzene[1,2-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	95-50-1	Dichlorobenzene[1,2-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	95-50-1	Dichlorobenzene[1,2-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	95-50-1	Dichlorobenzene[1,2-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	95-50-1	Dichlorobenzene[1,2-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	95-50-1	Dichlorobenzene[1,2-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	95-50-1	Dichlorobenzene[1,2-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	95-50-1	Dichlorobenzene[1,2-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	95-50-1	Dichlorobenzene[1,2-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	95-50-1	Dichlorobenzene[1,2-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	95-50-1	Dichlorobenzene[1,2-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	95-50-1	Dichlorobenzene[1,2-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	541-73-1	Dichlorobenzene[1,3-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	541-73-1	Dichlorobenzene[1,3-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	541-73-1	Dichlorobenzene[1,3-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	541-73-1	Dichlorobenzene[1,3-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	541-73-1	Dichlorobenzene[1,3-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	541-73-1	Dichlorobenzene[1,3-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	541-73-1	Dichlorobenzene[1,3-]	U	N	1.03E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17679	541-73-1	Dichlorobenzene[1,3-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	541-73-1	Dichlorobenzene[1,3-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	541-73-1	Dichlorobenzene[1,3-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	541-73-1	Dichlorobenzene[1,3-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	541-73-1	Dichlorobenzene[1,3-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	541-73-1	Dichlorobenzene[1,3-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	541-73-1	Dichlorobenzene[1,3-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	541-73-1	Dichlorobenzene[1,3-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	541-73-1	Dichlorobenzene[1,3-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	541-73-1	Dichlorobenzene[1,3-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	541-73-1	Dichlorobenzene[1,3-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	541-73-1	Dichlorobenzene[1,3-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	541-73-1	Dichlorobenzene[1,3-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	541-73-1	Dichlorobenzene[1,3-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	541-73-1	Dichlorobenzene[1,3-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	541-73-1	Dichlorobenzene[1,3-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	541-73-1	Dichlorobenzene[1,3-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	541-73-1	Dichlorobenzene[1,3-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	541-73-1	Dichlorobenzene[1,3-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	541-73-1	Dichlorobenzene[1,3-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	541-73-1	Dichlorobenzene[1,3-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	541-73-1	Dichlorobenzene[1,3-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	106-46-7	Dichlorobenzene[1,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	106-46-7	Dichlorobenzene[1,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	106-46-7	Dichlorobenzene[1,4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	106-46-7	Dichlorobenzene[1,4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	106-46-7	Dichlorobenzene[1,4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	106-46-7	Dichlorobenzene[1,4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	106-46-7	Dichlorobenzene[1,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	106-46-7	Dichlorobenzene[1,4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	106-46-7	Dichlorobenzene[1,4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	106-46-7	Dichlorobenzene[1,4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	106-46-7	Dichlorobenzene[1,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	106-46-7	Dichlorobenzene[1,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	106-46-7	Dichlorobenzene[1,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	106-46-7	Dichlorobenzene[1,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	106-46-7	Dichlorobenzene[1,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	106-46-7	Dichlorobenzene[1,4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	106-46-7	Dichlorobenzene[1,4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	106-46-7	Dichlorobenzene[1,4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	106-46-7	Dichlorobenzene[1,4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	106-46-7	Dichlorobenzene[1,4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	106-46-7	Dichlorobenzene[1,4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	106-46-7	Dichlorobenzene[1,4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	106-46-7	Dichlorobenzene[1,4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	106-46-7	Dichlorobenzene[1,4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	106-46-7	Dichlorobenzene[1,4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	106-46-7	Dichlorobenzene[1,4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	106-46-7	Dichlorobenzene[1,4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	106-46-7	Dichlorobenzene[1,4-]	U	N	1.06E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181368	106-46-7	Dichlorobenzene[1,4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	91-94-1	Dichlorobenzidine[3,3'-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	91-94-1	Dichlorobenzidine[3,3'-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	91-94-1	Dichlorobenzidine[3,3'-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	91-94-1	Dichlorobenzidine[3,3'-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	120-83-2	Dichlorophenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	120-83-2	Dichlorophenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	120-83-2	Dichlorophenol[2,4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	120-83-2	Dichlorophenol[2,4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	120-83-2	Dichlorophenol[2,4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	120-83-2	Dichlorophenol[2,4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	120-83-2	Dichlorophenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	120-83-2	Dichlorophenol[2,4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	120-83-2	Dichlorophenol[2,4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	120-83-2	Dichlorophenol[2,4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	120-83-2	Dichlorophenol[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	120-83-2	Dichlorophenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	120-83-2	Dichlorophenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	120-83-2	Dichlorophenol[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	120-83-2	Dichlorophenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	120-83-2	Dichlorophenol[2,4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	120-83-2	Dichlorophenol[2,4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	120-83-2	Dichlorophenol[2,4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	120-83-2	Dichlorophenol[2,4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	120-83-2	Dichlorophenol[2,4-]	U	N	3.05E+00	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181359	120-83-2	Dichlorophenol[2,4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	120-83-2	Dichlorophenol[2,4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	120-83-2	Dichlorophenol[2,4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	120-83-2	Dichlorophenol[2,4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	120-83-2	Dichlorophenol[2,4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	120-83-2	Dichlorophenol[2,4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	120-83-2	Dichlorophenol[2,4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	120-83-2	Dichlorophenol[2,4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	120-83-2	Dichlorophenol[2,4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	84-66-2	Diethylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	84-66-2	Diethylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	84-66-2	Diethylphthalate	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	84-66-2	Diethylphthalate	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	84-66-2	Diethylphthalate	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	84-66-2	Diethylphthalate	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	84-66-2	Diethylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	84-66-2	Diethylphthalate	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	84-66-2	Diethylphthalate	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	84-66-2	Diethylphthalate	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	84-66-2	Diethylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	84-66-2	Diethylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	84-66-2	Diethylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	84-66-2	Diethylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	84-66-2	Diethylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	84-66-2	Diethylphthalate	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	84-66-2	Diethylphthalate	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	84-66-2	Diethylphthalate	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	84-66-2	Diethylphthalate	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	84-66-2	Diethylphthalate	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	84-66-2	Diethylphthalate	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	84-66-2	Diethylphthalate	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	84-66-2	Diethylphthalate	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	84-66-2	Diethylphthalate	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	84-66-2	Diethylphthalate	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	84-66-2	Diethylphthalate	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	84-66-2	Diethylphthalate	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	84-66-2	Diethylphthalate	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	84-66-2	Diethylphthalate	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	131-11-3	Dimethyl Phthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	131-11-3	Dimethyl Phthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	131-11-3	Dimethyl Phthalate	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	131-11-3	Dimethyl Phthalate	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	131-11-3	Dimethyl Phthalate	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	131-11-3	Dimethyl Phthalate	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	131-11-3	Dimethyl Phthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	131-11-3	Dimethyl Phthalate	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	131-11-3	Dimethyl Phthalate	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	131-11-3	Dimethyl Phthalate	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	131-11-3	Dimethyl Phthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	131-11-3	Dimethyl Phthalate	U	N	1.01E-01	ND	03/27/2013				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29796	131-11-3	Dimethyl Phthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	131-11-3	Dimethyl Phthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	131-11-3	Dimethyl Phthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	131-11-3	Dimethyl Phthalate	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	131-11-3	Dimethyl Phthalate	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	131-11-3	Dimethyl Phthalate	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	131-11-3	Dimethyl Phthalate	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	131-11-3	Dimethyl Phthalate	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	131-11-3	Dimethyl Phthalate	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	131-11-3	Dimethyl Phthalate	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	131-11-3	Dimethyl Phthalate	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	131-11-3	Dimethyl Phthalate	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	131-11-3	Dimethyl Phthalate	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	131-11-3	Dimethyl Phthalate	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	131-11-3	Dimethyl Phthalate	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	131-11-3	Dimethyl Phthalate	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	131-11-3	Dimethyl Phthalate	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	105-67-9	Dimethylphenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	105-67-9	Dimethylphenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	105-67-9	Dimethylphenol[2,4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	105-67-9	Dimethylphenol[2,4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	105-67-9	Dimethylphenol[2,4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	105-67-9	Dimethylphenol[2,4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	105-67-9	Dimethylphenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	105-67-9	Dimethylphenol[2,4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	105-67-9	Dimethylphenol[2,4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	105-67-9	Dimethylphenol[2,4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	105-67-9	Dimethylphenol[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	105-67-9	Dimethylphenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	105-67-9	Dimethylphenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	105-67-9	Dimethylphenol[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	105-67-9	Dimethylphenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	105-67-9	Dimethylphenol[2,4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	105-67-9	Dimethylphenol[2,4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	105-67-9	Dimethylphenol[2,4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	105-67-9	Dimethylphenol[2,4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	105-67-9	Dimethylphenol[2,4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	105-67-9	Dimethylphenol[2,4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	105-67-9	Dimethylphenol[2,4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	105-67-9	Dimethylphenol[2,4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	105-67-9	Dimethylphenol[2,4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	105-67-9	Dimethylphenol[2,4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	105-67-9	Dimethylphenol[2,4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	105-67-9	Dimethylphenol[2,4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	105-67-9	Dimethylphenol[2,4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	105-67-9	Dimethylphenol[2,4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	84-74-2	Di-n-butylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	84-74-2	Di-n-butylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	84-74-2	Di-n-butylphthalate	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	84-74-2	Di-n-butylphthalate	U	N	1.02E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17676	84-74-2	Di-n-butylphthalate	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	84-74-2	Di-n-butylphthalate	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	84-74-2	Di-n-butylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	84-74-2	Di-n-butylphthalate	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	84-74-2	Di-n-butylphthalate	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	84-74-2	Di-n-butylphthalate	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	84-74-2	Di-n-butylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	84-74-2	Di-n-butylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	84-74-2	Di-n-butylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	84-74-2	Di-n-butylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	84-74-2	Di-n-butylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	84-74-2	Di-n-butylphthalate	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	84-74-2	Di-n-butylphthalate	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	84-74-2	Di-n-butylphthalate	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	84-74-2	Di-n-butylphthalate	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	84-74-2	Di-n-butylphthalate	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	84-74-2	Di-n-butylphthalate	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	84-74-2	Di-n-butylphthalate	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	84-74-2	Di-n-butylphthalate	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	84-74-2	Di-n-butylphthalate	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	84-74-2	Di-n-butylphthalate	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	84-74-2	Di-n-butylphthalate	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	84-74-2	Di-n-butylphthalate	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	84-74-2	Di-n-butylphthalate	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	84-74-2	Di-n-butylphthalate	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.07E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181365	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	534-52-1	Dinitro-2-methylphenol[4,6-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	51-28-5	Dinitrophenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	51-28-5	Dinitrophenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	51-28-5	Dinitrophenol[2,4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	51-28-5	Dinitrophenol[2,4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	51-28-5	Dinitrophenol[2,4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	51-28-5	Dinitrophenol[2,4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	51-28-5	Dinitrophenol[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	51-28-5	Dinitrophenol[2,4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	51-28-5	Dinitrophenol[2,4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	51-28-5	Dinitrophenol[2,4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	51-28-5	Dinitrophenol[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	51-28-5	Dinitrophenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	51-28-5	Dinitrophenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	51-28-5	Dinitrophenol[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	51-28-5	Dinitrophenol[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	51-28-5	Dinitrophenol[2,4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	51-28-5	Dinitrophenol[2,4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	51-28-5	Dinitrophenol[2,4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	51-28-5	Dinitrophenol[2,4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	51-28-5	Dinitrophenol[2,4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	51-28-5	Dinitrophenol[2,4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	51-28-5	Dinitrophenol[2,4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	51-28-5	Dinitrophenol[2,4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	51-28-5	Dinitrophenol[2,4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	51-28-5	Dinitrophenol[2,4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	51-28-5	Dinitrophenol[2,4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	51-28-5	Dinitrophenol[2,4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	51-28-5	Dinitrophenol[2,4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	51-28-5	Dinitrophenol[2,4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	121-14-2	Dinitrotoluene[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	121-14-2	Dinitrotoluene[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	121-14-2	Dinitrotoluene[2,4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	121-14-2	Dinitrotoluene[2,4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	121-14-2	Dinitrotoluene[2,4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	121-14-2	Dinitrotoluene[2,4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	121-14-2	Dinitrotoluene[2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	121-14-2	Dinitrotoluene[2,4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	121-14-2	Dinitrotoluene[2,4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	121-14-2	Dinitrotoluene[2,4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	121-14-2	Dinitrotoluene[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	121-14-2	Dinitrotoluene[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	121-14-2	Dinitrotoluene[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	121-14-2	Dinitrotoluene[2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	121-14-2	Dinitrotoluene[2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	121-14-2	Dinitrotoluene[2,4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	121-14-2	Dinitrotoluene[2,4-]	U	N	1.04E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181354	121-14-2	Dinitrotoluene[2,4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	121-14-2	Dinitrotoluene[2,4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	121-14-2	Dinitrotoluene[2,4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	121-14-2	Dinitrotoluene[2,4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	121-14-2	Dinitrotoluene[2,4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	121-14-2	Dinitrotoluene[2,4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	121-14-2	Dinitrotoluene[2,4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	121-14-2	Dinitrotoluene[2,4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	121-14-2	Dinitrotoluene[2,4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	121-14-2	Dinitrotoluene[2,4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	121-14-2	Dinitrotoluene[2,4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	121-14-2	Dinitrotoluene[2,4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	606-20-2	Dinitrotoluene[2,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	606-20-2	Dinitrotoluene[2,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	606-20-2	Dinitrotoluene[2,6-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	606-20-2	Dinitrotoluene[2,6-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	606-20-2	Dinitrotoluene[2,6-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	606-20-2	Dinitrotoluene[2,6-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	606-20-2	Dinitrotoluene[2,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	606-20-2	Dinitrotoluene[2,6-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	606-20-2	Dinitrotoluene[2,6-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	606-20-2	Dinitrotoluene[2,6-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	606-20-2	Dinitrotoluene[2,6-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	606-20-2	Dinitrotoluene[2,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	606-20-2	Dinitrotoluene[2,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	606-20-2	Dinitrotoluene[2,6-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	606-20-2	Dinitrotoluene[2,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	606-20-2	Dinitrotoluene[2,6-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181357	606-20-2	Dinitrotoluene[2,6-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181361	606-20-2	Dinitrotoluene[2,6-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181353	606-20-2	Dinitrotoluene[2,6-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	606-20-2	Dinitrotoluene[2,6-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	606-20-2	Dinitrotoluene[2,6-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181359	606-20-2	Dinitrotoluene[2,6-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181362	606-20-2	Dinitrotoluene[2,6-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	606-20-2	Dinitrotoluene[2,6-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	606-20-2	Dinitrotoluene[2,6-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	606-20-2	Dinitrotoluene[2,6-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	606-20-2	Dinitrotoluene[2,6-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	606-20-2	Dinitrotoluene[2,6-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	606-20-2	Dinitrotoluene[2,6-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	117-84-0	Di-n-octylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	117-84-0	Di-n-octylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	117-84-0	Di-n-octylphthalate	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	117-84-0	Di-n-octylphthalate	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	117-84-0	Di-n-octylphthalate	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	117-84-0	Di-n-octylphthalate	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	117-84-0	Di-n-octylphthalate	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	117-84-0	Di-n-octylphthalate	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	117-84-0	Di-n-octylphthalate	U	N	1.06E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17681	117-84-0	Di-n-octylphthalate	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	117-84-0	Di-n-octylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	117-84-0	Di-n-octylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	117-84-0	Di-n-octylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	117-84-0	Di-n-octylphthalate	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	117-84-0	Di-n-octylphthalate	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	117-84-0	Di-n-octylphthalate	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	117-84-0	Di-n-octylphthalate	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	117-84-0	Di-n-octylphthalate	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	117-84-0	Di-n-octylphthalate	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	117-84-0	Di-n-octylphthalate	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	117-84-0	Di-n-octylphthalate	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	117-84-0	Di-n-octylphthalate	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	117-84-0	Di-n-octylphthalate	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	117-84-0	Di-n-octylphthalate	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	117-84-0	Di-n-octylphthalate	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	117-84-0	Di-n-octylphthalate	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	117-84-0	Di-n-octylphthalate	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	117-84-0	Di-n-octylphthalate	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	117-84-0	Di-n-octylphthalate	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	122-39-4	Diphenylamine	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	122-39-4	Diphenylamine	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	122-39-4	Diphenylamine	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	122-39-4	Diphenylamine	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	122-39-4	Diphenylamine	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	122-39-4	Diphenylamine	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	122-39-4	Diphenylamine	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	122-39-4	Diphenylamine	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	122-39-4	Diphenylamine	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	122-39-4	Diphenylamine	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	122-39-4	Diphenylamine	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	122-39-4	Diphenylamine	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	122-39-4	Diphenylamine	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	122-39-4	Diphenylamine	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	122-39-4	Diphenylamine	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	122-39-4	Diphenylamine	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	122-39-4	Diphenylamine	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	122-39-4	Diphenylamine	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	122-39-4	Diphenylamine	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	122-39-4	Diphenylamine	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	122-39-4	Diphenylamine	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	122-39-4	Diphenylamine	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	122-39-4	Diphenylamine	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	122-39-4	Diphenylamine	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	122-39-4	Diphenylamine	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	122-39-4	Diphenylamine	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	122-39-4	Diphenylamine	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	122-39-4	Diphenylamine	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	122-39-4	Diphenylamine	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	206-44-0	Fluoranthene	U	N	1.03E-02	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17673	206-44-0	Fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	206-44-0	Fluoranthene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	206-44-0	Fluoranthene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	206-44-0	Fluoranthene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	206-44-0	Fluoranthene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	206-44-0	Fluoranthene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	206-44-0	Fluoranthene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	206-44-0	Fluoranthene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	206-44-0	Fluoranthene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	206-44-0	Fluoranthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	206-44-0	Fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	206-44-0	Fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	206-44-0	Fluoranthene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	206-44-0	Fluoranthene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	206-44-0	Fluoranthene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	206-44-0	Fluoranthene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	206-44-0	Fluoranthene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	206-44-0	Fluoranthene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	206-44-0	Fluoranthene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	206-44-0	Fluoranthene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	206-44-0	Fluoranthene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	206-44-0	Fluoranthene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	206-44-0	Fluoranthene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	206-44-0	Fluoranthene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	206-44-0	Fluoranthene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	206-44-0	Fluoranthene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	206-44-0	Fluoranthene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	206-44-0	Fluoranthene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	86-73-7	Fluorene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	86-73-7	Fluorene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	86-73-7	Fluorene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	86-73-7	Fluorene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	86-73-7	Fluorene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	86-73-7	Fluorene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	86-73-7	Fluorene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	86-73-7	Fluorene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	86-73-7	Fluorene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	86-73-7	Fluorene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	86-73-7	Fluorene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	86-73-7	Fluorene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	86-73-7	Fluorene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	86-73-7	Fluorene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	86-73-7	Fluorene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	86-73-7	Fluorene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	86-73-7	Fluorene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	86-73-7	Fluorene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	86-73-7	Fluorene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	86-73-7	Fluorene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	86-73-7	Fluorene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	86-73-7	Fluorene	U	N	5.05E-02	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181362	86-73-7	Fluorene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	86-73-7	Fluorene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	86-73-7	Fluorene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	86-73-7	Fluorene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	86-73-7	Fluorene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	86-73-7	Fluorene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	86-73-7	Fluorene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	118-74-1	Hexachlorobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	118-74-1	Hexachlorobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	118-74-1	Hexachlorobenzene	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	118-74-1	Hexachlorobenzene	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	118-74-1	Hexachlorobenzene	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	118-74-1	Hexachlorobenzene	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	118-74-1	Hexachlorobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	118-74-1	Hexachlorobenzene	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	118-74-1	Hexachlorobenzene	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	118-74-1	Hexachlorobenzene	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	118-74-1	Hexachlorobenzene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	118-74-1	Hexachlorobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	118-74-1	Hexachlorobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	118-74-1	Hexachlorobenzene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	118-74-1	Hexachlorobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	118-74-1	Hexachlorobenzene	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181357	118-74-1	Hexachlorobenzene	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181361	118-74-1	Hexachlorobenzene	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181353	118-74-1	Hexachlorobenzene	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	118-74-1	Hexachlorobenzene	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	118-74-1	Hexachlorobenzene	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181359	118-74-1	Hexachlorobenzene	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181362	118-74-1	Hexachlorobenzene	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	118-74-1	Hexachlorobenzene	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	118-74-1	Hexachlorobenzene	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	118-74-1	Hexachlorobenzene	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	118-74-1	Hexachlorobenzene	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	118-74-1	Hexachlorobenzene	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	118-74-1	Hexachlorobenzene	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	87-68-3	Hexachlorobutadiene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	87-68-3	Hexachlorobutadiene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	87-68-3	Hexachlorobutadiene	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	87-68-3	Hexachlorobutadiene	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	87-68-3	Hexachlorobutadiene	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	87-68-3	Hexachlorobutadiene	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	87-68-3	Hexachlorobutadiene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	87-68-3	Hexachlorobutadiene	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	87-68-3	Hexachlorobutadiene	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	87-68-3	Hexachlorobutadiene	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	87-68-3	Hexachlorobutadiene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	87-68-3	Hexachlorobutadiene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	87-68-3	Hexachlorobutadiene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	87-68-3	Hexachlorobutadiene	U	N	1.00E-01	ND	03/27/2013				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29798	87-68-3	Hexachlorobutadiene	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	87-68-3	Hexachlorobutadiene	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	87-68-3	Hexachlorobutadiene	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	87-68-3	Hexachlorobutadiene	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	87-68-3	Hexachlorobutadiene	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	87-68-3	Hexachlorobutadiene	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	87-68-3	Hexachlorobutadiene	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	87-68-3	Hexachlorobutadiene	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	87-68-3	Hexachlorobutadiene	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	87-68-3	Hexachlorobutadiene	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	87-68-3	Hexachlorobutadiene	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	87-68-3	Hexachlorobutadiene	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	87-68-3	Hexachlorobutadiene	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	87-68-3	Hexachlorobutadiene	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	87-68-3	Hexachlorobutadiene	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	77-47-4	Hexachlorocyclopentadiene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	77-47-4	Hexachlorocyclopentadiene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	77-47-4	Hexachlorocyclopentadiene	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	77-47-4	Hexachlorocyclopentadiene	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	77-47-4	Hexachlorocyclopentadiene	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	77-47-4	Hexachlorocyclopentadiene	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	77-47-4	Hexachlorocyclopentadiene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	77-47-4	Hexachlorocyclopentadiene	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	77-47-4	Hexachlorocyclopentadiene	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	77-47-4	Hexachlorocyclopentadiene	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	77-47-4	Hexachlorocyclopentadiene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	77-47-4	Hexachlorocyclopentadiene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	77-47-4	Hexachlorocyclopentadiene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	77-47-4	Hexachlorocyclopentadiene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	77-47-4	Hexachlorocyclopentadiene	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	77-47-4	Hexachlorocyclopentadiene	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	77-47-4	Hexachlorocyclopentadiene	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	77-47-4	Hexachlorocyclopentadiene	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	77-47-4	Hexachlorocyclopentadiene	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	77-47-4	Hexachlorocyclopentadiene	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	77-47-4	Hexachlorocyclopentadiene	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	77-47-4	Hexachlorocyclopentadiene	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	77-47-4	Hexachlorocyclopentadiene	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	77-47-4	Hexachlorocyclopentadiene	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	77-47-4	Hexachlorocyclopentadiene	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	77-47-4	Hexachlorocyclopentadiene	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	77-47-4	Hexachlorocyclopentadiene	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	77-47-4	Hexachlorocyclopentadiene	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	77-47-4	Hexachlorocyclopentadiene	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	67-72-1	Hexachloroethane	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	67-72-1	Hexachloroethane	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	67-72-1	Hexachloroethane	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	67-72-1	Hexachloroethane	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	67-72-1	Hexachloroethane	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	67-72-1	Hexachloroethane	U	N	1.07E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17678	67-72-1	Hexachloroethane	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	67-72-1	Hexachloroethane	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	67-72-1	Hexachloroethane	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	67-72-1	Hexachloroethane	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	67-72-1	Hexachloroethane	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	67-72-1	Hexachloroethane	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	67-72-1	Hexachloroethane	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	67-72-1	Hexachloroethane	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	67-72-1	Hexachloroethane	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	67-72-1	Hexachloroethane	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	67-72-1	Hexachloroethane	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	67-72-1	Hexachloroethane	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	67-72-1	Hexachloroethane	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	67-72-1	Hexachloroethane	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	67-72-1	Hexachloroethane	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	67-72-1	Hexachloroethane	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	67-72-1	Hexachloroethane	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	67-72-1	Hexachloroethane	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	67-72-1	Hexachloroethane	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	67-72-1	Hexachloroethane	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	67-72-1	Hexachloroethane	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	67-72-1	Hexachloroethane	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	67-72-1	Hexachloroethane	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.12E-02	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181367	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	193-39-5	Indeno(1,2,3-cd)pyrene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	78-59-1	Isophorone	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	78-59-1	Isophorone	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	78-59-1	Isophorone	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	78-59-1	Isophorone	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	78-59-1	Isophorone	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	78-59-1	Isophorone	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	78-59-1	Isophorone	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	78-59-1	Isophorone	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	78-59-1	Isophorone	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	78-59-1	Isophorone	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	78-59-1	Isophorone	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	78-59-1	Isophorone	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	78-59-1	Isophorone	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	78-59-1	Isophorone	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	78-59-1	Isophorone	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	78-59-1	Isophorone	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	78-59-1	Isophorone	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	78-59-1	Isophorone	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	78-59-1	Isophorone	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	78-59-1	Isophorone	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	78-59-1	Isophorone	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	78-59-1	Isophorone	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	78-59-1	Isophorone	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	78-59-1	Isophorone	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	78-59-1	Isophorone	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	78-59-1	Isophorone	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	78-59-1	Isophorone	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	78-59-1	Isophorone	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	78-59-1	Isophorone	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	91-57-6	Methylnaphthalene[2-]	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	91-57-6	Methylnaphthalene[2-]	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	91-57-6	Methylnaphthalene[2-]	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	91-57-6	Methylnaphthalene[2-]	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	91-57-6	Methylnaphthalene[2-]	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	91-57-6	Methylnaphthalene[2-]	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	91-57-6	Methylnaphthalene[2-]	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	91-57-6	Methylnaphthalene[2-]	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	91-57-6	Methylnaphthalene[2-]	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	91-57-6	Methylnaphthalene[2-]	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	91-57-6	Methylnaphthalene[2-]	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	91-57-6	Methylnaphthalene[2-]	J	Y	1.01E-02	1.31E-02	03/27/2013	N/A	FALSE	2.32E+02	FALSE
WST16-13-29796	91-57-6	Methylnaphthalene[2-]	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	91-57-6	Methylnaphthalene[2-]	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	91-57-6	Methylnaphthalene[2-]	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	91-57-6	Methylnaphthalene[2-]	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	91-57-6	Methylnaphthalene[2-]	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	91-57-6	Methylnaphthalene[2-]	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	91-57-6	Methylnaphthalene[2-]	U	N	5.07E-02	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181358	91-57-6	Methylnaphthalene[2-]	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	91-57-6	Methylnaphthalene[2-]	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	91-57-6	Methylnaphthalene[2-]	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	91-57-6	Methylnaphthalene[2-]	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	91-57-6	Methylnaphthalene[2-]	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	91-57-6	Methylnaphthalene[2-]	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	91-57-6	Methylnaphthalene[2-]	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	91-57-6	Methylnaphthalene[2-]	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	91-57-6	Methylnaphthalene[2-]	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	91-57-6	Methylnaphthalene[2-]	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	95-48-7	Methylphenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	95-48-7	Methylphenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	95-48-7	Methylphenol[2-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	95-48-7	Methylphenol[2-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	95-48-7	Methylphenol[2-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	95-48-7	Methylphenol[2-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	95-48-7	Methylphenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	95-48-7	Methylphenol[2-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	95-48-7	Methylphenol[2-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	95-48-7	Methylphenol[2-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	95-48-7	Methylphenol[2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	95-48-7	Methylphenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	95-48-7	Methylphenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	95-48-7	Methylphenol[2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	95-48-7	Methylphenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	95-48-7	Methylphenol[2-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	95-48-7	Methylphenol[2-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	95-48-7	Methylphenol[2-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	95-48-7	Methylphenol[2-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	95-48-7	Methylphenol[2-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	95-48-7	Methylphenol[2-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	95-48-7	Methylphenol[2-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	95-48-7	Methylphenol[2-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	95-48-7	Methylphenol[2-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	95-48-7	Methylphenol[2-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	95-48-7	Methylphenol[2-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	95-48-7	Methylphenol[2-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	95-48-7	Methylphenol[2-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	95-48-7	Methylphenol[2-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181353	65794-96-9	Methylphenol[3-,4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	65794-96-9	Methylphenol[3-,4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	65794-96-9	Methylphenol[3-,4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	65794-96-9	Methylphenol[3-,4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	65794-96-9	Methylphenol[3-,4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	65794-96-9	Methylphenol[3-,4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	65794-96-9	Methylphenol[3-,4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	65794-96-9	Methylphenol[3-,4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	65794-96-9	Methylphenol[3-,4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	65794-96-9	Methylphenol[3-,4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	65794-96-9	Methylphenol[3-,4-]	U	N	1.16E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181366	65794-96-9	Methylphenol[3-,4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	65794-96-9	Methylphenol[3-,4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	65794-96-9	Methylphenol[3-,4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	106-44-5	Methylphenol[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	106-44-5	Methylphenol[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	106-44-5	Methylphenol[4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	106-44-5	Methylphenol[4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	106-44-5	Methylphenol[4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	106-44-5	Methylphenol[4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	106-44-5	Methylphenol[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	106-44-5	Methylphenol[4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	106-44-5	Methylphenol[4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	106-44-5	Methylphenol[4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	106-44-5	Methylphenol[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	106-44-5	Methylphenol[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	106-44-5	Methylphenol[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	106-44-5	Methylphenol[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	106-44-5	Methylphenol[4-]	U	N	1.01E-01	ND	03/27/2013				
RE16-12-17672	91-20-3	Naphthalene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	91-20-3	Naphthalene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	91-20-3	Naphthalene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	91-20-3	Naphthalene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	91-20-3	Naphthalene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	91-20-3	Naphthalene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	91-20-3	Naphthalene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	91-20-3	Naphthalene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	91-20-3	Naphthalene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	91-20-3	Naphthalene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	91-20-3	Naphthalene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	91-20-3	Naphthalene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	91-20-3	Naphthalene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	91-20-3	Naphthalene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	91-20-3	Naphthalene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	91-20-3	Naphthalene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	91-20-3	Naphthalene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	91-20-3	Naphthalene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	91-20-3	Naphthalene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	91-20-3	Naphthalene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	91-20-3	Naphthalene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	91-20-3	Naphthalene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	91-20-3	Naphthalene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	91-20-3	Naphthalene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	91-20-3	Naphthalene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	91-20-3	Naphthalene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	91-20-3	Naphthalene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	91-20-3	Naphthalene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	91-20-3	Naphthalene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	88-74-4	Nitroaniline[2-]	U	N	1.14E-01	ND	8/13/2012				
RE16-12-17673	88-74-4	Nitroaniline[2-]	U	N	1.14E-01	ND	8/13/2012				
RE16-12-17674	88-74-4	Nitroaniline[2-]	U	N	1.19E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17675	88-74-4	Nitroaniline[2-]	U	N	1.12E-01	ND	8/13/2012				
RE16-12-17676	88-74-4	Nitroaniline[2-]	U	N	1.11E-01	ND	8/13/2012				
RE16-12-17677	88-74-4	Nitroaniline[2-]	U	N	1.17E-01	ND	8/13/2012				
RE16-12-17678	88-74-4	Nitroaniline[2-]	U	N	1.13E-01	ND	8/13/2012				
RE16-12-17679	88-74-4	Nitroaniline[2-]	U	N	1.14E-01	ND	8/13/2012				
RE16-12-17680	88-74-4	Nitroaniline[2-]	U	N	1.16E-01	ND	8/13/2012				
RE16-12-17681	88-74-4	Nitroaniline[2-]	U	N	1.16E-01	ND	8/13/2012				
WST16-13-29794	88-74-4	Nitroaniline[2-]	U	N	1.11E-01	ND	03/27/2013				
WST16-13-29795	88-74-4	Nitroaniline[2-]	U	N	1.11E-01	ND	03/27/2013				
WST16-13-29796	88-74-4	Nitroaniline[2-]	U	N	1.11E-01	ND	03/27/2013				
WST16-13-29797	88-74-4	Nitroaniline[2-]	U	N	1.10E-01	ND	03/27/2013				
WST16-13-29798	88-74-4	Nitroaniline[2-]	U	N	1.11E-01	ND	03/27/2013				
WST16-19-181353	88-74-4	Nitroaniline[2-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181354	88-74-4	Nitroaniline[2-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181355	88-74-4	Nitroaniline[2-]	U	N	1.11E-01	ND	05/07/2019				
WST16-19-181357	88-74-4	Nitroaniline[2-]	U	N	5.58E-01	ND	05/07/2019				
WST16-19-181358	88-74-4	Nitroaniline[2-]	U	N	3.36E+00	ND	05/07/2019				
WST16-19-181359	88-74-4	Nitroaniline[2-]	U	N	1.27E-01	ND	05/07/2019				
WST16-19-181361	88-74-4	Nitroaniline[2-]	U	N	5.55E-01	ND	05/07/2019				
WST16-19-181362	88-74-4	Nitroaniline[2-]	U	N	1.26E-01	ND	05/07/2019				
WST16-19-181363	88-74-4	Nitroaniline[2-]	U	N	1.34E-01	ND	05/07/2019				
WST16-19-181364	88-74-4	Nitroaniline[2-]	U	N	1.18E-01	ND	05/07/2019				
WST16-19-181365	88-74-4	Nitroaniline[2-]	U	N	1.27E-01	ND	05/07/2019				
WST16-19-181366	88-74-4	Nitroaniline[2-]	U	N	1.23E-01	ND	05/07/2019				
WST16-19-181367	88-74-4	Nitroaniline[2-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181368	88-74-4	Nitroaniline[2-]	U	N	1.16E-01	ND	05/07/2019				
RE16-12-17672	99-09-2	Nitroaniline[3-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	99-09-2	Nitroaniline[3-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	99-09-2	Nitroaniline[3-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	99-09-2	Nitroaniline[3-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	99-09-2	Nitroaniline[3-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	99-09-2	Nitroaniline[3-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	99-09-2	Nitroaniline[3-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	99-09-2	Nitroaniline[3-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	99-09-2	Nitroaniline[3-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	99-09-2	Nitroaniline[3-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	99-09-2	Nitroaniline[3-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	99-09-2	Nitroaniline[3-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	99-09-2	Nitroaniline[3-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	99-09-2	Nitroaniline[3-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	99-09-2	Nitroaniline[3-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	99-09-2	Nitroaniline[3-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	99-09-2	Nitroaniline[3-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	99-09-2	Nitroaniline[3-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	99-09-2	Nitroaniline[3-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	99-09-2	Nitroaniline[3-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	99-09-2	Nitroaniline[3-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	99-09-2	Nitroaniline[3-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	99-09-2	Nitroaniline[3-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	99-09-2	Nitroaniline[3-]	U	N	1.22E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181364	99-09-2	Nitroaniline[3-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	99-09-2	Nitroaniline[3-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	99-09-2	Nitroaniline[3-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	99-09-2	Nitroaniline[3-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	99-09-2	Nitroaniline[3-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	100-01-6	Nitroaniline[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	100-01-6	Nitroaniline[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	100-01-6	Nitroaniline[4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	100-01-6	Nitroaniline[4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	100-01-6	Nitroaniline[4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	100-01-6	Nitroaniline[4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	100-01-6	Nitroaniline[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	100-01-6	Nitroaniline[4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	100-01-6	Nitroaniline[4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	100-01-6	Nitroaniline[4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	100-01-6	Nitroaniline[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	100-01-6	Nitroaniline[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	100-01-6	Nitroaniline[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	100-01-6	Nitroaniline[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	100-01-6	Nitroaniline[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	100-01-6	Nitroaniline[4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	100-01-6	Nitroaniline[4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	100-01-6	Nitroaniline[4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	100-01-6	Nitroaniline[4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	100-01-6	Nitroaniline[4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	100-01-6	Nitroaniline[4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	100-01-6	Nitroaniline[4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	100-01-6	Nitroaniline[4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	100-01-6	Nitroaniline[4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	100-01-6	Nitroaniline[4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	100-01-6	Nitroaniline[4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	100-01-6	Nitroaniline[4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	100-01-6	Nitroaniline[4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	100-01-6	Nitroaniline[4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	98-95-3	Nitrobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	98-95-3	Nitrobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	98-95-3	Nitrobenzene	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	98-95-3	Nitrobenzene	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	98-95-3	Nitrobenzene	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	98-95-3	Nitrobenzene	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	98-95-3	Nitrobenzene	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	98-95-3	Nitrobenzene	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	98-95-3	Nitrobenzene	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	98-95-3	Nitrobenzene	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	98-95-3	Nitrobenzene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	98-95-3	Nitrobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	98-95-3	Nitrobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	98-95-3	Nitrobenzene	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	98-95-3	Nitrobenzene	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	98-95-3	Nitrobenzene	U	N	1.04E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181354	98-95-3	Nitrobenzene	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	98-95-3	Nitrobenzene	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	98-95-3	Nitrobenzene	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	98-95-3	Nitrobenzene	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	98-95-3	Nitrobenzene	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	98-95-3	Nitrobenzene	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	98-95-3	Nitrobenzene	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	98-95-3	Nitrobenzene	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	98-95-3	Nitrobenzene	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	98-95-3	Nitrobenzene	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	98-95-3	Nitrobenzene	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	98-95-3	Nitrobenzene	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	98-95-3	Nitrobenzene	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	88-75-5	Nitrophenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	88-75-5	Nitrophenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	88-75-5	Nitrophenol[2-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	88-75-5	Nitrophenol[2-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	88-75-5	Nitrophenol[2-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	88-75-5	Nitrophenol[2-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	88-75-5	Nitrophenol[2-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	88-75-5	Nitrophenol[2-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	88-75-5	Nitrophenol[2-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	88-75-5	Nitrophenol[2-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	88-75-5	Nitrophenol[2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	88-75-5	Nitrophenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	88-75-5	Nitrophenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	88-75-5	Nitrophenol[2-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	88-75-5	Nitrophenol[2-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	88-75-5	Nitrophenol[2-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	88-75-5	Nitrophenol[2-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	88-75-5	Nitrophenol[2-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	88-75-5	Nitrophenol[2-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	88-75-5	Nitrophenol[2-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	88-75-5	Nitrophenol[2-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	88-75-5	Nitrophenol[2-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	88-75-5	Nitrophenol[2-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	88-75-5	Nitrophenol[2-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	88-75-5	Nitrophenol[2-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	88-75-5	Nitrophenol[2-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	88-75-5	Nitrophenol[2-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	88-75-5	Nitrophenol[2-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	88-75-5	Nitrophenol[2-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	100-02-7	Nitrophenol[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	100-02-7	Nitrophenol[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	100-02-7	Nitrophenol[4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	100-02-7	Nitrophenol[4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	100-02-7	Nitrophenol[4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	100-02-7	Nitrophenol[4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	100-02-7	Nitrophenol[4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	100-02-7	Nitrophenol[4-]	U	N	1.04E-01	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17680	100-02-7	Nitrophenol[4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	100-02-7	Nitrophenol[4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	100-02-7	Nitrophenol[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	100-02-7	Nitrophenol[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	100-02-7	Nitrophenol[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	100-02-7	Nitrophenol[4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	100-02-7	Nitrophenol[4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	100-02-7	Nitrophenol[4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	100-02-7	Nitrophenol[4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	100-02-7	Nitrophenol[4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	100-02-7	Nitrophenol[4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	100-02-7	Nitrophenol[4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	100-02-7	Nitrophenol[4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	100-02-7	Nitrophenol[4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	100-02-7	Nitrophenol[4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	100-02-7	Nitrophenol[4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	100-02-7	Nitrophenol[4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	100-02-7	Nitrophenol[4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	100-02-7	Nitrophenol[4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	100-02-7	Nitrophenol[4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	100-02-7	Nitrophenol[4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	62-75-9	Nitrosodimethylamine[N-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	62-75-9	Nitrosodimethylamine[N-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	62-75-9	Nitrosodimethylamine[N-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	62-75-9	Nitrosodimethylamine[N-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	62-75-9	Nitrosodimethylamine[N-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	62-75-9	Nitrosodimethylamine[N-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	62-75-9	Nitrosodimethylamine[N-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	62-75-9	Nitrosodimethylamine[N-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	62-75-9	Nitrosodimethylamine[N-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	62-75-9	Nitrosodimethylamine[N-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	62-75-9	Nitrosodimethylamine[N-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	62-75-9	Nitrosodimethylamine[N-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	62-75-9	Nitrosodimethylamine[N-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	62-75-9	Nitrosodimethylamine[N-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	62-75-9	Nitrosodimethylamine[N-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	62-75-9	Nitrosodimethylamine[N-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	62-75-9	Nitrosodimethylamine[N-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	62-75-9	Nitrosodimethylamine[N-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	62-75-9	Nitrosodimethylamine[N-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	62-75-9	Nitrosodimethylamine[N-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	62-75-9	Nitrosodimethylamine[N-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	62-75-9	Nitrosodimethylamine[N-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	62-75-9	Nitrosodimethylamine[N-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	62-75-9	Nitrosodimethylamine[N-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	62-75-9	Nitrosodimethylamine[N-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	62-75-9	Nitrosodimethylamine[N-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	62-75-9	Nitrosodimethylamine[N-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	62-75-9	Nitrosodimethylamine[N-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	62-75-9	Nitrosodimethylamine[N-]	U	N	1.05E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17672	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181357	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181361	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181353	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181359	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181362	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	621-64-7	Nitroso-di-n-propylamine[N-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.15E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181361	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	108-60-1	Oxybis(1-chloropropane)[2,2'-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	87-86-5	Pentachlorophenol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	87-86-5	Pentachlorophenol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	87-86-5	Pentachlorophenol	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	87-86-5	Pentachlorophenol	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	87-86-5	Pentachlorophenol	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	87-86-5	Pentachlorophenol	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	87-86-5	Pentachlorophenol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	87-86-5	Pentachlorophenol	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	87-86-5	Pentachlorophenol	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	87-86-5	Pentachlorophenol	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	87-86-5	Pentachlorophenol	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	87-86-5	Pentachlorophenol	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	87-86-5	Pentachlorophenol	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	87-86-5	Pentachlorophenol	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	87-86-5	Pentachlorophenol	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181358	87-86-5	Pentachlorophenol	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181353	87-86-5	Pentachlorophenol	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	87-86-5	Pentachlorophenol	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	87-86-5	Pentachlorophenol	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	87-86-5	Pentachlorophenol	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181359	87-86-5	Pentachlorophenol	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	87-86-5	Pentachlorophenol	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	87-86-5	Pentachlorophenol	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	87-86-5	Pentachlorophenol	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	87-86-5	Pentachlorophenol	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	87-86-5	Pentachlorophenol	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	87-86-5	Pentachlorophenol	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	87-86-5	Pentachlorophenol	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	87-86-5	Pentachlorophenol	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	85-01-8	Phenanthrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	85-01-8	Phenanthrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	85-01-8	Phenanthrene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	85-01-8	Phenanthrene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	85-01-8	Phenanthrene	U	N	1.01E-02	ND	8/13/2012				
RE16-12-17677	85-01-8	Phenanthrene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	85-01-8	Phenanthrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	85-01-8	Phenanthrene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	85-01-8	Phenanthrene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	85-01-8	Phenanthrene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	85-01-8	Phenanthrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	85-01-8	Phenanthrene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	85-01-8	Phenanthrene	U	N	1.01E-02	ND	03/27/2013				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-13-29797	85-01-8	Phenanthrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	85-01-8	Phenanthrene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	85-01-8	Phenanthrene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	85-01-8	Phenanthrene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	85-01-8	Phenanthrene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	85-01-8	Phenanthrene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	85-01-8	Phenanthrene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	85-01-8	Phenanthrene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	85-01-8	Phenanthrene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	85-01-8	Phenanthrene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	85-01-8	Phenanthrene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	85-01-8	Phenanthrene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	85-01-8	Phenanthrene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	85-01-8	Phenanthrene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	85-01-8	Phenanthrene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	85-01-8	Phenanthrene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	108-95-2	Phenol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	108-95-2	Phenol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	108-95-2	Phenol	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	108-95-2	Phenol	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	108-95-2	Phenol	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	108-95-2	Phenol	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	108-95-2	Phenol	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	108-95-2	Phenol	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	108-95-2	Phenol	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	108-95-2	Phenol	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	108-95-2	Phenol	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	108-95-2	Phenol	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	108-95-2	Phenol	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	108-95-2	Phenol	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	108-95-2	Phenol	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	108-95-2	Phenol	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	108-95-2	Phenol	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	108-95-2	Phenol	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	108-95-2	Phenol	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	108-95-2	Phenol	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	108-95-2	Phenol	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	108-95-2	Phenol	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	108-95-2	Phenol	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	108-95-2	Phenol	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	108-95-2	Phenol	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	108-95-2	Phenol	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	108-95-2	Phenol	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	108-95-2	Phenol	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	108-95-2	Phenol	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	129-00-0	Pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17673	129-00-0	Pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17674	129-00-0	Pyrene	U	N	1.08E-02	ND	8/13/2012				
RE16-12-17675	129-00-0	Pyrene	U	N	1.02E-02	ND	8/13/2012				
RE16-12-17676	129-00-0	Pyrene	U	N	1.01E-02	ND	8/13/2012				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
RE16-12-17677	129-00-0	Pyrene	U	N	1.07E-02	ND	8/13/2012				
RE16-12-17678	129-00-0	Pyrene	U	N	1.03E-02	ND	8/13/2012				
RE16-12-17679	129-00-0	Pyrene	U	N	1.04E-02	ND	8/13/2012				
RE16-12-17680	129-00-0	Pyrene	U	N	1.06E-02	ND	8/13/2012				
RE16-12-17681	129-00-0	Pyrene	U	N	1.06E-02	ND	8/13/2012				
WST16-13-29794	129-00-0	Pyrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29795	129-00-0	Pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29796	129-00-0	Pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-13-29797	129-00-0	Pyrene	U	N	1.00E-02	ND	03/27/2013				
WST16-13-29798	129-00-0	Pyrene	U	N	1.01E-02	ND	03/27/2013				
WST16-19-181353	129-00-0	Pyrene	U	N	1.04E-02	ND	05/07/2019				
WST16-19-181354	129-00-0	Pyrene	U	N	1.05E-02	ND	05/07/2019				
WST16-19-181355	129-00-0	Pyrene	U	N	1.01E-02	ND	05/07/2019				
WST16-19-181357	129-00-0	Pyrene	U	N	5.07E-02	ND	05/07/2019				
WST16-19-181358	129-00-0	Pyrene	U	N	3.05E-01	ND	05/07/2019				
WST16-19-181359	129-00-0	Pyrene	U	N	1.15E-02	ND	05/07/2019				
WST16-19-181361	129-00-0	Pyrene	U	N	5.05E-02	ND	05/07/2019				
WST16-19-181362	129-00-0	Pyrene	U	N	1.14E-02	ND	05/07/2019				
WST16-19-181363	129-00-0	Pyrene	U	N	1.22E-02	ND	05/07/2019				
WST16-19-181364	129-00-0	Pyrene	U	N	1.07E-02	ND	05/07/2019				
WST16-19-181365	129-00-0	Pyrene	U	N	1.16E-02	ND	05/07/2019				
WST16-19-181366	129-00-0	Pyrene	U	N	1.12E-02	ND	05/07/2019				
WST16-19-181367	129-00-0	Pyrene	U	N	1.06E-02	ND	05/07/2019				
WST16-19-181368	129-00-0	Pyrene	U	N	1.05E-02	ND	05/07/2019				
RE16-12-17672	110-86-1	Pyridine	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	110-86-1	Pyridine	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	110-86-1	Pyridine	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	110-86-1	Pyridine	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	110-86-1	Pyridine	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	110-86-1	Pyridine	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	110-86-1	Pyridine	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	110-86-1	Pyridine	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	110-86-1	Pyridine	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	110-86-1	Pyridine	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	110-86-1	Pyridine	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	110-86-1	Pyridine	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	110-86-1	Pyridine	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	110-86-1	Pyridine	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	110-86-1	Pyridine	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	110-86-1	Pyridine	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	110-86-1	Pyridine	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	110-86-1	Pyridine	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	110-86-1	Pyridine	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	110-86-1	Pyridine	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	110-86-1	Pyridine	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	110-86-1	Pyridine	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	110-86-1	Pyridine	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	110-86-1	Pyridine	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	110-86-1	Pyridine	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	110-86-1	Pyridine	U	N	1.16E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181366	110-86-1	Pyridine	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	110-86-1	Pyridine	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	110-86-1	Pyridine	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	120-82-1	Trichlorobenzene[1,2,4-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	120-82-1	Trichlorobenzene[1,2,4-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	120-82-1	Trichlorobenzene[1,2,4-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	120-82-1	Trichlorobenzene[1,2,4-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.01E-01	ND	05/07/2019				

Sample ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date	Residential Soil, Cancer (mg/kg)	Residential Soil, Cancer Comparison	Residential Soil, Noncancer (mg/kg)	Residential Soil, Noncancer Comparison
WST16-19-181357	95-95-4	Trichlorophenol[2,4,5-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	95-95-4	Trichlorophenol[2,4,5-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	95-95-4	Trichlorophenol[2,4,5-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	95-95-4	Trichlorophenol[2,4,5-]	U	N	1.05E-01	ND	05/07/2019				
RE16-12-17672	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17673	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17674	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.08E-01	ND	8/13/2012				
RE16-12-17675	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.02E-01	ND	8/13/2012				
RE16-12-17676	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.01E-01	ND	8/13/2012				
RE16-12-17677	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.07E-01	ND	8/13/2012				
RE16-12-17678	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.03E-01	ND	8/13/2012				
RE16-12-17679	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.04E-01	ND	8/13/2012				
RE16-12-17680	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.06E-01	ND	8/13/2012				
RE16-12-17681	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.06E-01	ND	8/13/2012				
WST16-13-29794	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29795	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29796	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-13-29797	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.00E-01	ND	03/27/2013				
WST16-13-29798	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.01E-01	ND	03/27/2013				
WST16-19-181353	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.04E-01	ND	05/07/2019				
WST16-19-181354	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.05E-01	ND	05/07/2019				
WST16-19-181355	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.01E-01	ND	05/07/2019				
WST16-19-181357	88-06-2	Trichlorophenol[2,4,6-]	U	N	5.07E-01	ND	05/07/2019				
WST16-19-181358	88-06-2	Trichlorophenol[2,4,6-]	U	N	3.05E+00	ND	05/07/2019				
WST16-19-181359	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.15E-01	ND	05/07/2019				
WST16-19-181361	88-06-2	Trichlorophenol[2,4,6-]	U	N	5.05E-01	ND	05/07/2019				
WST16-19-181362	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.14E-01	ND	05/07/2019				
WST16-19-181363	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.22E-01	ND	05/07/2019				
WST16-19-181364	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.07E-01	ND	05/07/2019				
WST16-19-181365	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.16E-01	ND	05/07/2019				
WST16-19-181366	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.12E-01	ND	05/07/2019				
WST16-19-181367	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.06E-01	ND	05/07/2019				
WST16-19-181368	88-06-2	Trichlorophenol[2,4,6-]	U	N	1.05E-01	ND	05/07/2019				

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17672	16-1	67-64-1	Acetone	U	N	1.56E-03	ND	8/13/2012
RE16-12-17673	16-2	67-64-1	Acetone	U	N	1.55E-03	ND	8/13/2012
RE16-12-17674	16-3	67-64-1	Acetone	U	N	1.62E-03	ND	8/13/2012
RE16-12-17675	16-4	67-64-1	Acetone	U	N	1.53E-03	ND	8/13/2012
RE16-12-17676	16-5	67-64-1	Acetone	U	N	1.53E-03	ND	8/13/2012
RE16-12-17677	16-6	67-64-1	Acetone	U	N	1.61E-03	ND	8/13/2012
RE16-12-17678	16-7	67-64-1	Acetone	U	N	1.55E-03	ND	8/13/2012
RE16-12-17679	16-8	67-64-1	Acetone	U	N	1.57E-03	ND	8/13/2012
RE16-12-17680	16-9	67-64-1	Acetone	U	N	1.59E-03	ND	8/13/2012
RE16-12-17681	16-10	67-64-1	Acetone	U	N	1.59E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	67-64-1	Acetone	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	67-64-1	Acetone	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	67-64-1	Acetone	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	67-64-1	Acetone	U	N	1.69E-03	ND	05/07/2019
WST16-19-181358	WST-RCRA	67-64-1	Acetone	U	N	1.70E-03	ND	05/07/2019
WST16-19-181359	WST-RCRA	67-64-1	Acetone	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	67-64-1	Acetone	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	67-64-1	Acetone	U	N	1.91E-03	ND	05/07/2019
WST16-19-181363	WST-RCRA	67-64-1	Acetone	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	67-64-1	Acetone	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	67-64-1	Acetone	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	67-64-1	Acetone	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	67-64-1	Acetone	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	67-64-1	Acetone	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	71-43-2	Benzene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	71-43-2	Benzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	71-43-2	Benzene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	71-43-2	Benzene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	71-43-2	Benzene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	71-43-2	Benzene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	71-43-2	Benzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	71-43-2	Benzene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	71-43-2	Benzene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	71-43-2	Benzene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	71-43-2	Benzene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	71-43-2	Benzene	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	71-43-2	Benzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	71-43-2	Benzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	71-43-2	Benzene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	71-43-2	Benzene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	71-43-2	Benzene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	71-43-2	Benzene	U	N	3.81E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181363	WST-RCRA	71-43-2	Benzene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	71-43-2	Benzene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	71-43-2	Benzene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	71-43-2	Benzene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	71-43-2	Benzene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	71-43-2	Benzene	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	108-86-1	Bromobenzene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	108-86-1	Bromobenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	108-86-1	Bromobenzene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	108-86-1	Bromobenzene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	108-86-1	Bromobenzene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	108-86-1	Bromobenzene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	108-86-1	Bromobenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	108-86-1	Bromobenzene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	108-86-1	Bromobenzene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	108-86-1	Bromobenzene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	108-86-1	Bromobenzene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	108-86-1	Bromobenzene	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	108-86-1	Bromobenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	108-86-1	Bromobenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	108-86-1	Bromobenzene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	108-86-1	Bromobenzene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	108-86-1	Bromobenzene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	108-86-1	Bromobenzene	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	108-86-1	Bromobenzene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	108-86-1	Bromobenzene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	108-86-1	Bromobenzene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	108-86-1	Bromobenzene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	108-86-1	Bromobenzene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	108-86-1	Bromobenzene	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	74-97-5	Bromochloromethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	74-97-5	Bromochloromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	74-97-5	Bromochloromethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	74-97-5	Bromochloromethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	74-97-5	Bromochloromethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	74-97-5	Bromochloromethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	74-97-5	Bromochloromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	74-97-5	Bromochloromethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	74-97-5	Bromochloromethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	74-97-5	Bromochloromethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.50E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181355	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	74-97-5	Bromochloromethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	74-97-5	Bromochloromethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-27-4	Bromodichloromethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-27-4	Bromodichloromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-27-4	Bromodichloromethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-27-4	Bromodichloromethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-27-4	Bromodichloromethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-27-4	Bromodichloromethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	75-27-4	Bromodichloromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-27-4	Bromodichloromethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	75-27-4	Bromodichloromethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-27-4	Bromodichloromethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-27-4	Bromodichloromethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-27-4	Bromodichloromethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-25-2	Bromoform	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-25-2	Bromoform	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-25-2	Bromoform	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-25-2	Bromoform	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-25-2	Bromoform	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-25-2	Bromoform	U	N	3.22E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17678	16-7	75-25-2	Bromoform	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-25-2	Bromoform	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	75-25-2	Bromoform	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-25-2	Bromoform	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-25-2	Bromoform	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-25-2	Bromoform	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-25-2	Bromoform	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-25-2	Bromoform	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-25-2	Bromoform	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-25-2	Bromoform	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-25-2	Bromoform	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-25-2	Bromoform	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-25-2	Bromoform	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-25-2	Bromoform	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-25-2	Bromoform	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-25-2	Bromoform	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-25-2	Bromoform	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-25-2	Bromoform	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	74-83-9	Bromomethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	74-83-9	Bromomethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	74-83-9	Bromomethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	74-83-9	Bromomethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	74-83-9	Bromomethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	74-83-9	Bromomethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	74-83-9	Bromomethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	74-83-9	Bromomethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	74-83-9	Bromomethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	74-83-9	Bromomethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	74-83-9	Bromomethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	74-83-9	Bromomethane	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	74-83-9	Bromomethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	74-83-9	Bromomethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	74-83-9	Bromomethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	74-83-9	Bromomethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	74-83-9	Bromomethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	74-83-9	Bromomethane	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	74-83-9	Bromomethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	74-83-9	Bromomethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	74-83-9	Bromomethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	74-83-9	Bromomethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	74-83-9	Bromomethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	74-83-9	Bromomethane	U	N	3.73E-04	ND	08/06/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17672	16-1	78-93-3	Butanone[2-]	U	N	1.56E-03	ND	8/13/2012
RE16-12-17673	16-2	78-93-3	Butanone[2-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17674	16-3	78-93-3	Butanone[2-]	U	N	1.62E-03	ND	8/13/2012
RE16-12-17675	16-4	78-93-3	Butanone[2-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17676	16-5	78-93-3	Butanone[2-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17677	16-6	78-93-3	Butanone[2-]	U	N	1.61E-03	ND	8/13/2012
RE16-12-17678	16-7	78-93-3	Butanone[2-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17679	16-8	78-93-3	Butanone[2-]	U	N	1.57E-03	ND	8/13/2012
RE16-12-17680	16-9	78-93-3	Butanone[2-]	U	N	1.59E-03	ND	8/13/2012
RE16-12-17681	16-10	78-93-3	Butanone[2-]	U	N	1.59E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181358	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.70E-03	ND	05/07/2019
WST16-19-181359	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.91E-03	ND	05/07/2019
WST16-19-181363	WST-RCRA	78-93-3	Butanone[2-]	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	78-93-3	Butanone[2-]	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	104-51-8	Butylbenzene[n-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	104-51-8	Butylbenzene[n-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	104-51-8	Butylbenzene[n-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	104-51-8	Butylbenzene[n-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	104-51-8	Butylbenzene[n-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	104-51-8	Butylbenzene[n-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	104-51-8	Butylbenzene[n-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	104-51-8	Butylbenzene[n-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	104-51-8	Butylbenzene[n-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	104-51-8	Butylbenzene[n-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.81E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181363	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	104-51-8	Butylbenzene[n-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	135-98-8	Butylbenzene[sec-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	135-98-8	Butylbenzene[sec-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	135-98-8	Butylbenzene[sec-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	135-98-8	Butylbenzene[sec-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	135-98-8	Butylbenzene[sec-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	135-98-8	Butylbenzene[sec-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	135-98-8	Butylbenzene[sec-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	135-98-8	Butylbenzene[sec-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	135-98-8	Butylbenzene[sec-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	135-98-8	Butylbenzene[sec-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	135-98-8	Butylbenzene[sec-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	98-06-6	Butylbenzene[tert-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	98-06-6	Butylbenzene[tert-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	98-06-6	Butylbenzene[tert-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	98-06-6	Butylbenzene[tert-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	98-06-6	Butylbenzene[tert-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	98-06-6	Butylbenzene[tert-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	98-06-6	Butylbenzene[tert-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	98-06-6	Butylbenzene[tert-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	98-06-6	Butylbenzene[tert-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	98-06-6	Butylbenzene[tert-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.50E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181355	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	98-06-6	Butylbenzene[tert-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-15-0	Carbon Disulfide	U	N	1.56E-03	ND	8/13/2012
RE16-12-17673	16-2	75-15-0	Carbon Disulfide	U	N	1.55E-03	ND	8/13/2012
RE16-12-17674	16-3	75-15-0	Carbon Disulfide	U	N	1.62E-03	ND	8/13/2012
RE16-12-17675	16-4	75-15-0	Carbon Disulfide	U	N	1.53E-03	ND	8/13/2012
RE16-12-17676	16-5	75-15-0	Carbon Disulfide	U	N	1.53E-03	ND	8/13/2012
RE16-12-17677	16-6	75-15-0	Carbon Disulfide	U	N	1.61E-03	ND	8/13/2012
RE16-12-17678	16-7	75-15-0	Carbon Disulfide	U	N	1.55E-03	ND	8/13/2012
RE16-12-17679	16-8	75-15-0	Carbon Disulfide	U	N	1.57E-03	ND	8/13/2012
RE16-12-17680	16-9	75-15-0	Carbon Disulfide	U	N	1.59E-03	ND	8/13/2012
RE16-12-17681	16-10	75-15-0	Carbon Disulfide	U	N	1.59E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.69E-03	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.70E-03	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.91E-03	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-15-0	Carbon Disulfide	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-15-0	Carbon Disulfide	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	56-23-5	Carbon Tetrachloride	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	56-23-5	Carbon Tetrachloride	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	56-23-5	Carbon Tetrachloride	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	56-23-5	Carbon Tetrachloride	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	56-23-5	Carbon Tetrachloride	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	56-23-5	Carbon Tetrachloride	U	N	3.22E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17678	16-7	56-23-5	Carbon Tetrachloride	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	56-23-5	Carbon Tetrachloride	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	56-23-5	Carbon Tetrachloride	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	56-23-5	Carbon Tetrachloride	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	56-23-5	Carbon Tetrachloride	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	108-90-7	Chlorobenzene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	108-90-7	Chlorobenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	108-90-7	Chlorobenzene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	108-90-7	Chlorobenzene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	108-90-7	Chlorobenzene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	108-90-7	Chlorobenzene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	108-90-7	Chlorobenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	108-90-7	Chlorobenzene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	108-90-7	Chlorobenzene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	108-90-7	Chlorobenzene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	108-90-7	Chlorobenzene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	108-90-7	Chlorobenzene	U	N	3.73E-04	ND	08/06/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17672	16-1	124-48-1	Chlorodibromomethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	124-48-1	Chlorodibromomethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	124-48-1	Chlorodibromomethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	124-48-1	Chlorodibromomethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	124-48-1	Chlorodibromomethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	124-48-1	Chlorodibromomethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	124-48-1	Chlorodibromomethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	124-48-1	Chlorodibromomethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	124-48-1	Chlorodibromomethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	124-48-1	Chlorodibromomethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	124-48-1	Chlorodibromomethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-00-3	Chloroethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-00-3	Chloroethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-00-3	Chloroethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-00-3	Chloroethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-00-3	Chloroethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-00-3	Chloroethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	75-00-3	Chloroethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-00-3	Chloroethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	75-00-3	Chloroethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-00-3	Chloroethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-00-3	Chloroethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-00-3	Chloroethane	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-00-3	Chloroethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-00-3	Chloroethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-00-3	Chloroethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-00-3	Chloroethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-00-3	Chloroethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-00-3	Chloroethane	U	N	3.81E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181363	WST-RCRA	75-00-3	Chloroethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-00-3	Chloroethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-00-3	Chloroethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-00-3	Chloroethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-00-3	Chloroethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-00-3	Chloroethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	67-66-3	Chloroform	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	67-66-3	Chloroform	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	67-66-3	Chloroform	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	67-66-3	Chloroform	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	67-66-3	Chloroform	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	67-66-3	Chloroform	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	67-66-3	Chloroform	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	67-66-3	Chloroform	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	67-66-3	Chloroform	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	67-66-3	Chloroform	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	67-66-3	Chloroform	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	67-66-3	Chloroform	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	67-66-3	Chloroform	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	67-66-3	Chloroform	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	67-66-3	Chloroform	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	67-66-3	Chloroform	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	67-66-3	Chloroform	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	67-66-3	Chloroform	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	67-66-3	Chloroform	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	67-66-3	Chloroform	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	67-66-3	Chloroform	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	67-66-3	Chloroform	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	67-66-3	Chloroform	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	67-66-3	Chloroform	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	74-87-3	Chloromethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	74-87-3	Chloromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	74-87-3	Chloromethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	74-87-3	Chloromethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	74-87-3	Chloromethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	74-87-3	Chloromethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	74-87-3	Chloromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	74-87-3	Chloromethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	74-87-3	Chloromethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	74-87-3	Chloromethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	74-87-3	Chloromethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	74-87-3	Chloromethane	U	N	3.50E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181355	WST-RCRA	74-87-3	Chloromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	74-87-3	Chloromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	74-87-3	Chloromethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	74-87-3	Chloromethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	74-87-3	Chloromethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	74-87-3	Chloromethane	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	74-87-3	Chloromethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	74-87-3	Chloromethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	74-87-3	Chloromethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	74-87-3	Chloromethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	74-87-3	Chloromethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	74-87-3	Chloromethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	95-49-8	Chlorotoluene[2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	95-49-8	Chlorotoluene[2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	95-49-8	Chlorotoluene[2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	95-49-8	Chlorotoluene[2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	95-49-8	Chlorotoluene[2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	95-49-8	Chlorotoluene[2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	95-49-8	Chlorotoluene[2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	95-49-8	Chlorotoluene[2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	95-49-8	Chlorotoluene[2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	95-49-8	Chlorotoluene[2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	95-49-8	Chlorotoluene[2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	106-43-4	Chlorotoluene[4-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	106-43-4	Chlorotoluene[4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	106-43-4	Chlorotoluene[4-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	106-43-4	Chlorotoluene[4-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	106-43-4	Chlorotoluene[4-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	106-43-4	Chlorotoluene[4-]	U	N	3.22E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17678	16-7	106-43-4	Chlorotoluene[4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	106-43-4	Chlorotoluene[4-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	106-43-4	Chlorotoluene[4-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	106-43-4	Chlorotoluene[4-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	106-43-4	Chlorotoluene[4-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.20E-04	ND	8/13/2012
RE16-12-17673	16-2	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.17E-04	ND	8/13/2012
RE16-12-17674	16-3	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.41E-04	ND	8/13/2012
RE16-12-17675	16-4	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.10E-04	ND	8/13/2012
RE16-12-17676	16-5	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.09E-04	ND	8/13/2012
RE16-12-17677	16-6	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.36E-04	ND	8/13/2012
RE16-12-17678	16-7	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.17E-04	ND	8/13/2012
RE16-12-17679	16-8	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.22E-04	ND	8/13/2012
RE16-12-17680	16-9	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.29E-04	ND	8/13/2012
RE16-12-17681	16-10	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.31E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.18E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.26E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.07E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.07E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.10E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.78E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.07E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.73E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	6.10E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.39E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.79E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.33E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.71E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	96-12-8	Dibromo-3-Chloropropane[1,2-]	U	N	5.60E-04	ND	08/06/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17672	16-1	106-93-4	Dibromoethane[1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	106-93-4	Dibromoethane[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	106-93-4	Dibromoethane[1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	106-93-4	Dibromoethane[1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	106-93-4	Dibromoethane[1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	106-93-4	Dibromoethane[1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	106-93-4	Dibromoethane[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	106-93-4	Dibromoethane[1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	106-93-4	Dibromoethane[1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	106-93-4	Dibromoethane[1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	106-93-4	Dibromoethane[1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	74-95-3	Dibromomethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	74-95-3	Dibromomethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	74-95-3	Dibromomethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	74-95-3	Dibromomethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	74-95-3	Dibromomethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	74-95-3	Dibromomethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	74-95-3	Dibromomethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	74-95-3	Dibromomethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	74-95-3	Dibromomethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	74-95-3	Dibromomethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	74-95-3	Dibromomethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	74-95-3	Dibromomethane	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	74-95-3	Dibromomethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	74-95-3	Dibromomethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	74-95-3	Dibromomethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	74-95-3	Dibromomethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	74-95-3	Dibromomethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	74-95-3	Dibromomethane	U	N	3.81E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181363	WST-RCRA	74-95-3	Dibromomethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	74-95-3	Dibromomethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	74-95-3	Dibromomethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	74-95-3	Dibromomethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	74-95-3	Dibromomethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	74-95-3	Dibromomethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	95-50-1	Dichlorobenzene[1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	95-50-1	Dichlorobenzene[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	95-50-1	Dichlorobenzene[1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	95-50-1	Dichlorobenzene[1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	95-50-1	Dichlorobenzene[1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	95-50-1	Dichlorobenzene[1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	95-50-1	Dichlorobenzene[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	95-50-1	Dichlorobenzene[1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	95-50-1	Dichlorobenzene[1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	95-50-1	Dichlorobenzene[1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	95-50-1	Dichlorobenzene[1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	541-73-1	Dichlorobenzene[1,3-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	541-73-1	Dichlorobenzene[1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	541-73-1	Dichlorobenzene[1,3-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	541-73-1	Dichlorobenzene[1,3-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	541-73-1	Dichlorobenzene[1,3-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	541-73-1	Dichlorobenzene[1,3-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	541-73-1	Dichlorobenzene[1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	541-73-1	Dichlorobenzene[1,3-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	541-73-1	Dichlorobenzene[1,3-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	541-73-1	Dichlorobenzene[1,3-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.50E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181355	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	541-73-1	Dichlorobenzene[1,3-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	106-46-7	Dichlorobenzene[1,4-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	106-46-7	Dichlorobenzene[1,4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	106-46-7	Dichlorobenzene[1,4-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	106-46-7	Dichlorobenzene[1,4-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	106-46-7	Dichlorobenzene[1,4-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	106-46-7	Dichlorobenzene[1,4-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	106-46-7	Dichlorobenzene[1,4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	106-46-7	Dichlorobenzene[1,4-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	106-46-7	Dichlorobenzene[1,4-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	106-46-7	Dichlorobenzene[1,4-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	106-46-7	Dichlorobenzene[1,4-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-71-8	Dichlorodifluoromethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-71-8	Dichlorodifluoromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-71-8	Dichlorodifluoromethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-71-8	Dichlorodifluoromethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-71-8	Dichlorodifluoromethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-71-8	Dichlorodifluoromethane	U	N	3.22E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17678	16-7	75-71-8	Dichlorodifluoromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-71-8	Dichlorodifluoromethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	75-71-8	Dichlorodifluoromethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-71-8	Dichlorodifluoromethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-71-8	Dichlorodifluoromethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-34-3	Dichloroethane[1,1-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-34-3	Dichloroethane[1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-34-3	Dichloroethane[1,1-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-34-3	Dichloroethane[1,1-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-34-3	Dichloroethane[1,1-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-34-3	Dichloroethane[1,1-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	75-34-3	Dichloroethane[1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-34-3	Dichloroethane[1,1-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	75-34-3	Dichloroethane[1,1-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-34-3	Dichloroethane[1,1-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-34-3	Dichloroethane[1,1-]	U	N	3.73E-04	ND	08/06/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17672	16-1	107-06-2	Dichloroethane[1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	107-06-2	Dichloroethane[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	107-06-2	Dichloroethane[1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	107-06-2	Dichloroethane[1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	107-06-2	Dichloroethane[1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	107-06-2	Dichloroethane[1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	107-06-2	Dichloroethane[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	107-06-2	Dichloroethane[1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	107-06-2	Dichloroethane[1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	107-06-2	Dichloroethane[1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	107-06-2	Dichloroethane[1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-35-4	Dichloroethene[1,1-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-35-4	Dichloroethene[1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-35-4	Dichloroethene[1,1-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-35-4	Dichloroethene[1,1-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-35-4	Dichloroethene[1,1-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-35-4	Dichloroethene[1,1-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	75-35-4	Dichloroethene[1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-35-4	Dichloroethene[1,1-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	75-35-4	Dichloroethene[1,1-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-35-4	Dichloroethene[1,1-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.81E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181363	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-35-4	Dichloroethene[1,1-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	156-59-2	Dichloroethene[cis-1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.50E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181355	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	156-60-5	Dichloroethene[trans-1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	78-87-5	Dichloropropane[1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	78-87-5	Dichloropropane[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	78-87-5	Dichloropropane[1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	78-87-5	Dichloropropane[1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	78-87-5	Dichloropropane[1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	78-87-5	Dichloropropane[1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	78-87-5	Dichloropropane[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	78-87-5	Dichloropropane[1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	78-87-5	Dichloropropane[1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	78-87-5	Dichloropropane[1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	78-87-5	Dichloropropane[1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	142-28-9	Dichloropropane[1,3-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	142-28-9	Dichloropropane[1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	142-28-9	Dichloropropane[1,3-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	142-28-9	Dichloropropane[1,3-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	142-28-9	Dichloropropane[1,3-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	142-28-9	Dichloropropane[1,3-]	U	N	3.22E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17678	16-7	142-28-9	Dichloropropane[1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	142-28-9	Dichloropropane[1,3-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	142-28-9	Dichloropropane[1,3-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	142-28-9	Dichloropropane[1,3-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	142-28-9	Dichloropropane[1,3-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	594-20-7	Dichloropropane[2,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	594-20-7	Dichloropropane[2,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	594-20-7	Dichloropropane[2,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	594-20-7	Dichloropropane[2,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	594-20-7	Dichloropropane[2,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	594-20-7	Dichloropropane[2,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	594-20-7	Dichloropropane[2,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	594-20-7	Dichloropropane[2,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	594-20-7	Dichloropropane[2,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	594-20-7	Dichloropropane[2,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	594-20-7	Dichloropropane[2,2-]	U	N	3.73E-04	ND	08/06/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17672	16-1	563-58-6	Dichloropropene[1,1-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	563-58-6	Dichloropropene[1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	563-58-6	Dichloropropene[1,1-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	563-58-6	Dichloropropene[1,1-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	563-58-6	Dichloropropene[1,1-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	563-58-6	Dichloropropene[1,1-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	563-58-6	Dichloropropene[1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	563-58-6	Dichloropropene[1,1-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	563-58-6	Dichloropropene[1,1-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	563-58-6	Dichloropropene[1,1-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	563-58-6	Dichloropropene[1,1-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.81E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181363	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	10061-01-5	Dichloropropene[cis-1,3-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	10061-02-6	Dichloropropene[trans-1,3-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	100-41-4	Ethylbenzene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	100-41-4	Ethylbenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	100-41-4	Ethylbenzene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	100-41-4	Ethylbenzene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	100-41-4	Ethylbenzene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	100-41-4	Ethylbenzene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	100-41-4	Ethylbenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	100-41-4	Ethylbenzene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	100-41-4	Ethylbenzene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	100-41-4	Ethylbenzene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.50E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181355	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	100-41-4	Ethylbenzene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	100-41-4	Ethylbenzene	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	591-78-6	Hexanone[2-]	U	N	1.56E-03	ND	8/13/2012
RE16-12-17673	16-2	591-78-6	Hexanone[2-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17674	16-3	591-78-6	Hexanone[2-]	U	N	1.62E-03	ND	8/13/2012
RE16-12-17675	16-4	591-78-6	Hexanone[2-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17676	16-5	591-78-6	Hexanone[2-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17677	16-6	591-78-6	Hexanone[2-]	U	N	1.61E-03	ND	8/13/2012
RE16-12-17678	16-7	591-78-6	Hexanone[2-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17679	16-8	591-78-6	Hexanone[2-]	U	N	1.57E-03	ND	8/13/2012
RE16-12-17680	16-9	591-78-6	Hexanone[2-]	U	N	1.59E-03	ND	8/13/2012
RE16-12-17681	16-10	591-78-6	Hexanone[2-]	U	N	1.59E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181358	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.70E-03	ND	05/07/2019
WST16-19-181359	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.91E-03	ND	05/07/2019
WST16-19-181363	WST-RCRA	591-78-6	Hexanone[2-]	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	591-78-6	Hexanone[2-]	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	74-88-4	Iodomethane	U	N	1.56E-03	ND	8/13/2012
RE16-12-17673	16-2	74-88-4	Iodomethane	U	N	1.55E-03	ND	8/13/2012
RE16-12-17674	16-3	74-88-4	Iodomethane	U	N	1.62E-03	ND	8/13/2012
RE16-12-17675	16-4	74-88-4	Iodomethane	U	N	1.53E-03	ND	8/13/2012
RE16-12-17676	16-5	74-88-4	Iodomethane	U	N	1.53E-03	ND	8/13/2012
RE16-12-17677	16-6	74-88-4	Iodomethane	U	N	1.61E-03	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17678	16-7	74-88-4	Iodomethane	U	N	1.55E-03	ND	8/13/2012
RE16-12-17679	16-8	74-88-4	Iodomethane	U	N	1.57E-03	ND	8/13/2012
RE16-12-17680	16-9	74-88-4	Iodomethane	U	N	1.59E-03	ND	8/13/2012
RE16-12-17681	16-10	74-88-4	Iodomethane	U	N	1.59E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	74-88-4	Iodomethane	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	74-88-4	Iodomethane	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	74-88-4	Iodomethane	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	74-88-4	Iodomethane	U	N	1.69E-03	ND	05/07/2019
WST16-19-181358	WST-RCRA	74-88-4	Iodomethane	U	N	1.70E-03	ND	05/07/2019
WST16-19-181359	WST-RCRA	74-88-4	Iodomethane	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	74-88-4	Iodomethane	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	74-88-4	Iodomethane	U	N	1.91E-03	ND	05/07/2019
WST16-19-181363	WST-RCRA	74-88-4	Iodomethane	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	74-88-4	Iodomethane	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	74-88-4	Iodomethane	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	74-88-4	Iodomethane	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	74-88-4	Iodomethane	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	74-88-4	Iodomethane	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	98-82-8	Isopropylbenzene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	98-82-8	Isopropylbenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	98-82-8	Isopropylbenzene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	98-82-8	Isopropylbenzene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	98-82-8	Isopropylbenzene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	98-82-8	Isopropylbenzene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	98-82-8	Isopropylbenzene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	98-82-8	Isopropylbenzene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	98-82-8	Isopropylbenzene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	98-82-8	Isopropylbenzene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	98-82-8	Isopropylbenzene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	98-82-8	Isopropylbenzene	U	N	3.73E-04	ND	08/06/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17672	16-1	99-87-6	Isopropyltoluene[4-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	99-87-6	Isopropyltoluene[4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	99-87-6	Isopropyltoluene[4-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	99-87-6	Isopropyltoluene[4-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	99-87-6	Isopropyltoluene[4-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	99-87-6	Isopropyltoluene[4-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	99-87-6	Isopropyltoluene[4-]	J	Y	3.10E-04	4.24E-04	8/13/2012
RE16-12-17679	16-8	99-87-6	Isopropyltoluene[4-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	99-87-6	Isopropyltoluene[4-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	99-87-6	Isopropyltoluene[4-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	99-87-6	Isopropyltoluene[4-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	99-87-6	Isopropyltoluene[4-]	J	Y	3.73E-04	1.05E-03	08/06/2019
RE16-12-17672	16-1	108-10-1	Methyl-2-pentanone[4-]	U	N	1.56E-03	ND	8/13/2012
RE16-12-17673	16-2	108-10-1	Methyl-2-pentanone[4-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17674	16-3	108-10-1	Methyl-2-pentanone[4-]	U	N	1.62E-03	ND	8/13/2012
RE16-12-17675	16-4	108-10-1	Methyl-2-pentanone[4-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17676	16-5	108-10-1	Methyl-2-pentanone[4-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17677	16-6	108-10-1	Methyl-2-pentanone[4-]	U	N	1.61E-03	ND	8/13/2012
RE16-12-17678	16-7	108-10-1	Methyl-2-pentanone[4-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17679	16-8	108-10-1	Methyl-2-pentanone[4-]	U	N	1.57E-03	ND	8/13/2012
RE16-12-17680	16-9	108-10-1	Methyl-2-pentanone[4-]	U	N	1.59E-03	ND	8/13/2012
RE16-12-17681	16-10	108-10-1	Methyl-2-pentanone[4-]	U	N	1.59E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181358	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.70E-03	ND	05/07/2019
WST16-19-181359	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.91E-03	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181363	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	108-10-1	Methyl-2-pentanone[4-]	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	75-09-2	Methylene Chloride	U	N	2.08E-03	ND	8/13/2012
RE16-12-17673	16-2	75-09-2	Methylene Chloride	U	N	2.07E-03	ND	8/13/2012
RE16-12-17674	16-3	75-09-2	Methylene Chloride	U	N	2.16E-03	ND	8/13/2012
RE16-12-17675	16-4	75-09-2	Methylene Chloride	U	N	2.04E-03	ND	8/13/2012
RE16-12-17676	16-5	75-09-2	Methylene Chloride	U	N	2.04E-03	ND	8/13/2012
RE16-12-17677	16-6	75-09-2	Methylene Chloride	U	N	2.14E-03	ND	8/13/2012
RE16-12-17678	16-7	75-09-2	Methylene Chloride	U	N	2.07E-03	ND	8/13/2012
RE16-12-17679	16-8	75-09-2	Methylene Chloride	U	N	2.09E-03	ND	8/13/2012
RE16-12-17680	16-9	75-09-2	Methylene Chloride	U	N	2.11E-03	ND	8/13/2012
RE16-12-17681	16-10	75-09-2	Methylene Chloride	U	N	2.12E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-09-2	Methylene Chloride	J	Y	1.69E-03	2.62E-03	05/07/2019
WST16-19-181358	WST-RCRA	75-09-2	Methylene Chloride	J	Y	1.70E-03	4.73E-03	05/07/2019
WST16-19-181359	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.91E-03	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-09-2	Methylene Chloride	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-09-2	Methylene Chloride	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	103-65-1	Propylbenzene[1-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	103-65-1	Propylbenzene[1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	103-65-1	Propylbenzene[1-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	103-65-1	Propylbenzene[1-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	103-65-1	Propylbenzene[1-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	103-65-1	Propylbenzene[1-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	103-65-1	Propylbenzene[1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	103-65-1	Propylbenzene[1-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	103-65-1	Propylbenzene[1-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	103-65-1	Propylbenzene[1-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.50E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181355	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	103-65-1	Propylbenzene[1-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	100-42-5	Styrene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	100-42-5	Styrene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	100-42-5	Styrene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	100-42-5	Styrene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	100-42-5	Styrene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	100-42-5	Styrene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	100-42-5	Styrene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	100-42-5	Styrene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	100-42-5	Styrene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	100-42-5	Styrene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	100-42-5	Styrene	BJ	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	100-42-5	Styrene	BJ	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	100-42-5	Styrene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	100-42-5	Styrene	BJ	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	100-42-5	Styrene	BJ	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	100-42-5	Styrene	BJ	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	100-42-5	Styrene	BJ	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	100-42-5	Styrene	BJ	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	100-42-5	Styrene	BJ	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	100-42-5	Styrene	BJ	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	100-42-5	Styrene	BJ	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	100-42-5	Styrene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	100-42-5	Styrene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	100-42-5	Styrene	U	N	3.73E-04	ND	08/06/2019
WST16-19-181353	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181353	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181354	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181354	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181355	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181355	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181357	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181357	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181358	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181358	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181359	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181359	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181361	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181361	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181362	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181362	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181363	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181363	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181364	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181364	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181365	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181365	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181366	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181366	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181367	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181367	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-181368	WST-RCRA	TEMP	Temperature		Y	0.00E+00	4.00E-06	05/07/2019
WST16-19-181368	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	05/07/2019
WST16-19-184748	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-19-184749	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-19-184750	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-19-184751	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-19-184752	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-19-184753	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-19-184757	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-19-184758	WST-RCRA	TEMP	Temperature		Y	0.00E+00	3.00E-06	08/06/2019
WST16-20-191427	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191428	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191429	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191430	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191431	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191432	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191433	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191434	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191435	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
WST16-20-191735	WST-RCRA	TEMP	Temperature		Y	0.00E+00	2.00E-06	12/04/2019
RE16-12-17672	16-1	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.10E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17674	16-3	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	630-20-6	Tetrachloroethane[1,1,1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.59E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181365	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	79-34-5	Tetrachloroethane[1,1,2,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	127-18-4	Tetrachloroethene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	127-18-4	Tetrachloroethene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	127-18-4	Tetrachloroethene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	127-18-4	Tetrachloroethene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	127-18-4	Tetrachloroethene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	127-18-4	Tetrachloroethene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	127-18-4	Tetrachloroethene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	127-18-4	Tetrachloroethene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	127-18-4	Tetrachloroethene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	127-18-4	Tetrachloroethene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	127-18-4	Tetrachloroethene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	127-18-4	Tetrachloroethene	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	108-88-3	Toluene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	108-88-3	Toluene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	108-88-3	Toluene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	108-88-3	Toluene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	108-88-3	Toluene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	108-88-3	Toluene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	108-88-3	Toluene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	108-88-3	Toluene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	108-88-3	Toluene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	108-88-3	Toluene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	108-88-3	Toluene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	108-88-3	Toluene	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	108-88-3	Toluene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	108-88-3	Toluene	U	N	3.38E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181358	WST-RCRA	108-88-3	Toluene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	108-88-3	Toluene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	108-88-3	Toluene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	108-88-3	Toluene	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	108-88-3	Toluene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	108-88-3	Toluene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	108-88-3	Toluene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	108-88-3	Toluene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	108-88-3	Toluene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	108-88-3	Toluene	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.56E-03	ND	8/13/2012
RE16-12-17673	16-2	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17674	16-3	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.62E-03	ND	8/13/2012
RE16-12-17675	16-4	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17676	16-5	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.53E-03	ND	8/13/2012
RE16-12-17677	16-6	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.61E-03	ND	8/13/2012
RE16-12-17678	16-7	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.55E-03	ND	8/13/2012
RE16-12-17679	16-8	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.57E-03	ND	8/13/2012
RE16-12-17680	16-9	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.59E-03	ND	8/13/2012
RE16-12-17681	16-10	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.59E-03	ND	8/13/2012
WST16-19-181353	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.73E-03	ND	05/07/2019
WST16-19-181354	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.75E-03	ND	05/07/2019
WST16-19-181355	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181357	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181358	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.70E-03	ND	05/07/2019
WST16-19-181359	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-181361	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.69E-03	ND	05/07/2019
WST16-19-181362	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.91E-03	ND	05/07/2019
WST16-19-181363	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	2.04E-03	ND	05/07/2019
WST16-19-181364	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.80E-03	ND	05/07/2019
WST16-19-181365	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.93E-03	ND	05/07/2019
WST16-19-184748	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.78E-03	ND	08/06/2019
WST16-19-184750	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.90E-03	ND	08/06/2019
WST16-19-184751	WST-RCRA	76-13-1	Trichloro-1,2,2-trifluoroethane[1,1,2-]	U	N	1.87E-03	ND	08/06/2019
RE16-12-17672	16-1	71-55-6	Trichloroethane[1,1,1-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	71-55-6	Trichloroethane[1,1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	71-55-6	Trichloroethane[1,1,1-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	71-55-6	Trichloroethane[1,1,1-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	71-55-6	Trichloroethane[1,1,1-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	71-55-6	Trichloroethane[1,1,1-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	71-55-6	Trichloroethane[1,1,1-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	71-55-6	Trichloroethane[1,1,1-]	U	N	3.13E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17680	16-9	71-55-6	Trichloroethane[1,1,1-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	71-55-6	Trichloroethane[1,1,1-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	71-55-6	Trichloroethane[1,1,1-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	79-00-5	Trichloroethane[1,1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	79-00-5	Trichloroethane[1,1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	79-00-5	Trichloroethane[1,1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	79-00-5	Trichloroethane[1,1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	79-00-5	Trichloroethane[1,1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	79-00-5	Trichloroethane[1,1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	79-00-5	Trichloroethane[1,1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	79-00-5	Trichloroethane[1,1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	79-00-5	Trichloroethane[1,1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	79-00-5	Trichloroethane[1,1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	79-00-5	Trichloroethane[1,1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	79-01-6	Trichloroethene	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	79-01-6	Trichloroethene	U	N	3.10E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17674	16-3	79-01-6	Trichloroethene	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	79-01-6	Trichloroethene	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	79-01-6	Trichloroethene	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	79-01-6	Trichloroethene	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	79-01-6	Trichloroethene	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	79-01-6	Trichloroethene	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	79-01-6	Trichloroethene	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	79-01-6	Trichloroethene	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	79-01-6	Trichloroethene	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	79-01-6	Trichloroethene	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	79-01-6	Trichloroethene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	79-01-6	Trichloroethene	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	79-01-6	Trichloroethene	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	79-01-6	Trichloroethene	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	79-01-6	Trichloroethene	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	79-01-6	Trichloroethene	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	79-01-6	Trichloroethene	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	79-01-6	Trichloroethene	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	79-01-6	Trichloroethene	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	79-01-6	Trichloroethene	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	79-01-6	Trichloroethene	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	79-01-6	Trichloroethene	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-69-4	Trichlorofluoromethane	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-69-4	Trichlorofluoromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-69-4	Trichlorofluoromethane	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-69-4	Trichlorofluoromethane	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-69-4	Trichlorofluoromethane	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-69-4	Trichlorofluoromethane	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	75-69-4	Trichlorofluoromethane	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-69-4	Trichlorofluoromethane	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	75-69-4	Trichlorofluoromethane	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-69-4	Trichlorofluoromethane	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.59E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181365	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-69-4	Trichlorofluoromethane	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	96-18-4	Trichloropropane[1,2,3-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	96-18-4	Trichloropropane[1,2,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	96-18-4	Trichloropropane[1,2,3-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	96-18-4	Trichloropropane[1,2,3-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	96-18-4	Trichloropropane[1,2,3-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	96-18-4	Trichloropropane[1,2,3-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	96-18-4	Trichloropropane[1,2,3-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	96-18-4	Trichloropropane[1,2,3-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	96-18-4	Trichloropropane[1,2,3-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	96-18-4	Trichloropropane[1,2,3-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	96-18-4	Trichloropropane[1,2,3-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.38E-04	ND	05/07/2019

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
WST16-19-181358	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	95-63-6	Trimethylbenzene[1,2,4-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	108-67-8	Trimethylbenzene[1,3,5-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	75-01-4	Vinyl Chloride	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	75-01-4	Vinyl Chloride	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	75-01-4	Vinyl Chloride	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	75-01-4	Vinyl Chloride	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	75-01-4	Vinyl Chloride	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	75-01-4	Vinyl Chloride	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	75-01-4	Vinyl Chloride	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	75-01-4	Vinyl Chloride	U	N	3.13E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17680	16-9	75-01-4	Vinyl Chloride	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	75-01-4	Vinyl Chloride	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	75-01-4	Vinyl Chloride	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	75-01-4	Vinyl Chloride	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	95-47-6	Xylene[1,2-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	95-47-6	Xylene[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17674	16-3	95-47-6	Xylene[1,2-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	95-47-6	Xylene[1,2-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	95-47-6	Xylene[1,2-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	95-47-6	Xylene[1,2-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	95-47-6	Xylene[1,2-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	95-47-6	Xylene[1,2-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	95-47-6	Xylene[1,2-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	95-47-6	Xylene[1,2-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.45E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.50E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.38E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.40E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.85E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.37E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.81E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	4.07E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.59E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.86E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.55E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.80E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	95-47-6	Xylene[1,2-]	U	N	3.73E-04	ND	08/06/2019
RE16-12-17672	16-1	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.12E-04	ND	8/13/2012
RE16-12-17673	16-2	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.10E-04	ND	8/13/2012

Sample ID	Location ID	CAS NO.	Parameter name	Qual	Detected	MDL Use (mg/kg)	Result Use (mg/kg)	Date
RE16-12-17674	16-3	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.25E-04	ND	8/13/2012
RE16-12-17675	16-4	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.06E-04	ND	8/13/2012
RE16-12-17676	16-5	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.05E-04	ND	8/13/2012
RE16-12-17677	16-6	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.22E-04	ND	8/13/2012
RE16-12-17678	16-7	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.10E-04	ND	8/13/2012
RE16-12-17679	16-8	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.13E-04	ND	8/13/2012
RE16-12-17680	16-9	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.17E-04	ND	8/13/2012
RE16-12-17681	16-10	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	3.19E-04	ND	8/13/2012
WST16-19-181353	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	6.91E-04	ND	05/07/2019
WST16-19-181354	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.01E-04	ND	05/07/2019
WST16-19-181355	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	6.76E-04	ND	05/07/2019
WST16-19-181357	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	6.77E-04	ND	05/07/2019
WST16-19-181358	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	6.81E-04	ND	05/07/2019
WST16-19-181359	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.71E-04	ND	05/07/2019
WST16-19-181361	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	6.76E-04	ND	05/07/2019
WST16-19-181362	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.64E-04	ND	05/07/2019
WST16-19-181363	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	8.14E-04	ND	05/07/2019
WST16-19-181364	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.19E-04	ND	05/07/2019
WST16-19-181365	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.73E-04	ND	05/07/2019
WST16-19-184748	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.11E-04	ND	08/06/2019
WST16-19-184750	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.62E-04	ND	08/06/2019
WST16-19-184751	WST-RCRA	Xylene[m+p]	Xylene[1,3-]+Xylene[1,4-]	U	N	7.47E-04	ND	08/06/2019

Attachment 4

Crosswalk of Changes to Technical Area 16-399 Burn Tray Human Health and Ecological Risk-Screening Assessments

Crosswalk of Changes to Technical Area 16-399 Burn Tray Human Health and Ecological Risk-Screening Assessments

NMED Comment	Section(s) within Revision 1.0	Summary of Changes
General Comments		
1	Throughout document	The revised Risk Assessment has been significantly updated to include sample analysis data from 2009, 2012, 2013, 2019, and 2020. All available data surrounding the unit at Technical Area 16-339 Burn Tray were included in a revised analysis within the revised Risk Assessment and then a refined analysis was conducted within the Solid Waste Management Unit (SWMU) boundary.
2	Throughout document	The revised Risk Assessment has been significantly updated to further assess the potential for risk to human health and ecological receptors. The refined analyses detail the modeled risk at the site, mitigating factors present at the site, and the limits to the potential for additional mitigations or clean-up options at the site.
3 a.-e.	Throughout Section 2.0, Human Health Risk Assessment and relevant subsections	The human health risk portion of the revised Risk Assessment was updated to incorporate guidance received from the New Mexico Environment Department- Hazardous Waste Bureau (NMED-HWB) during a virtual meeting held December 23, 2020. Evaluations for carcinogens, noncarcinogens, and lead have been re-evaluated to ensure they are calculated in accordance with the most recent guidance.
4	Throughout Section 3.0, Ecological Screening Assessment and relevant subsections	The ecological screening assessment portion of the revised Risk Assessment was updated to incorporate the most recent guidance provided by the NMED-HWB. Appropriate subsections updated within Section 3.0, namely, Section 3.3, Screening Evaluation.
5	Throughout document	The revised Risk Assessment has been updated to remove analytical data for the location from which the soil was excavated, and include the analytical data associated with samples collected after the soil excavation activities were conducted. This provides assessments for human health and ecological risk that include the most relevant data for the site.

NMED Comment	Section(s) within Revision 1.0	Summary of Changes
6	Throughout Section 2.0, Human Health Risk Assessment; relevant subsections; and Tables 2-1, 2-4, 2-7, 2-9, 2-10, 2-13, 2-15, and 2-17	The revised Risk Assessment has been updated to include industrial and construction worker potential risks.
7	No revisions	The information provided in the response to comments document included in Enclosure 1 of this submittal details information regarding tetryl non detected results at the site over the last several years.
Specific Comments		
1	Section 2.3.2, MDLs in Excess of NMSSLs	The revised Risk Assessment expands on the discussion in this section regarding semi-volatile organic compounds that include analytical results for which the minimum detection limits are above the New Mexico soil screening levels. A careful assessment as to why the constituent should not be expected to be present at the site is included in the revised Section 2.3.2.
2a.	Section 1.1, Conceptual Site Model	Discussion within this section has been revised to include the size of the site and the potential for large grazing animals to be present at the site.
2b.	Throughout Section 2.0, Human Health Risk Assessment; relevant subsections; and Tables 2-1, 2-4, 2-7, 2-9, 2-10, 2-13, 2-15, and 2-17	The revised Risk Assessment has been updated to include potential risk to construction workers.
3a.	Sections 2.1.1, Comparison of Inorganic Analytes to Background, and 2.2.2, Comparison to Background	The revised Risk Assessment has been updated to incorporated NMED-HWB-provided guidance.

NMED Comment	**Section(s) within Revision 1.0**	**Summary of Changes**
3 b.-d.	2.2.2, Comparison to Background	The revised Risk Assessment has been updated to remove the text as referenced within these NMED comments, as the statements are no relevant to the revised analysis.
4a.	Section 2.1.4, Calculation of Hazard Index or Cumulative Cancer Risk	The section within the revised Risk Assessment has been updated to address the NMED comment and specifically explain the calculation for cumulative cancer risk.
4b.	Section 2.1.2, Comparison of Maximum EPCs to NMSSLs	The section within the revised Risk Assessment has been updated to indicate where duplicate samples are present; the higher concentration was included in the model.
4c.	Section 2.1.2, Comparison of Maximum EPCs to NMSSLs	The section within the revised Risk Assessment has been updated to be consistent with calculating cumulative risk.
4d.	Section 2.2, Screening Evaluation	The section and associated tables have been updated in the revised Risk Assessment to calculate a UCL95 value in accordance with the comment provided by NMED-HWB.
4e.	Section 2.2, Screening Evaluation	The typographical error within the section has been corrected within the section in the revised Risk Assessment.
4f.	Section 2.2.8, Migration to Groundwater	A section has been added to the revised Risk Assessment to address this comment from NMED-HWB.
5a.	Section 2.2.1, Data Analysis and Section 3.1, Introduction	These sections have been updated in the revised Risk Assessment to support why the datasets are appropriate to combine for all receptors.
5 b.-d.	Subsections of 2.2, Screening Evaluation	The consistency within these sections between referencing cancer and noncancer evaluations and the carryover of the appropriate COPCs have been resolved in accordance with the NMED Comments in the revised Risk Assessment.
6	Throughout document	The revised Risk Assessment has been significantly updated to further assess the potential for risk to human health and ecological receptors. The refined analyses detail, the modeled risk at the site, mitigating factors present at the site, and the limits to the potential for additional mitigations or clean-up options at the site.
7a.	Section 3.1, Introduction, and Section 3.3, Screening Evaluation	The ESLs were updated to include representative receptors based on the size of the unit within the revised Risk Assessment.

NMED Comment	Section(s) within Revision 1.0	Summary of Changes
7b.	Section 3.3, Screening Evaluations and Table 3-1	Evaluation of hazard quotients greater than 0.1 rather than 0.3 was incorporated into the revised Risk Assessment as required by the NMED-HWB.
8	Section 3.3, Screening Evaluation and Tables 3-3, 3-9, 3-11 and 3-15	The revised Risk Assessment has been updated to remove the no observed adverse effect level ecological screening assessment.
9	Section 3.3, Screening Evaluation and Tables 3-3, 3-9, 3-11 and 3-15	The revised Risk Assessment has been updated to remove the no observed adverse effect level ecological screening assessment.
10	Throughout document	The revised Risk Assessment has been updated to remove analytical data for the location from which the soil was excavated, and include the analytical data associate with samples collected after the soil excavation activities were conducted. This provides assessments for human health and ecological risk that include the most relevant data for the site.

Attachment 5

Technical Area 16-399 Burn Tray Human Health and Ecological Risk-Screening Assessments, Revision 1 with Red Editing Marks

TECHNICAL AREA 16-399 BURN TRAY
HUMAN HEALTH AND ECOLOGICAL RISK-SCREENING ASSESSMENTS
REVISION 1.0

February 26, 2021~~September 18, 2019~~

Prepared by:
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For:
Waste Management Programs
Environmental Protection and Compliance Division
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EXECUTIVE SUMMARY

The area around the open burn (OB) unit at Technical Area 16-399 (TA-16-399) Burn Tray (the Unit) within the Los Alamos National Laboratory (LANL) was sampled. Surface and subsurface soil and tuff samples were collected in May and August 2019~~.~~, and analyzed for inorganic and organic compounds. Historic data from 2009, 2012, and 2013 were also included. Samples located within the soil removal area are not included in the risk assessment; however, confirmation samples collected in December 2019 located at the bottom of the excavated area are included in the analysis. Data from these samples were used to conduct human health and ecological risk-screening assessments.

For the human health risk-screening assessment, residential and industrial exposure scenarios were evaluated by comparing the maximum exposure point concentration for each analyte to the New Mexico Environment Department (NMED) soil screening levels (NMSSLs). The following conclusions are made:

- Inorganics were compared to background values (BVs) and risk-based screening levels (SLs). Eight inorganics, antimony, barium, cadmium, calcium, copper, lead, selenium, silver, and zinc exceeded their respective BVs. There were no BVs for nitrate and perchlorate. Barium was the only inorganic that exceeded its BV and any risk-based SLs. All other inorganics above the BVs, including lead, were below NMSSLs.~~Seven inorganics exceeded background. Antimony, barium, calcium, copper, lead, selenium, sliver, and zinc exceeded background threshold values. No inorganics exceeded risk-based SLs. The screening level HIs for inorganics were less than 1~~.
- ~~O~~Detected organics were compared to risk-based SLs. There were ~~numerous~~ several organics detected, including some energetics and breakdown products, dioxin/furans, some semit-volatile aromatic hydrocarbons (SVOCs), and petroleum hydrocarbons.
- Dioxin/furans were the only detected organic analytes for which the maximum concentration based on all data collected within the 2 ac area exceeded the residential NMSSL. The industrial and construction worker NMSSLs were not exceeded for any organics.
- The cumulative cancer risk (CCR) for residential use based on the maximum detected values for the 2 acre sampled area was 7E-05. The CCR based on the maximum detected concentration was 1E-05 for industrial and 2E-06 for construction workers.
- The Hazard Index (HI) for residential use based on the maximum detected values for the 2 acre sampled area was 9. The HI based on maximum detected concentrations for the construction worker scenario was 4. The HI for the industrial worker was less than 1.
- ~~Dibenz(a,h)anthracene and RDX were the only detected analytes for which the maximum concentration exceeded its residential NMSSL. The industrial NMSSLs were not exceeded.~~
- ~~Dibenz(a,h)anthracene was detected in only one sample, precluding use of a~~ The upper 95th percent~~%~~ confidence limit (UCL95) was also used to estimate the refined exposure point concentration (EPC) in order to calculate the CCR and HI. CCR for residential use based on a UCL95 was 2E-05, largely due to dioxin/furans. The HI based on the UCL95 for the residential use scenario was 3, largely due to dioxin/furans. CCR for worker receptors was less than 1E-05. HIs based on UCL95 values used as the EPC were 1 or less for all workers~~as a test statistic. The median of the detected values and reporting limits was below residential and industrial NMSSLs. Only one sample exceeded the residential SL for dibenz(a,h)anthracene. This was surface soil sample WST16-19-181358, and it was a nondetected value. All other samples were below SLs, and no samples exceeded the industrial SL~~.

- Refined EPCs for the 2 acre area for three detected analytes exceeded migration to groundwater screening levels. These were 2,4-dinitrotoluene, RDX, and 2,4,6-trinitrotoluene.
- Based on this analysis, there is some potential human health risk for a hypothetical future resident due to potential exposure to dioxin/furans. Workers at the Unit are not potentially at risk to dioxin/furans or other detected constituents.
- Three sample locations contributed the greatest dioxin/furan risk. These were RE16-12-17681, WST16-13-29795, and WST16-13-29797, which are outside of the SWMU boundary and likely not in an area for which contamination from the Unit could have contributed.
- Migration to groundwater NMSSLs were exceeded, however, the site is deemed to be a low-priority source for its potential impact to groundwater~~The UCL95 for RDX (347 mg/kg) was four times higher than the cancer-based NMSSL. Only one sample exceeded the residential SL for RDX. This is surface soil sample WST16-19-181356, for which the concentration is 607 mg/kg. All other sample concentrations are less than the NMSSL for residential use of 83.1 mg/kg.~~
- ~~Based on this analysis there is some potential risk to human health due to potential exposure to RDX. However, this elevated potential risk is only for a hypothetical future resident. Workers at the Unit are not potentially at risk~~.

The analysis was repeated using data restricted to samples collected from within the Solid Waste Management Unit (SWMU) boundary. The smaller sample size and the focus on sampling from within the source area tends to increase the EPCs with the exception of the dioxin/furans, for which elevated concentrations were found outside the SWMU boundary. This suggests that these dioxin/furans may have been related to activities at other locations besides the Unit and are not increasing over time. The results showed no elevated cancer risk for residential use. No individual analytes had CRs above 1E-05, or hazard quotients (HQs) above 1, when the refined EPCs were applied. The HI based on refined EPCs was 2 for hypothetical future residents, and 1 or less for industrial or construction workers. Because residential use is not a foreseeable use in the near or distant future, there does not appear to be a significant risk to human health due to releases within the Unit. Migration to groundwater SLs were exceeded by barium, 2,4-dinitrotoluene, HMX, RDX, and TNT when only the data from within the SWMU boundary were considered.

Therefore, cancer risk is within the target risk level and the hazard level is only slightly higher than the target level documented in NMED guidance (2019) and should not pose an unacceptable risk to human health. Additionally, the Unit does not pose a source for potential soil-to-groundwater contamination, and all detected COPCs were present at concentrations less than residential soil screening levels for samples collected within the SWMU boundary. Although some migration to groundwater NMSSLs were exceeded, the site is deemed to be a low-priority source for its potential impact to groundwater. Lastly, the closure performance standard in the Closure Plan required achievement of residential clean-up levels to meet the clean closure requirements, and these performance standards are met for samples within the SWMU boundary.

Potential risk to ecological receptors was evaluated by analyzing different lines of evidence that were weighed to draw a conclusion regarding potential for adverse ecological effects. This included:

- Comparing maximum detected exposure point concentrations (EPC) to ~~minimum~~ no effect (NE) ecological screening levels (ESLs) to obtain no effect HQs ~~and low effect (LE) ecological screening levels (ESLs)~~
- Comparing upper 95th percentile confidence limit EPCs low effect (LE) ESLs to obtain low effect HQs ~~to minimum NE and LE ESLs~~

- Calculating hazard indices, which are the sum of the HQs
- Consideration of historic site-specific biological sampling
- Application of site-specific population area use factors (PAUF)
- Evaluating all the data from the general (2 ac) area and that from within the SWMU boundary separately

Maximum detected concentrations of several explosives (amino-2,6-dinitrotoluene[4-], HMX, PETN, RDX, TATB, TNT), benzoic acid, ~~dioxin/furans,~~ bis(2-ethylhexyl)phthalate, dioxin/furans, DRO, and some inorganics ~~metals~~ (i.e.,antimony, barium, cadmium, copper, lead, selenium, silver, and zinc) exceeded the NE ESLs with HQs above 0.1 for the 2 ac dataset. HIs based on maximum detected concentrations and the NE ESLs were above 1 for all receptors except the gray fox (*Urocyon cinereoargenteus*). ~~Maximum concentrations of the explosives RDX and TATB, bis(2-ethylhexyl)phthalate, and the metals barium and selenium exceeded the LE ESL. UCL95 concentrations also exceeded NE ESL and LE ESL values for many of these same constituents~~.

Refined EPCs based on the UCL95 concentrations for the 2 ac area exceeded LE ESL values for many of these same constituents. Barium, copper, lead, selenium, and zinc refined EPCs exceeded LE ESLs with HQs above 0.1. Refined EPCs for the explosives HMX, RDX, TATB, and TNT; bis(2-ethylhexyl)phthalate; and dioxin/furans resulted in HQs above 0.1. HIs were above 1 for all receptors except the American kestrel (*Falco sparverius*) modeled as a top carnivore, gray fox, and mountain cottontail (*Sylvilagus nuttallii*).

When exposure estimates were adjusted to account~~ed~~ for the species home range by application of the ~~population area use factor (~~PAUF~~)~~, barium ~~and selenium~~ exceeded LE ESLs for robin, plants, and earthworms, and selenium exceeded LE ESLs for plants and deer mouse (*Peromyscus maniculatus*), with HQs above 0.1. HMX, RDX, and TATB exceeded LE ESLs for earthworm only, and bis(2-ethylhexyl)phthalate exceeded LE ESLs for insectivorous and omnivorous birds as represented by the robin and the deer mouse. The dioxin/furans exceed LE ESLs for deer mouse and shrew (*Sorex monticolus*) with HQs above 0.1. Once exposure was adjusted with the PAUFs, HIs exceeded 1 for robin, deer mouse, shrew, earthworms, and plants. The HIs were 10 or less~~NE ESLs for plants and earthworms, RDX exceeded NE ESLs for earthworm only, and bis(2-ethylhexyl)phthalate exceeded NE ESLs for insectivorous and omnivorous birds as represented by the robin. Barium and RDX exceeded LE ESLs for earthworms, and barium also exceeded the LE ESL for plants. The dioxin/furans do not exceed any NE ESLs for mammals once area use factors are applied~~.

The small mammal tissue study indicated little uptake of dioxins/furans by small mammals at TA-16 as a whole, as well as little effect on mammal populations. ~~E~~For birds, eggs analyzed for inorganics had antimony and mercury concentrations above egg background, but mercury concentrations were below known toxic levels. Antimony was detected in one of four egg samples and half of the soil samples, and so concentrations do not appear widespread. Toxicity data for birds for antimony were not obtained. Population metrics for birds were not statistically significantly different from controls.

Based on the ~~May and August 2019~~ soil data~~-~~set, there is minimal risk to ecological receptors for exposure to soils identified as the result of this screening analysis. The HIs for nearly half the ecological receptors based on exposure adjusted with PAUFs, refined EPCs, and LE ESLs are less than 1. The HIs are low and well within the expected error for the analysis, for which barium and RDX are the major contributing contaminants of potential ecological concern (COPECs). Additionally, the area is generally kept free of much vegetation because of the nearby operating site that will be used for the foreseeable future~~some potential risk to ecological receptors for exposure to soils identified as the result of this~~

~~screening analysis. Barium and RDX exceed toxicity values for plants and invertebrates. Based on the weight of evidence, no effects have been observed for mammals and birds~~.

The analysis was repeated using data restricted to samples collected from within the SWMU boundary. The smaller sample size and the focus on sampling from within the source area tends to increase the EPCs with the exception of the dioxin/furans, for which elevated concentrations were found outside the SWMU boundary. This suggests that these dioxin/furans may have been related to activities at other locations besides the Unit. The HIs for nearly all ecological receptors based on refined EPCs, LE ESLs, and PAUFs are 1 or less than 1. The exceptions are for plants and earthworms, for which the HI is 20 and 4, respectively, and for the robin for which the HI is 2. These are low HIs and well within the expected error for the analysis, for which barium and bis(2-ethylhexyl)phthalate are the major contributing contaminants of potential ecological concern (COPECs).

Overall, the Unit does not pose an unacceptable risk to human health or ecological receptors, and it is recommended for clean closure in accordance with the Closure Plan, based on the closure performance standard (residential clean-up levels) outlined in the Closure Plan as well as the LANL Hazardous Waste Facility Permit.

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Attachments

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~~Attachment B. LANL Ecorisk Soil ESLS Database, March 2019~~

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Acronyms and Abbreviations

ac	acre
ANFO	Ammonium Nitrate-Fuel Oil
AUF	Area Use Factor
bgs	Below ground surface
BV	Background Value
COPC	Contaminant of Potential Concern
COPEC	Contaminant of Potential Ecological Concern
CCR	Cumulative Cancer Risk
DRO	Diesel Range Organics
EPC	Exposure Point Concentration
~~EPCmax~~	~~Maximum Exposure Point Concentration~~
ESL	Ecological Screening Level
GRO	Gasoline Range Organics
ha	Hectare
HE	High Explosive
HI	Hazard Index
HMX	Octahydro-1,3,5,7- Tetranitro-1,3,5,7- Tetrazocine
HQ	Hazard Quotient
HR	Home Range
LANL	Los Alamos National Laboratory
LD50	Lethal Dose for Half of the Population
LE	Low Effect
LOAEL	Lowest Observed Adverse Effect Level
MDL	Method Detection Limit
NE	No Effect
NMED	New Mexico Environment Department
NMSSL	New Mexico Soil Screening Levels
NOAEL	No Observed Adverse Effect Level
OB	Open Burn
PAUF	Population Area Use Factor
PETN	2,2-bis[(nitroxy)methyll-1,3-propanediol dinitrate
RDX	Cyclo-1,3,5-Trimethylene-2,4,6-Trinitramine
RfD	Reference Dose
RSL	USEPA Regional Screening Level
RSRL	Regional Statistical Reference Levels
~~SAP~~	~~Sampling and Analysis Plan~~
SF	Cancer Slope Factor
SL	Screening Level
SSLs	Soil Screening Levels
SVOC	Semi-Volatile Organic Chemical

SWMU	Solid Waste Management Unit
TA	Technical Area
TATB	Triamino Trinitrobenzene
TECi	Toxicity Equivalent Concentration for congener ***i***
TEF	Toxicity Equivalency Factor
TEQ	Toxicity Equivalent Quotient
TCDD	2,3,7,8-Tetrachlorodibenzo-p-dioxin
TNT	2,4,6-Trinitrotoluene
UCL95	95% Upper Confidence Limit On The Mean
VOC	Volatile Organic Chemical
WHO	World Health Organization
WOE	Weight of Evidence

1. INTRODUCTION

Technical Area -16 (TA-16) is located in the southwestern portion of LANL at the west end of the Pajarito Plateau near the foothills of the Jemez Mountains (Figure 1-1). The TA-16 Burn Ground consists of the TA-16-388 Flash Pad and the TA-16-399 Burn Tray~~.~~ co-located with several Solid Waste Management Units in the immediate area. Only the TA-16-399 Burn Tray (the Unit) is addressed by this risk assessment conducted in support of ~~the Closure Plan.~~*Final Action and Response to Comments Closure Plan for Technical Area 16-399 Open Burn Unit, Los Alamos National Laboratory, EPA ID #NM0890010515* (Closure Plan). The surface media at the TA-16 Burn Ground includes soil, debris, vegetation, and rocks. Only soil was sampled for this investigation. Sampling to identify potential contaminants was conducted in 2009, 2012, 2013, and May and August 2019.

The Unit is located in the northeast portion of TA-16. Elevation ranges from approximately 7,700 feet at the west end of the TA to approximately 6,800 feet at the lower east end. Topography varies from steep canyon walls to sloping mesa tops. The open burn (OB) units were managed by the high explosives (HE) engineering personnel ~~(Operators)~~ who were responsible for the safe treatment, storage, and handling of HE waste and HE contaminated wastes generated by the HE production facilities at LANL. The Unit ~~is~~was a 4-ft by 16-ft covered steel tray lined with firebricks and supported by 1.5-ft high legs on wheels with tracks. It ~~is on~~included a concrete pad with an electrical panel and is surrounded by a chain-link fence. The maximum treatment capacity of the Unit ~~is~~was 1000 pounds of waste per burn.

Sampling to identify potential contaminants was conducted in May and August~~,~~ 2019~~.~~ in accordance with the Closure Plan. Sampling from past activities in 2009, 2012, and 2013, as well as samples collected post soil excavation (December 2019) have been included in this revised assessment per direction by the New Mexico Environment Department- Hazardous Waste Bureau (NMED-HWB) in correspondence dated November 18, 2020. The Unit was used to treat a single waste stream by open burning to destroy the characteristic of reactivity (~~DOO3~~D003). The bulk of explosives in the waste stream were: octahydro-1,3,5,7- tetranitro-1,3,5,7- tetrazocine (HMX); cyclo-1,3,5-trimethylene-2,4,6-trinitramine (RDX): 2,2-bis[(nitroxy)methyll-1,3-propanediol dinitrate (PETN); 2,4,6-trinitrotoluene (TNT); and triamino trinitrobenzene (TATB). Additionally, mixtures of explosives including ammonium nitrate-fuel oil (ANFO), Composition B, Cyclotol, IMX-101, PBX 9404, PBX 9407, PBX 9501, PBX 9502, X0233, X0533, XTX 8003, XTX 8004, LX-02, LX-07, LX-10, and LX-14 were treated. Records of waste treated at the Unit from 1951 to1980 were not available, and therefore analysis of target analyte metals, nitrates, perchlorate, volatile organic chemicals (VOCs), semi volatile organic chemicals (SVOCs), diesel range organics (DRO), gasoline range organics (GRO), ~~kerosene,~~ dioxins/furans, and HE degradation products were added to the analytical suite ~~identified~~required by the Closure Plan. Samples collected in ~~Table~~ 2009, 2012, 2013, and 2020 were not analyzed for all parameters. The relevant analytical data for those sample collection events are included to support site characterization in evidence of meeting the closure performance standard within Section 4.1, *Closure Performance Standard* of the Closure Plan.

Human health and ecological risk-screening assessments were conducted using the ~~most recent~~soil samples mentioned above. NMED (2019) guidelines use 0 to 1 foot depth for industrial worker SL and 0 to 10 foot depth for residential and construction worker SLs. For ecological receptors, surface soil ~~data~~ is considered to be 0 to 1 foot for non-burrowing animals and shallow rooted plants, and 0 to 10 feet for burrowing animals and deep rooted plants. For this project, all soil samples were collected ~~in May 2019.~~from 0 to 1 foot below ground surface (bgs). This data set is representative of site conditions; however, it is a depth limited dataset representing exposure for all receptors. The results of the risk-screening assessments are presented in the following sections.

1.1. Conceptual Site Model

The primary land use is industrial because only authorized Laboratory workers currently have access to the area around the TA-16 Burn Ground. Laboratory workers are the primary human receptors, and the industrial scenario is the defining scenario for the human health risk-screening assessment (i.e., the scenario on which decisions are based). Because the site is located within the boundaries of an operational facility (TA-16), the reasonably foreseeable future land use will continue to be industrial. A Hypothetical Future Residential and a construction worker exposure ~~is~~are also assessed and provided for comparison purposes.

The release of contaminants from open burn operations has occurred for more than 50 years. Releases are transported primarily by wind, which rapidly disperses the material in ambient air. Most material is deposited close to the source(s) and concentrations decrease with distance from the source. Exposure to a site worker may occur through various surface soil contact pathways. Data for both surface and subsurface soil depths were combined for the human health risk assessment. The exposure interval for industrial workers is 0 to 1 foot below ground surface (bgs), and 0 to 10 feet bgs for residential use and construction workers. Since all data fall within 0 to 1 foot, the available data set was used for all receptors.

Potential exposure pathways are:

- Incidental ingestion of surface soil
- Inhalation of fugitive dust or volatiles emanating from surface soil
- Dermal contact with surface soil

The primary ecological exposure pathways are also based on direct or indirect contact with surface soils. These include root uptake, incidental ingestion of soil, and biotic uptake leading to food-web transport. Exposure of plants and soil invertebrates is not related to dietary pathways but is the result of direct contact with, and uptake from, the surrounding medium. For terrestrial wildlife, most exposure is through the oral pathway from the diet and incidental ingestion of soil (Sample et al. 1998). The dermal contact and inhalation pathways are not typically assessed quantitatively in ecological risk assessments, based on guidance indicating the ingestion route is most important to terrestrial animals (EPA 1997; EPA 2003). Dermal exposure to wildlife is mitigated by the fur or feathers covering the bodies of most vertebrates and the incidental consumption of soil during grooming is included in the direct soil ingestion estimates.

Respirable dust particles are most likely ingested rather than inhaled, and this pathway is negligible (EPA 1997; EPA 2003), while non-respirable dust is ingested and accounted for in incidental soil ingestion values for wildlife species (EPA 1993; EPA 2003). Therefore, the exposure pathways considered in the development of the ecological screening levels (ESLs) used in the risk-screening assessment capture the primary exposure for wildlife receptors, which are soil and dietary ingestion.

Grazing animals are not considered to be a potential pathway of exposure for human health. Per NMED (2019) cattle must be considered to determine if beef ingestion is a likely exposure pathway on sites greater than 2 acres in size. While the total area where all of the samples collected is approximately 2 acres, the fenced portion of the Unit is a total of approximately 9,000 square feet, which is about 0.26 acres (ac). This is equivalent to 0.1 hectare (ha). The slightly larger area within the SWMU boundary is 0.64 ac (0.26 ha). The fence provides some deterrence of animals into the area. The dominant land cover type around the unit is a ponderosa pine (*Pinus ponderosa*) forest with a shrub component of Gambel oak (*Quercus gambelii*) and mountain mahogany (*Cercocarpus montanus*). Large game animals are common in the forested areas around the Unit. Within the Unit, ground cover is primarily comprised of rocky or bare soil with plants dispersed irregularly. The plant species present are mostly early successional species, often non-native, that tend to do well in disturbed habitats, including cheatgrass (*Bromus tectorum*), rubber rabbitbrush (*Ericameria nauseosa*), broom snakeweed (*Gutierrezia sarothrae*) and common mullein (*Verbascum thapsus*). Large mammals lack adequate cover, forage, or water at the Unit and generally stay out of the area.

1.2. Risk Assessment Dataset

The risk assessment dataset contains current and historical data. Twelve surface soil samples including one duplicate were collected in May and August 2019 for a total of 11 grid points sampled. Soil samples were collected as grab samples (independent, discrete samples) from a depth of 0 to 2 inches below ground surface and 2 to 12 inches. Samples were analyzed for the following:

- Volatile Organic Compounds (VOCs)
- Semi-Volatile Organic Compounds (SVOCs)
- Total Metals
- Dioxins/Furans
- Perchlorate
- High Explosives and Degradation products
- Nitrates
- DRO and GRO

In addition, inorganics and dioxin/furan samples from 2009, as well as samples of inorganics and organics from 2012 and 2013 were included in the risk assessment dataset. Lastly, high explosives samples collected in 2020 from an area at the site where soil was excavated, to ensure removal of explosives contamination. There are 24 to 39 samples for most analytes in the overall sampled area. There are 19 to 21 samples for most analytes collected from within the SWMU boundary. Figure 1-1 shows a map of the site including all sampling locations from which data were obtained for use in the risk assessment. Figure 1-2 shows the soil excavation area and zooms in to the SWMU boundary at the site. Figures 1-3, 1-4, and 1-5 depict concentration maps for various constituents that are helpful to see spatially.

2. HUMAN HEALTH RISK ASSESSMENT

~~1.2.~~2.1. Identification of Chemicals of Potential Concern

~~1.2.1. Sampling~~

~~Twelve surface soil samples including one duplicate were collected in May 2019 for a total of 11 grid points sampled. Because some required analytes were not evaluated by the lab, additional effort was made in August to address missing analytes. Surface soil samples were collected as grab samples (independent, discrete samples) from a depth of 0 to 2 inches below ground surface. Four subsurface samples were collected from 2 to 12 inches. Each sample set was analyzed for the following:~~

- ~~Volatile Organic Compounds (VOCs)~~
- ~~Semi-Volatile Organic Compounds (SVOCs)~~

- ~~Total Metals~~
- ~~Dioxins/Furans~~
- ~~Perchlorate~~
- ~~High Explosives and Degradation products~~
- ~~Nitrates~~
- ~~Diesel range organics (DRO) and gas range organics (GRO) and kerosene~~

~~Figure 1-1 shows a map of the site including the current sampling locations from which data were obtained for use in the risk assessment.~~

~~1.2.2.~~2.1.1. Comparison of ~~Evaluation of~~ Inorganic Analytes to Background

Inorganic analytes are first compared to background values (BV) established for the site (LANL 1998). No further evaluation is necessary for analytes for which the maximum is less than the BV, and these data are not compared to NMED (2019) risk-based screening levels (NMSSLs).

Organic analytes are not compared to background values as a matter of standard practice, although there are naturally occurring sources of organic constituents

2.1.2. Comparison of Maximum EPCs to NMSSLs

Maximum concentrations of all detected analytes are compared to NMSSLs. Some organic analytes (2,4- and 2,6- dinitrotoluene, dinitrobenzenes) were evaluated by more than one method, resulting in an apparently higher sample count. The presence of duplicate samples also could provide one sample that is higher than the other. The maximum concentration regardless of the method was used as the maximum exposure point concentration (EPC), which is the environmental concentration to which the receptors are potentially exposed.

2.1.3. Surrogates

Where an NMSSL was not available, the USEPA Regional Screening Level (RSL) for residential soils was applied as an SL for residential use, and the RSL for industrial commercial soil was used as the SL for industrial and construction workers. Cancer-based RSLs were adjusted to a cancer risk (CR) level of 1E-05 by multiplying the RSL by 10; noncancer RSLs were based on a hazard quotient (HQ) of 1. If an RSL was also not available, a suitable surrogate is proposed if physicochemical data suggest identifying a suitable surrogate. Most of the surrogates are proposed for nondetected analytes in order to verify that method detection limits (MDLs) are suitable for performing risk assessment. Surrogates were obtained for the following analytes because NMSSLs were not available (Table 2-1); note that most of these are not detected, and the NMSSL is used to verify reporting limits are adequate:

- 2,4-Diamino-6-nitrotoluene – There is no NMSSL or RSL. Use o-nitrotoluene RSLs, which has both cancer and noncancer RSL values, and the lowest of the nitrotoluene isomer cancer RSLs.
- 2,6-Diamino-4-nitrotoluene – Use o-nitrotoluene RSLs, which has both cancer and noncancer RSL values, and the lowest of the nitrotoluene isomer cancer RSLs.
- 3,5-Dinitroaniline – There is no NMSSL. Use the amino-2,6-dinitrotoluene[4-] RSL as surrogate based on structural similarity.
- Acenaphthylene – There is no NMSSL or RSL. The NMSSLs for acenaphthene were used as a surrogate based on structural similarity.
- Amino-2,6-dinitrotoluene[4-] – There is no NMED NMSSL. The RSLs were used as a surrogate.
- Amino-4,6-dinitrotoluene[2-]– There is no NMED NMSSL. The RSLs were used as a surrogate.
- Aniline - There is no NMSSL. The RSLs were used as a surrogate.
- Azobenzene - There is no NMSSL. The RSLs were used as a surrogate.
- Benzo(g,h,i)perylene – There is no NMSSL or RSL. The NMSSLs for benzo(a)pyrene were used as a surrogate.
- Benzoic Acid - There is no NMSSL. RSLs were used as a surrogate.
- Benzyl Alcohol- There is no NMSSL. RSLs were used as a surrogate.
- Bis(2-chloroethoxy)methane- There is no NMSSL. RSLs were used as a surrogate.
- Bromobenzene - There is no NMSSL. RSLs were used as a surrogate.

- Bromochloromethane - There is no NMSSL. RSLs were used as a surrogate.
- Bromophenyl-phenylether[4-] – There is no NMSSL or RSL. The RSL for pentabromodiphenyl ether was used.
- Butylbenzene isomers – There are no NMSSLs. The RSLs are used as surrogates.
- Butylbenzylphthalate – There are no NMSSLs. The RSLs are used as surrogates.
- Chloro-3-methylphenol[4-]– There are no NMSSLs. The RSLs are used as surrogates.
- Chloroaniline[4-] – There are no NMSSLs. The RSLs are used as surrogates.
- Chlorophenyl-phenyl[4-] Ether– There is no NMSSL or RSL. No recommendation for a surrogate is made.
- Chlorotoluene[4-] – Use the NMSSLs for the o-chlorotoluene isomer because the RSLs for the two isomers are the same.
- Dibenzofuran – There are no NMSSLs. The RSLs are used as surrogates.
- Dichlorobenzene[1,3-] – There is no NMSSL or RSL. The NMSSLs for 1,4-dichlorobenzene were used as it may be the more toxic isomer considering it has cancer-based as well as noncancer-based endpoints.
- Dichloropropane[2,2-] – There is no NMSSL or RSL. The NMSSLs for 1,2-dichloropropane were used. The RSL is higher for 1,3 than 1,2 dichloropropane, and therefore this is considered conservative.
- Dichloropropane[1,3-] – There is no NMSSL. The NMSSLs for 1,2-dichloropropane were used.
- Dichloropropene[1,1-] – There is no NMSSL or RSL. The NMSSLs for 1,3-dichloropropene were used.
- Dichloropropene[cis-1,3-] – There is no NMSSL or RSL. The NMSSLs for 1,3-dichloropropene were used.
- Dichloropropene[trans-1,3-] – There is no NMSSL or RSL. The NMSSLs for 1,3-dichloropropene were used.
- Dimethyl phthalate– There is no NMSSL or RSL. The NMSSLs for diethyl phthalate were used.
- Dinitrobenzene[1,3-] – There are no NMSSLs. The RSLs are used as surrogates.
- Di-n-octylphthalate – There are no NMSSLs. The RSLs are used as surrogates.
- Diphenylamine – There are no NMSSLs. The RSLs are used as surrogates.
- Hexanone[2] – There are no NMSSLs. The RSLs are used as surrogates.
- Iodomethane – There is no NMSSL or RSL. No recommendation for a surrogate is made.
- 4-Isopropyltoluene – There is no NMSSL. The NMSSL values for toluene were used as a surrogate.
- Methylphenols – There are no NMSSLs for these compounds. The RSLs were applied for 2- and 4- methylphenol. The RSLs for 3-methylphenol were used for 3,4-methylphenol as most conservative option.
- Nitroanilines – There are no NMSSLs for these compounds. The RSLs were applied for 2- and 4-nitroaniline. The RSL for 4-nitroaniline was applied to 3-nitroaniline.
- Nitrophenols – There are no NMSSLs or RSLs for these compounds. The RSLs for phenol were applied for 2- and 4-nitrophenol.
- Nitroso-di-n-propylamine[N-] – There are no NMSSLs for these compounds. The RSLs were applied.

- PETN - There is no NMSSL for PETN. RSLs were used as a surrogate.
- Propylbenzene[1-] – There are no NMSSLs. The RSLs are used as surrogates.
- Pyridine– There are no NMSSLs. The RSLs are used as surrogates.
- 1,3,5-Trinitrobenzene – There is no NMSSL. RSLs for 1,3,5-trinitrobenzene were used as a surrogate.
- TATB – There is no NMSSL or RSL for TATB. RSLs for 1,3,5-trinitrobenzene were used as a surrogate because of structural similarity.
- Trimethylbenzenes – There are no NMSSLs. The RSLs are used as surrogates.
- Tris (o-cresyl) phosphate – There is no NMSSL or RSL. The RSL for tris(2-ethylhexyl)phosphate was applied as a similar structure without halogen substitutions.

2.1.4. Calculation of Hazard Index or Cumulative Cancer Risk

Noncancer HQs are calculated as follows using the NMSSL based on noncancer endpoints:

$$HQ = EPC/NMSSL$$

A Hazard Index (HI) was calculated by summing all of the HQs as follows:

$$HI = \sum HQ1, HQ2, \ldots$$

A CR was calculated as follows using the cancer-based NMSSL for each receptor and adjusting from a ratio to a cancer risk:

$$CR = \frac{EPC}{NMSSL} * 1 \times 10^{-5}$$

A Cumulative Cancer Risk (CCR) was calculated by summing the cancer risks for each detected analytes as follows:

$$CCR = \sum CR1, CR2, \ldots..$$

If the HI exceeded 1, or the CCR exceeded 1E-05, a 95% upper confidence level (UCL95) was calculated for all contaminants of potential concern (COPCs) with the USEPA ProUCL 5.1.002 software (EPA 2015). These UCL95 concentrations were then compared to the NMSSLs~~For analytes that the maximum exceeded the established background value (BV) but did not exceed risk-based SLs known as the New Mexico Soil Screening Levels (NMSSLs) (NMED 2019), no further evaluation is necessary. If the maximum exceeded the BV and one or more risk-based SLs as indicated by a ratio of the maximum to the SL being > 1, a 95% upper confidence level (UCL95) was calculated with the USEPA ProUCL 5.1.002 software (EPA 2015). This UCL95 was then compared to the SLs.~~

~~Where an NMSSL was not available, the USEPA Regional Screening Level (RSL) was used. If an RSL was also not available, a suitable surrogate is proposed if toxicity and physicochemical data are sufficient to allow identifying a suitable surrogate. The following inorganic analytes required surrogates:~~

~~Calcium, sodium, potassium, magnesium – these are generally regarded as safe, so unless they exceed background they are not evaluated further. There are no toxicity data available from NMED or USEPA for these analytes~~

~~Chromium (Cr) - the toxicity values based on NMED CrIII were used since NMED has no SLs for total Cr, and the site is unlikely to have significant CrVI since this form is usually associated with paints, pigments, and chrome electroplating~~

~~Mercury – the toxicity values for NMED mercuric salts was used for the SL as this is the form expected in arid soils~~

~~Evaluation of Organic Analytes~~

~~Some organic analytes (2,4- and 2,6- dinitrotoluene, dinitrobenzenes) were evaluated by more than one method, resulting in an apparently higher sample count The maximum concentration regardless of the method was used as the exposure point concentration (EPC), which is the environmental concentration to which the receptors are potentially exposed.~~

~~Organic analytes are not compared to background values as a matter of standard practice, although there are naturally occurring sources of organic constituents. Organics are compared to risk-based SLs. Where a SL was not available, a suitable surrogate is proposed. Surrogates were obtained for the following analytes:~~

~~Human Health~~

~~Acenapthylene – There are no NMSSLs or RSLs for this chemical. Napthalene toxicity values were used as a surrogate~~

~~Butylbenzylphthalate – There are no NMSSLs; EPA RSLs were used to represent cancer and noncancer health effects~~

~~TATB – There is no NMSSL or RSL for TATB. RSLs for 1,3,5-trinitrobenzene were used as a surrogate because of structural similarity~~

~~Total Petroleum Hydrocarbons Diesel Range Organics – the aliphatic medium range from EPA RSLs was used; there are no NMED values~~

~~1,2 and 1,4 Xylene [m,p-xylenes] - the toxicity values for m-xylene (1,3-xylene) were used as the basis of the screening levels as it is just slightly more conservative than using values for p-xylene (1,4-xylene)~~

~~Ecological~~

~~TATB - ESLs for 1,3,5-trinitrobenzene were used as a surrogate because of structural similarity.~~

~~Xylenes – the toxicity values for total xylenes were used to represent each of the fractions~~

~~Exposure Point Concentrations~~

~~A phased approach was used to establish the EPCs. Inorganics, but not organics, are compared to background.~~

~~For inorganics, the maximum value for each analyte observed in sample results was compared to the background value.~~

~~If the maximum value was lower than background, the analyte was not evaluated further and an EPC was not developed or used in the screening level risk assessment.~~

~~For organics and inorganics that exceeded background, the maximum value was used as the EPC in the screening level risk assessment~~.

~~2. HUMAN HEALTH RISK ASSESSMENT~~

~~2.1.~~2.2. SCREENING EVALUATION

For the initial screening evaluation step, for both organics and inorganics, the maximum detected value for each analyte was used as the EPC. This is conservative in that the EPC is compared to both the cancer and noncancer-based screening levels by dividing the maximum value by the screening level. ~~Analytes for which the maximum EPC (inclusive of duplicate sample results) was less than the lowest screening level are not evaluated further. This first step included use of reporting limits as the EPC if they exceeded detected values in order to avoid dropping contaminants from evaluation prematurely~~The cancer based ratio is converted to a cancer risk by multiplying by 1E-05.

In addition, reporting limits for nondetected analytes were evaluated in order to avoid dropping contaminants from the analysis prematurely. Matrix interference can lead to elevated MDLs in individual samples, whereas for some analytes with high toxicity, detection limits below NMSSLs cannot be readily attained.

In the NMED (2019) screening process, if the HI and CCR are below targets of 1 and 1E-05, then the evaluation into human health risks concludes that there is no elevated noncancer hazard or cancer risk. If the maximum ~~EPC~~HI or CCR exceeded ~~screening~~target levels of 1 or 1E-05, respectively, evaluation was continued with the ~~upper 95th percent confidence limit (~~UCL95~~)~~ used as the refined EPC for the comparison. For this step in the screening process, ~~duplicates were averaged~~the higher of the two values in the duplicate pair was used in the statistical calculation. There were more than 8 samples for every analyte; for most analytes there were 24 to 29 samples. If there were too few detected concentrations reported to allow calculation of a UCL95 (i.e., number of detections <~~6~~5), the median of all the detected data for the analyte ~~including the detected concentrations and the method detection limits (MDLs)~~ was used. This is consistent with NMED (2019) and EPA (2015) guidance ~~(2015)~~ that states that UCLs should not be calculated when the number of detections is low, and a more robust statistic, such as the median, should be applied. ~~All non-rejected data were used to calculate the UCL95 for the risk-screening assessments, where appropriate. All analytes for which all data are nondetected are not retained at this point.~~

Guidance from NMED (2019) was used to evaluate dioxin/furan concentrations. This guidance relies on the 2005 World Health Organization (WHO) toxicity equivalency factors (TEF) (Van den berg et al. 2006) approach. The TEFs are multiplied by the measured concentration to obtain a congener-specific product called the toxicity equivalent concentration (TECi), and the product for each TECi is summed for each sample location. This sum is referred to as the toxicity equivalent quotient (TEQ). The TEQ is divided by the NMED screening level for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) to obtain a risk ratio.

The toxicity of the various constituents analyzed in this investigation is incorporated into the screening levels. Screening levels are the abiotic media concentration at which toxic effects are not expected (i.e., a noncancer hazard quotient would equal 1, or a cancer risk would equal 1 x $10^{-\cancel{6}5}$), for a stated exposure scenario with default exposure parameters as defined by NMED (2019~~) or EPA (2019). ~~). Thus, when the concentration at the Unit is less than the screening levels, it is less than expected toxic levels.

The following sections present the human health risk-screening ~~assessments~~assessment for the Unit. The ~~EPCs are presented in Table 2-1.~~

~~The~~maximum EPC for each detected analyte was compared with the industrial ~~and residential~~worker, construction worker, and hypothetical future resident soil SLs. The ~~chemical SLs~~NMSSLs used in the evaluations were obtained from current NMED guidance (NMED 2019~~) or the EPA regional screening levels (RSLs) (EPA 2019) if an NMED value was not available. The EPA RSLs were multiplied by 10 to adjust them to a cancer risk level of 1x10^{-5}, consistent with the NMSSLs. The SSLs~~). The NMSSLs for carcinogens are equivalent to a 1 ×10^{-5} cancer risk, and for noncarcinogens the ~~SLs~~NMSSLs correlate to a ~~hazard quotient (~~HQ~~) of 1. The EPC was compared to the carcinogenic and noncarcinogenic SL for residents and industrial workers, and the hazard index (~~ of 1. The HI~~)~~ was calculated by summing the HQs (NMED 2019~~).~~), and the CCR was calculated by summing the CRs. Detected organic analytes ~~that exceeded the SLs~~ were considered ~~contaminants of potential concern (~~COPCs~~)~~. Any detected inorganic analyte that exceeded ~~both~~ background ~~and the SL~~ was also considered a COPC.

~~2.1.1.~~2.2.1. Data Analysis

Table 2-2~~1~~ presents summary statistics~~ for the 2019 data including the locations sampled in May and August 2019, with one duplicate at grid point 4~~. Maximum concentrations in the soil samples analyzed for inorganics were compared to the established soil BVs (LANL 1998) (Table 2-3~~1~~). Data for both surface and subsurface soil depths were combined for the human health risk assessment. The exposure interval for industrial workers is 0 to 1 foot bgs, and 0 to 10 feet bgs for hypothetical future residents and construction workers. Since all data fall within 0 to 1 foot, the available data set was used for all receptors.

2.2.1. Comparison to Background

~~*Inorganics*~~

The maximum detected result was used as the initial EPC (Table 2-3) and compared to background. Background values for the site are from the 1998 background report (LANL 1998), and soil screening levels are the NMSSLs (Table 2-1). There were no BVs for perchlorate or nitrate. The maximum concentration for the following inorganics exceeded BVs, and they were carried forward, in addition to retaining perchlorate and nitrate~~For inorganic analytes, no reporting limits exceeded SLs. The maximum detected result was used as the initial EPC (Table 2-1) and compared to background. Background values for the site are from the 1998 background report (LANL 1998), and soil screening levels are NMSSLs (Table 2-2) unless NMSSLs were unavailable and EPA values were used. The maximum concentration for the following inorganics exceeded BVs~~:

- Antimony
- Barium
- Cadmium
- Calcium
- Copper

- Lead
- Selenium
- Silver
- Zinc

2.2.2. Maximum EPC for Inorganics

None of the inorganics exceeded NMSSLs for the hypothetical future resident or industrial worker. Maximum concentrations of barium exceeded the noncancer NMSSL for the construction worker (Table 2-3). For inorganic analytes, no reporting limits exceeded NMSSLs.

2.2.3. Maximum EPC for Organics

Organics were detected in the surface soil samples (Table 2-2). These include energetics or explosives (e.g., HMX, RDX, TNT, PETN, and TATB) and TNT degradation products (e.g., 2,4-diamino-6-nitrotoluene and 2,6-diamino-4-nitrotoluene). SVOCs including anthracene and bis(2-ethylhexyl)phthalate were also detected (Table 2-2), as was total petroleum hydrocarbon DRO. No detected organics exceeded the NMSSLs for residents, industrial workers, or construction workers with the exception of dioxin/furans.

Some nondetected analytes had MDLs in excess of NMSSLs, including the following analytes:

- N-nitrosodimethylamine MDLs were consistently higher than the residential cancer NMSSLs.
- Nitroso-di-n-propylamine[N] had one MDL that was higher than the residential cancer-based NMSSL, but all other MDLs were adequate.
- Dibenzo(a,h)anthracene had one MDL that was higher than the residential cancer-based NMSSL, but all other MDLs were adequate.
- Bis(2-chloroethyl)ether exceeded cancer-based NMSSLs for the construction worker in one sample only. All other MDLs were adequate.

Analytes exceeding MDLs are further addressed in the Uncertainty Analysis.

2.2.4. Results Based on Maximum Exposure Point Concentrations

The CCR based on the maximum detected value for residents was 7E-05, higher than the target level of 1E-05 (Table 2-4). Dioxin/furan maximum concentrations were higher than the NMSSL for residential use.

The HI based on the maximum EPC for residents was 9 (Table 2-4). The HI based on the maximum EPC for the construction worker was 4. Industrial worker HI estimates were below target levels of 1. The results indicate that refining the EPCs is the appropriate next step.

The evaluation of the dioxin/furans is summarized in Tables 2-5 through 2-7. The TEFs for human health are reported in Table 2-5. The measured concentration or the MDL is shown for each congener in each sample (Table 2-6). The detection status is indicated by a zero for nondetects, and a 1 for a detected value. The TEFs are multiplied by the concentration which produces the TECi. Nondetects were not used to calculate the TECi. Summing the TECi yields the TEQ (Table 2-6). Dividing the TEQ for each sample by the NMSSL for 2,3,7,8 TCDD, shown in Table 2-1, produces a CR or noncancer HQ (Table 2-7). Dioxin/furans were the only organics that exceeded risk-based screening-levels (Table 2-7). The TEQ results are also shown in Table 2-4.

2.2.5. Results Based on Refined Exposure Point Concentrations

The initial risk analysis was based on comparison of the maximum detected value as the EPC. The refined EPCs based on the UCL95 are shown in Table 2-8. Appendix A presents the ProUCL output. A UCL was only calculated if there were 5 or more detected values (NMED 2019). The CCR based on the refined EPC and the NMSSL for residential use is 2E-05, and the HI is 3 (Table 2-9). The CCR and the HI for worker receptors are below the targets of 1E-05 and 1, respectively.

Dioxin/furans exceed the residential cancer and noncancer NMSSLs. There are three dioxin/furan samples that cause the EPC to exceed screening levels. These are RE16-12-17681, WST16-13-29795, and WST16-13-29797 (Table 2-7). This is addressed further in the Uncertainty Analysis by evaluating the data for samples only collected from within the SWMU boundary.

2.2.6. Lead

Lead is evaluated separately from other inorganics. The USEPA RSL for lead was used as the screening level (NMED 2019). The maximum lead concentration of 228 mg/kg was below the residential RSL of 400 mg/kg, and below the industrial RSL of 800 mg/kg (EPA 2020). Lead is not a COPC at the Unit.

2.2.7. Migration to Groundwater

The maximum detected value (Table 2-2) of each analyte was used as the EPC and divided by the Migration to Groundwater NMSSLs for a dilution attenuation factor (DAF) of 20 (Table 2-1). Maximum concentrations of barium, 2,4-dintrotoluene, HMX, RDX, and 2,4,6-trinitrotoluene exceeded the migration to groundwater SLs (Table 2-4).

The refined EPC based on UCL95 concentrations of 2,4-dinitrotoluene, RDX, and TNT also exceeded the NMSSL based on a DAF of 20 (Table 2-9). The highest ratio was 300 for RDX. All other ratios were below 5.

LANL has established a groundwater monitoring network to assess the quality of groundwater in the Los Alamos area. The monitoring network includes monitoring wells, water-supply wells, surface-water sampling stations, and springs located both inside and outside the LANL boundary. Three groundwater zones (alluvial, perched-intermediate, and regional groundwater) are monitored as part of the monitoring network. Sample locations, analytical suites, and sampling schedules for the monitoring network are identified in the LANL Interim Facility-Wide Groundwater Monitoring Plan (LANL 2020b) that is updated annually.

A hydrologic conceptual model for TA-16, including the area of the TA-16 Burn Ground, is presented in the TA-16 Well Network Evaluation and Recommendations (LANL 2012b). That document ranks different sources at TA-16 by their potential to impact groundwater. High- and moderate-ranking sources were characterized by significant hydrologic drivers, i.e., either large outfall volumes released to canyons or ponds located on mesa tops. Sources were also characterized in terms of the release of large inventories or high contaminant concentrations. Both of these conditions are necessary to consider an area to have a high or moderate impact to groundwater. The TA-16 Burn Ground area was ranked as a low-priority source for its potential to impact groundwater, because it lacks both a large contaminant inventory and a large volume of water to provide a hydrologic driving force for contaminant infiltration.

~~Perchlorate was not detected in any samples. Nitrate was detected but does not have a BV for comparison. Neither analyte exceeded NMSSLs (NMED 2019). None of the inorganics exceeded either the residential or industrial NMSSL (NMED 2019).~~

~~The cancer-based sum of the screening level risk ratios is called the Hazard Index (HI). The HI for the evaluation of maximum detected soil concentrations of inorganics above background was zero for residents and workers because no detected inorganics above background have cancer-based SLs (Table 2-2). The noncancer-based sum of the screening level risk ratios or HI for maximum detected soil concentrations of inorganics was 1 for residents, and 0.09 for workers.~~

~~Organics~~

~~Numerous organics were detected in the surface soil samples (Table 2-1). These include energetics or explosives (e.g., HMX, RDX, TNT, PETN, and TATB) and TNT degradation products (e.g., 2,4-diamino-6-nitrotoluene and 2,6-diamino-4-nitrotoluene). SVOCs including dibenz(a,h)anthracene, anthracene, and bis(2-ethylhexyl)phthalate were also detected (Table 2-1), as were DRO.~~

~~Dibenz(a,h)anthracene and RDX exceeded cancer-based NMSSLs, and RDX exceeded its noncancer-based NMSSL for residents (Table 2-2). No organics exceeded industrial screening-levels (Table 2-2). The cancer-based HI for the evaluation of maximum detected soil concentrations of organics was 10 for residents, and 2 for workers (Table 2-2). The noncancer-based HI for maximum detected soil concentrations of organics was 4 for residents, and 0.4 for workers.~~

~~Dioxins/furans were detected in the surface and subsurface soil samples (Table 2-1). The evaluation of the dioxin/furans is summarized in Table 2-3. The measured concentration or the MDL is shown for each congener in each sample. The detection status is indicated by a zero for nondetections, and a 1 for a detected value. The TEFs are shown for each congener; multiplying the TEF by the concentration produces the TECi. Summing the TECi yields the TEQ. Dividing the TEQ for each sample by the residential or industrial SL, also shown in Table 2-3, produces a ratio which for all samples was 1 or less. Therefore, the dioxins and furans do not exceed risk-based SLs.~~

~~Refined Exposure Point Concentrations~~

~~The initial risk analysis for all inorganic and organic analytes was based on comparison of the maximum detected value as the EPC. Dibenz(a,h)anthracene and RDX were the only detected analytes for which maxima exceeded SLs.~~

~~The highest concentration of dibenz(a,h)anthracene was a nondetected value of 0.305 mg/kg. The highest detected concentration was 0.0199 mg/kg, below the NMSSL of 0.15 mg/kg. A median value of 0.011 calculated from the detected data and the reporting limits was below the cancer-based NMSSL. Dibenz(a,h)anthracene does not appear to cause elevated human health risk and is not considered further.~~

~~Most of the risk for RDX is associated with surface soil sample WST16-19-181356. This sample has an RDX concentration of 607 mg/kg. All other sample concentrations of RDX are less than the residential NMSSL of 83.1 mg/kg.~~

~~UCL95 values were calculated for RDX for further evaluation in the screening level human health risk assessment, as summarized below. Detected data appear gamma distributed at 5% significance level, and the UCL is a gamma adjusted Kaplan-Meier (KM) UCL. The cancer-based ratio of the EPC to the SL based on the UCL95 for residents is 4; for workers the ratio is less than 1. Noncancer ratios are less than 1 for both receptors.~~

~~Parameter~~	~~Cancer Ratio~~		~~Noncancer Ratio~~	
	~~Residential~~	~~Industrial~~	~~Residential~~	~~Industrial~~

~~RDX UCL~~	~~347~~	~~347~~	~~347~~	~~347~~
~~RDX NMSSL~~	~~83.10~~	~~428~~	~~301~~	~~4890~~
~~EPC/SL Ratio~~	**4**	~~0.8~~	~~1~~	~~0.07~~

~~2.2.~~2.3. UNCERTAINTY ANALYSIS

The human health risk assessment has inherent uncertainties associated with data and data evaluation, exposure assessment, and the toxicity values on which the SLs are based. Each or all of these uncertainties may affect the assessment results, biasing the risk assessment results high or low.

~~2.2.1.~~2.3.1. Data and Data Analysis

Uncertainties in the data or its analysis may include errors in sampling, laboratory analysis, and data analysis. Data evaluation uncertainties are expected to have little effect on the assessment results because the data have undergone validation to minimize errors, and any errors are not expected to bias the results high or low. The J-flagged (estimated) qualification of detected concentrations of some organic COPCs does not affect the assessment by biasing results high or low, but can introduce some additional uncertainty in the result.

The use of the maximum and UCL95 as the EPC for each COPC is expected to bias risk estimates high, erring towards being conservative. Use of the maximum as the EPC overestimates exposure, as all other concentrations are below this value. Use of the UCL95 also results in an overestimation of risk since mean values are nearly always less than this value for typical contaminant distributions.

Data collected from outside of the SWMU boundary can act to dilute or decrease the EPC. This is because data from outside of the source area are expected to have lower concentrations. In addition, calculating statistics on a smaller sample size results in slightly higher UCL95s. When the dataset is restricted to samples collected from within the SWMU boundary, EPCs tended to be higher with the exception of the dioxin/furans, for which the highest samples fell outside of the SWMU. The risk results based on the samples from within the SWMU boundary are as follows (Table 2-11-17):

- The CCR based on the maximum detected value for residents was 1E-05, which meets the target level of 1E-05 set by NMED (Table 2-13). The CCR for industrial and construction workers is 3E-06 and 4E-07, respectively. The HI based on the maximum EPC for residents was 4 (Table 2-13). The HI based on the maximum EPC for the construction worker was 3. Industrial worker HI estimates were below target levels of 1.
- The CCR based on the refined EPC and the NMSSL for residential use is 1E-05, and the HI is 2 (Table 2-17). The CCR for industrial and construction worker receptors are below the target of 1E-05. The HI is less than or equal to 1 for the industrial and construction workers. All individual CR and HQ values for these receptors are less than targets of 1E-05 and 1.
- The maximum lead concentration for data within the SWMU boundary was the same as for the entire dataset. The maximum value of 228 mg/kg was below the residential RSL of 400 mg/kg (HQ of 0.6), and below the industrial RSL of 800 mg/kg (HQ of 0.3)

Maximum concentrations of barium, 2,4-dintrotoluene, HMX, RDX, and 2,4,6-trinitrotoluene exceeded the migration to groundwater SLs (Table 2-13). The refined EPC based on UCL95 concentrations of barium, 2,4-dintrotoluene, HMX, RDX, and TNT also exceeded the NMSSL based on a DAF of 20 (Table 2-17). The highest ratio was 300 for RDX, as for the full dataset. All other ratios were 4 or less, which is slightly lower than the full dataset. 2,4-dinitrotoluene was detected in one sample only and a refined EPC was not calculated.

2.3.2. MDLs in Excess of NMSSLs

The concern when MDLs are higher than NMSSLs is that the analyte is present below detection levels at concentrations that could produce risk. In general, project MDLs were satisfactory. The following nondetected analytes had MDLs in excess of NMSSLs for residents or worker receptors (Table 2-10):

- Bis(2-chloroethyl)ether – MDLs exceeded cancer-based NMSSLs for the construction worker in one sample only (WST16-19-181358); the cancer risk was 2E-05. All other MDLs were adequate relative to risk-based SLs. Although records from 1951 to 1980 are not available for the Unit, physicochemical data indicate that this analyte would not remain in the environment even if it existed at one time. Volatilization of this compound is expected to be slow but significant (ATSDR 2017), and half-life in water is 3.4 d. It is soluble in water and not expected to adsorb to soils. The half-life for degradation in soils is 16.7 day (0.042 d^{-1}), and after 48 days the rate increased to 8 days (0.086 d^{-1}), possibly due to microbial acclimation. It has been detected in soil in only 0.4% of Superfund sites (ATSDR 2017).

- Dibenzo(a,h)anthracene – One sample (WST16-19-181358) had an MDL that was higher than the residential cancer-based NMSSL; the cancer risk for this MDL was 2E-05. All other MDLs were adequate. It is unlikely that this analyte is present. Few other polynuclear aromatic hydrocarbons were detected. Similar compounds that were detected (i.e., anthracene) did not have detected values in excess of NMSSLs.

- N-nitrosodimethylamine – MDLs were consistently higher than the residential cancer NMSSL. Although records from 1951 to 1980 are not available for the Unit, physicochemical data indicate that this analyte would not remain in the environment even if it existed at one time. ATSDR (1989) states that this compound will not persist as it evaporates from soil, degrades on exposure to sunlight, or migrates into the subsurface, where it should breakdown within several months in subsurface soils. Degradation of NDMA at 21 °C had a half-life of 4.1 days for ground cover soil, 5.6 days for turfgrass soil, and 22.5 days for tree soil (Yang et al. 2005). These short half-lives indicate that under environmental conditions this analyte would not be expected to occur in the 40 years following absence of records (i.e., 146,00 days).

- Nitroso-di-n-propylamine[N-] – One sample (WST16-19-181358) had an MDL that was higher than the residential cancer-based NMSSL; the cancer risk for this MDL was 4E-05. All other MDLs were adequate. It is unlikely that this analyte is present given that all other MDLs were adequate. A liquid at room temperature, it is only slightly soluble in water. Similar amines have very short environmental half-lives (i.e., n-nitrosodimethylamine).

Numerous nondetected organics had MDLs in excess of the migration to groundwater SL:

- There were several analytes for which elevated MDLs occurred due to elevated reporting limits for only one sample (WST16-19-181358). These were 2,4-dichlorophenol, 2,4-dinitrophenol, naphthalene, pentachlorophenol, and trichlorophenol[2,4,6-]. The remaining 23 or more samples had adequate reporting limits, suggesting that the analytes are adequately characterized. Additionally three other samples have been collected from approximately the same location (WST16-19-181357, RE16-12-17675, and RE16-12-17676), that do not display the same elevated reporting limits.

- Dinitro-2-methylphenol[4,6-] MDLs are consistently above the migration to groundwater SLs; however, this compound is expected to be removed from soil within 14 hours to 2 months (Environment Canada 2009).

- All of the MDLs for 2,6-dinitrotoluene exceeded the SL for migration to groundwater. These compounds are expected to undergo photolysis, and based on the short half-life of 43 hours or less in water, they are not expected to be stable in soils (Pubchem 2021a).

- Hexachlorobenzene – only three MDLs exceeded the migration to groundwater SL. All others were well below the screening level, suggesting that this analyte is adequately characterized.
- Hexachlorocyclopentadiene MDLs exceed the migration to groundwater SL. Although records from 1951 to 1980 are not available for the Unit, physicochemical data indicate that this analyte would not remain in the environment even if it existed at one time. Kloskowski et al. (1981) used a model ecosystem and radiolabeled hexachlorocyclopentadiene to study degradation rates in soil and found that after 7 days approximately 19.5% of the original radioactivity was recovered as radiolabeled CO_2. WHO (1991) stated that soil degradation is rapid under non-sterile aerobic and anaerobic conditions and that the persistence in soil is brief, with degradation of more than 90% of applied compound to non-polar degradation products within approximately 7 days.
- Hexachloroethane MDLs all exceeded the migration to groundwater SLs. It is not persistent in soil, with 99% loss within 4 days to 4 weeks (ATSDR 1997).
- Nitrobenzene MDLs all exceeded the migration to groundwater SLs. It is not persistent in soil, with a half-life of approximately 19 days (WHO 2003).
- N-nitrosodimethylamine – MDLs were consistently higher than the migration to groundwater NMSSL. As discussed above, this compound is not persistent in soil.
- 2- or 3-Nitrotoluene – All MDLs of these compounds exceeded the migration to groundwater SL. The half-life for biodegradation of 2-nitrotoluene from soil is 300 days (IARC 2018), and it undergoes photolysis and it is expected to volatilize from moist soil. A similar compound, 4-nitrotoluene, was completely biodegraded in sludge 21 days in one study and 95% biodegraded in 5 days in another; half-life in water was estimated as 45 minutes (Pubchem 2021b) to 5.9 hours (OECD 2003).
- Oxybis(1-chloropropane)[2,2'-] – All MDLs exceeded the migration to groundwater SL. Synonym is bis(2-chloroisopropyl)ether. Half-life in water is 3 to 59 days, and 85% to 100 % was found to biodegrade in 7 days (Guidechem 2021). One source indicates the half-life in soil ranges from 18 days to 6 months (Howard et al. 1991). A similar compound (bis(2-chloroethyl)ether) discussed above is not persistent in soils.
- Trichloropropane[1,2,3-] – Volatilization from moist soil surfaces is expected based on an estimated Henry's Law constant of 3.43×10^{-4} atm-m^3 /mole, as well as from dry soil surfaces based on a low vapor pressure. Half-life in surface water is 7 hours to 6 days (Pubchem 2021c). Biodegradation under aerobic conditions in silty and sandy loam soil samples resulted in a degradation half-life of 2.7 days (ECHA 2021).

Not retaining any of these nondetected analytes as COPCs is unlikely to bias risk estimates low because the lines of evidence indicate there is little likelihood that significant concentrations of them would be expected in soil. In general, few organic compounds are detected at the Unit. The nondetected ones with MDLs above SLs are not persistent, and many have elevated MDLs in only one to a few samples.

~~2.2.2.~~2.3.3. Exposure Assessment

The exposure assessment assumptions bias the risk results high (overestimate risk). Assumptions for the industrial SLs are that the potentially exposed individual is a Laboratory worker who is outside at the site for 8 h/d for 225 d/yr (NMED 2019), and who spends the entire 8 h on-site within the contaminated area. Assumptions for the residential SLs are that the potentially exposed individual is a resident who is present 24 h/d for 350 d/yr (NMED 2019) and spends the entire 24 h on-site within the contaminated area. Construction workers are considered to be short-term workers but exposed at high rates. Because it is unlikely the worker or resident would be within the small (i.e., 0.26 acre) contaminated area for any significant duration~~these durations~~, the screening assessments overestimate the exposure.

Assumptions underlying the exposure parameters, routes of exposure, and intake rates for routes of exposure are consistent with NMED parameters and default values (NMED 2019). In the absence of site-specific data, several upper-bound values for the assumptions may be combined to estimate exposure for any one pathway, and the resulting risk estimate derived from combining upper-bound exposure parameters can exceed the 99th percentile of a true risk estimate. Therefore, uncertainties in the assumptions underlying the exposure pathways may contribute to risk assessments that overestimate the reasonably expected risk levels.

~~2.2.3.~~2.3.4. Toxicity Values

An additional uncertainty associated with the screening values is related to the derivation of toxicity values used in their calculation. Toxicity values (slope factors [SFs] and reference doses [RfDs]) were used to derive the risk-based screening values used in the screening evaluation (NMED 2019). Uncertainties are recognized to occur in four areas with respect to the toxicity values: (1) extrapolation from animals to humans, (2) variability between individuals in the human population, (3) the derivation of RfDs and SFs, and (4) the chemical form of the COPC.

The SFs and RfDs are often determined by extrapolation from animal data to humans, which may result in uncertainties in toxicity values because differences exist between animals and humans in chemical absorption, metabolism, excretion, and toxic responses. Differences in body weight, surface area, and pharmacokinetic relationships between animals and humans are taken into account to address these uncertainties in the dose-response relationship. However, conservatism is usually incorporated in each of these steps, potentially biasing the estimate high and resulting in the overestimation of potential risk.

For noncarcinogenic effects, the degree of variability in human physical characteristics is important both in determining the risks that can be expected at low exposures and in defining the no observed adverse effect level (NOAEL). The NOAEL uncertainty factor approach incorporates a 10-fold factor to reflect individual variability within the human population that can contribute to uncertainty in the risk assessment. This factor of 10 is generally considered to result in a conservative estimate of risk for noncarcinogenic COPCs.

The RfDs and SFs for different chemicals are derived from experiments conducted by different laboratories that may have different accuracy and precision that could lead to an over- or underestimation of risk. The uncertainty associated with the toxicity factors for noncarcinogens is measured by the uncertainty factor, the modifying factor, and the confidence level. For carcinogens, the weight of evidence (WOE) classification indicates the likelihood that a contaminant is a human carcinogen. EPA's WOE classification is not based on the level of risk a substance might present, but how good the evidence is regarding carcinogenicity to humans. This WOE helps interpret uncertainty in the results.

COPCs may be bound to the environmental matrix and not available for absorption into the human body following ingestion. However, the exposure scenarios typically default to the assumption that the COPCs are bioavailable. This assumption can lead to an overestimation of the total exposure and overestimate risk.

For some analytes surrogate values were used due to a lack of NMSSLs. Where possible, the USEPA RSLs were applied. It is not expected that use of surrogates will bias the results high or low. Primarily, surrogates were needed for nondetected analytes in order to verify MDLs were adequate.

~~2.2.4.~~2.3.5. Additive Approach

For noncarcinogens, the effects of exposure to multiple chemicals are generally unknown and possible interactions could be synergistic or antagonistic, resulting in either an overestimation or underestimation of the potential risk by assuming additivity. Additionally, RfDs used in the risk calculations typically are not based on the same endpoints with respect to severity, effects, or target organs. Therefore, the potential for noncarcinogenic effects may be overestimated by the HI considering individual COPCs act by different mechanisms and on different target organs but are addressed additively. Cancer risks are typically assumed to be additive.

~~2.3.~~2.4. CONCLUSIONS

Inorganics were compared to BVs and risk-based SLs. Eight inorganics, plus lead, exceeded background~~.~~ ~~None~~ , and two had no BVs. Maximum barium concentrations were above NMSSLs. No inorganics exceeded human health risk-based SLs~~. The screening level HIs for inorganics were 1 for the hypothetical future resident and 0.09 for current and future workers.~~ when refined EPCs were considered. Lead was below SLs.

Organics were compared to risk-based SLs~~.~~ for the 2 ac sampled area. There were ~~numerous~~several organics detected, including some energetics and breakdown products, some SVOCs, and DRO. However, maximum concentrations of any of the detected analytes were below SLs for all constituents except ~~dibenz(a,h)anthracene and RDX. Only the reporting limit of dibenz(a,h)anthracene exceeded screening levels, the detected concentration did not. Most of the risk for RDX is associated with one surface soil sample (WST16-19-181356) which has a concentration of 607 mg/kg. All other sample concentrations are less than the NMSSL for residential use of 83 mg/kg. None of the TEQs for dioxin/furans exceeded the TCDD SL~~dioxin/furans. When refined EPCs were considered, dioxin/furans were still slightly above target levels. The CCR based on refined EPCs was 2E-05, and the HI was 3. Lead is considered separately, and the HQs for lead were less than 1 for all receptors.

~~Human health risk~~ Additional, clean-up (e.g., soil removal) at the Unit is ~~minimal and~~ not recommended for several reasons.

1. Removal of soil to decrease dioxin/furan concentrations (see Figure 1-5) would be most effective outside of the unit boundary where activities at the Unit are not likely a contributing factor, and ultimately would not decrease the refined EPC assessment HI within the SWMU boundary.
2. Additional excavation within the SMWU boundary to decrease explosives concentrations (see Figure 1-4) would not likely reduce risk levels associated with ~~one sample. Risk estimates are elevated~~explosives because:
    a. the excavation conducted in December 2019 already decreased the level of risk associated with explosives compounds previously present at the site, and
    b. concentrations currently at the site (both surface and subsurface, even within the excavated area), are about the same. Therefore, it is unlikely that the concentrations of explosives compounds could be further decreased without substantial earth removal.
3. The approved Closure Plan includes "residential clean-up levels" as a component of the closure performance standard, and the NMED guidance (NMED 2019), indicates that strictly an HI >1 does not necessarily indicate that current conditions are not safe or that they present an unacceptable risk.

Migration to groundwater NMSSLs were exceeded by 2,4-dinitrotoluene, RDX, and 2,4,6-trinitrotoluene refined EPCs. A hydrologic conceptual model for TA-16, including the area of the TA-16 Burn Ground, is presented in the TA-16 Well Network Evaluation and Recommendations (LANL 2012b). That document ranks different sources at TA-16 by their potential to impact groundwater. High- and moderate-ranking sources were characterized by significant hydrologic drivers, i.e., either large outfall volumes released to canyons or ponds located on mesa tops. Sources were also characterized in terms of the release of large inventories or high contaminant concentrations. Both of these conditions are necessary to consider an area to have a high or moderate impact to groundwater. The TA-16 Burn Ground area was ranked as a low-priority source for its potential to impact groundwater, because it lacks both a large contaminant inventory and a large volume of water to provide a hydrologic driving force for contaminant infiltration.

Evaluating only ~~for the~~ data from within the SWMU boundary focuses the assessment on the Closure area and removes the diluting effect of samples with lower contaminant levels. The results are very similar to those based on the larger sampling area of approximately 2 acres with the exception that the dioxin/furan risk is reduced because the samples with the highest dioxin/furan concentrations are well outside of the SWMU boundary, and may not be associated with a release from this SWMU. The SWMU CCR based on refined EPCs was 1E-05, indicating the Unit does not present a cancer risk to any human receptor. The SWMU HI based on the refined EPC was 2 for hypothetical future ~~resident and not current or future workers, which are the likely receptors at the Unit for~~ residents. The HI of 2 is probably within the realm of uncertainty for the risk assessment given the conservative assumptions contained within the analysis. No individual HQs exceeded 1. Note that land use in the foreseeable future is not residential. Groundwater at the facility is monitored in accordance with the LANL Interim Facility-Wide Groundwater Monitoring Plan and the TA-16 Burn Ground site is ranked as a low-priority source for its potential to impact groundwater.

Therefore, cancer risk is within the target risk level and the hazard level is only slightly higher than the target level documented in NMED guidance (2019). Additionally, the Unit does not pose a source for potential soil-to-groundwater contamination, and for samples collected within the SWMU boundary, all detected COPCs were present at concentrations less than residential soil screening levels when either the maximum or the refined EPCs based on UCL95 concentrations were compared to the NMSSLs. Lastly, the closure performance standard in the Closure Plan required achievement of residential clean-up levels to meet the clean closure requirements. A clean closure determination in accordance with the Closure Plan is recommended for this site.

3. ECOLOGICAL SCREENING ASSESSMENT

3.1. INTRODUCTION

The ecological risk-screening assessments for the Unit is presented in the following sections. The ecological risk-screening evaluation identifies chemicals of potential ecological concern (COPECs) and is based on the comparison of EPCs with ~~ESLs in accordance with Laboratory guidance (LANL 2012a).~~ecological screening levels (ESLs) in accordance with Laboratory (LANL 2018) and NMED (2018) guidance. Data for both surface and subsurface soil depths were combined for the ecological risk-screening assessment, because all data fall within a 0 to 1 foot interval. Although NMED guidance (2018) recommends two soil horizons be evaluated, the samples collected all represent the interval for non-burrowing receptor and shallow rooted plants (0 to 1 foot interval). There is not a deeper soil interval at the Unit to be evaluated because the subsurface samples collected from as close to the tuff-soil surface as possible.

The ESLs obtained from the ECORISK Database, Version 4.~~1~~2 (LANL ~~2017~~2020a), updated ~~March 2019~~November 11, 2020, are presented in Table 3-1. The ESLs are based on toxicity data for Laboratory species similar to those expected to occur at the site, and are derived from experimentally determined no observed adverse effect levels (NOAELs), lowest observed adverse effect levels (LOAELs), or doses determined to be lethal to 50% of the test population (LD50). Information relevant to the calculation of ESLs, including concentration equations, dose equations, bioconcentration factors, transfer factors, and toxicity reference values, are presented in the ECORISK Database, Versions 2.0, 3.1, 4.1, and 4.~~1~~2 (LANL 2003; LANL ~~2012b~~2012a; LANL 2017, LANL ~~2019~~2020a).

The initial screening evaluation is conducted by dividing the maximum EPCs by the no adverse effect level ESLs (NE ESLs) to obtain a HQ calculated for each COPEC and screening receptor. As a generalization, the higher the contaminant levels relative to the ESLs, the higher the potential risk to receptors; conversely, the higher the ESLs relative to the contaminant levels, the lower the potential risk to receptors. ~~The analysis begins with a comparison of the minimum ESL for each COPEC to the EPC.~~ HQs greater than 0.~~3~~1 in the initial screening level evaluation are used to identify COPECs requiring additional evaluation (~~LANL 2012a~~DOE NMED 2017).

Individual HQs for a receptor are summed to derive a HI. An HI greater than 1 indicates that further assessment may be needed to ensure exposure to multiple COPECs at a site will not lead to potential adverse impacts to a given receptor population. The HQ and HI analysis is a conservative indication of potential adverse effects and is designed to minimize the potential of overlooking possible COPECs at the site. UCL95 values are used to refine the EPCs, which are then compared to the ESL based on the lower observed adverse effect level (LE ESL). The analysis is then concluded with evaluation using area use factors (AUF).

3.2. Problem Formulation

The Unit is a terrestrial ecosystem. The area within the fence is disturbed with little to no vegetation present adjacent to the burn tray. Vegetation increases with distance from the burn tray and consists of grasses and shrubs. The site slopes slightly to the south - southwest. There are likely terrestrial birds and small mammals including deer mice and ground squirrels using the area. Elk tracks and scat were observed during a site visit March 2019; however, there is not enough vegetation within the fenced area to support large herbivores. They prefer the ponderosa pine forest around the unit.

Due to the site history, there is the potential for energetic compounds or their breakdown products to be present in surface soils. Terrestrial animals and plants may contact surface soils and be exposed. While the total area where all of the samples collected is approximately 2 acres and includes areas that may not have been impacted by the activities at this Unit, the fenced portion of the Unit is a total of approximately 9,000 square feet, which is about 0.26 ac. This is equivalent to 0.1 hectare (ha). The slightly larger area within the SWMU boundary is 0.64 ac (0.26 ha).

Soil is the only potential abiotic exposure medium at the Unit. Soil ingestion is the primary exposure route (Figure 3-1). Dietary ingestion by higher trophic level animals of plants and animals exposed to soil may also occur.

Due to lack of its preferred riparian habitat and lack of dense cover, the montane shrew is not expected to occur in the Unit. It is retained only because it may be representative of other mammalian insectivores. Other receptors that are expected to occur based on available habitat are shown in the conceptual site model (Figure 3-1).

3.3. SCREENING EVALUATION

The summary statistics for the site sample data were presented in Table 2-2~~1~~. The NE ESLs are presented for each receptor in Table 3-1. Maximum detected concentrations of each analyte are used as the initial EPC. The EPCs and the screening results are presented in Table 3-2~~1~~.

Any analytes for which the measured maximum detected value exceeded the ESLs with an HQ of 0.1 or more were considered COPECs and evaluated further by calculating refined EPCs based on UCL95s. ESLs are lacking for many of the organics on the target analyte list.

Surrogates were proposed for the detected organics and inorganics above background or without BVs for which no ESLs were available. There remain analytes for which ESLs are lacking for birds, and sometimes invertebrates or plants. In general, ESLs were available for mammals. The analytes lacking ESLs and the applied surrogates are as follows:

- Calcium – No values in LANL database. Addressed in Uncertainty Analysis.
- Nitrate – No values in LANL database. Addressed in Uncertainty Analysis.
- 3,5-Dinitroaniline - Use amino-2,6-dinitrotoluene[4-] ESLs
- TATB - Use 1,3,5-Trinitrobenzene ESLs
- Isopropyltoluene[4-] - Use toluene ESLs

~~minimum SL were considered COPECs and evaluated further by calculating UCL95s and comparing the UCL95s to the SLs.~~

3.3.1. Inorganics

There are nine inorganic analytes that exceed site BVs, and two for which BVs were not calculated. These inorganics carry forward for further evaluation:

- Antimony
- Barium
- Cadmium
- Calcium
- Copper
- Lead
- Perchlorate (No BV)
- Nitrate (No BV)
- Selenium
- Silver
- Zinc

The inorganic analytes that were above BVs that also exceed ecological NE ESLs are as follows (Table 3-2):

- Antimony
- Barium
- Cadmium
- Copper
- Lead
- Selenium
- Silver
- Zinc

~~There are seven inorganic analytes that exceed site BVs and the minimum no effect (NE) ESL, if one was available, resulting in an HQ >0.3. Two of these seven analytes also exceeded the low effect (LE) ESL to produce an HQ >0.3. The analytes that exceed ecological SLs are as follows (Table 3-1):~~

- ~~Antimony – exceeds NE ESL~~
- ~~Barium – exceeds NE and LE ESLs~~
- ~~Copper – exceeds NE ESLs~~
- ~~Lead – exceeds NE ESL~~
- ~~Selenium – exceeds NE and LE ESLs~~
- ~~Silver – exceeds NE ESLs~~
- ~~Zinc – exceeds NE ESLs~~

If an inorganic analyte maximum exceeded the BV, and the ratio of the maximum to the risk-based SL was greater than 0.1~~3~~, a refined EPC based on the UCL95 was calculated with the USEPA ProUCL 5.1.002 software (EPA 2015).

This refined EPC based on the UCL95 (Table 2-8) was then compared to the LE ESLs found in Table 3-3.

The UCL95 values for barium, copper, lead, selenium, and zinc exceeded the LE ESL (Table 3-4). The HQs based on the refined EPC and the LE ESLs for approximately half of the 11 receptors exceeded 1 but were less than 5 (Table 3-4). HQs for the American kestrel modeled as a top carnivore and the gray fox also modeled as a carnivore were consistently less than 0.1 for inorganics. This suggests some limited potential for adverse ecological effects at the Unit due to exposure to inorganics above background, however additional lines of evidence are considered in the following sections. ~~This UCL95 was then compared to the minimum NE and LE ESLs found in Table 3-2. The UCL95 values for barium, selenium, and silver exceeded the minimum NE ESL, but only UCL95s for barium and selenium exceeded the minimum LE ESL as well. The maximum value of each of these was detected in the duplicate samples 181357 and 181358 collected from grid point 4. The HI for the NE ESL was 69, and the HI for the LE ESL was 29. This suggests some limited potential for adverse ecological effects at the Unit, and therefore the COPECs producing the highest HQs are evaluated in more detail:~~

~~Barium and selenium are the only inorganics for which the UCL95 exceeded the LE ESL.~~

~~The minimum selenium ESL (0.52 mg/kg) is based on plants.~~

~~All of the surface and subsurface soil samples (16/16) exceeded the minimum NE ESL of 0.52 mg/kg, whereas 9/16 exceeded the minimum LE ESL of 1.0 mg/kg, and 7/16 samples exceeded the BV of 1.52 mg/kg.~~

~~The maximum HQ based on an NE ESL is 6, and the maximum HQ based on an LE ESL is 3.~~

~~At grid point 4 where maximum selenium concentrations occur, selenium is two times higher than the BV.~~

~~This analysis suggests that there may be toxicity to ecological receptors, in particular plant populations, at the site due to selenium. Small mammals and birds may also be affected. Mobile vertebrate animals are addressed in more detail in the Uncertainty Analysis.~~

~~The minimum barium ESLs are based on potential toxicity to plants.~~

~~No toxicity to plants was noted in the field visit (i.e., chlorosis, dead plants).~~

~~Nearly all of the surface and subsurface soil samples (15/16) exceeded the minimum barium NE ESL of 110 mg/kg, whereas 13/16 exceeded the minimum barium LE ESL of 260 mg/kg, and 13/16 samples exceeded the BV of 295 mg/kg.~~

~~The maximum HQ based on an NE ESL is 100, and the maximum HQ based on an LE ESL is 50.~~

~~Grid points 3, 4, 5, 11 had barium concentrations that were over 10 times higher than the LE Eco SL. Surface soil samples at all 11 grid points exceeded the NE ESL, and three subsurface soil grid points exceeded the NE ESL.~~

~~The barium UCL95 concentration is 6609 mg/kg. Sources of toxicity information for plants suggest that it takes concentrations of barium in soils above 2000 mg/kg to cause toxicity (Chaudhry et al. 1977).~~

~~EPA (2005) indicates barium background concentrations in the Western US range from about 350 mg/kg to about 1100 mg/kg. Six grid points (grid points 2, 3, 4, 5, 7, and 11) had samples that had concentrations higher than 1100 mg/kg. Thus, nearly all of the samples exceed site-specific background, and half exceed background for the Western US.~~

~~This analysis suggests that there may be toxicity to ecological receptors, in particular plant populations, at the site due to barium. Invertebrates, small mammals, and birds may also be affected. Mobile vertebrate animals are addressed in more detail in the Uncertainty Analysis.~~

3.3.2. Dioxin and Furans

Dioxins and furans are evaluated in a multi-step process that takes the concentration of each congener and multiplies it by a TEF (Table 3-~~3~~5) for mammals or birds. The resulting TECi values are summed to obtain a TEQ (Table 3-~~4~~6 and Table 3-~~5). Maximum concentrations of~~7). The maximum 2,3,7,8-tetrachlorodibenzodioxin (TCDD) TEQ for mammals or birds are compared to the ~~minimum~~ NE ~~and LE~~ ESLs (Table 3-~~1).~~ 8). These values were above an initial screening HQ of 0.~~3. A more in-depth evaluation of~~1. TEFs were not available for invertebrates and so the ~~various congeners is performed regardless of whether TCDD exceeds screening levels or not since the dioxin/furans toxicity is additive.~~ mammalian TEQ was used to extrapolate exposure to invertebrates.

~~The TEQ is divided by the lowest mammalian (Table 3-4) and avian (Table 3-5) ESL for species that could occur on the Site based on habitat in the immediate vicinity. In the EcoRisk Database (LANL 2017, 2019), the montane shrew (*Sorex monticolus*) is the species from which the lowest TCDD ESL is derived. Due to lack of its preferred riparian habitat and lack of dense cover, the montane shrew is not expected to occur in the Unit, and the next lowest SL for mammals is used in this analysis. The mammalian NE ESL and LE ESL used in this risk assessment for TCDD are based on potential toxicity to the deer mouse (*Peromyscus maniculatus*) (LANL 2017, 2019).~~

The avian NE ESL is from the ECORISK Database, Version 2.0 (LANL ~~2003a~~2003) as reported in Attachment H, Technical Area 16 Burn Ground Human Health and Ecological Risk-Screening Assessments (LA-UR-13-24177), Class 3 Permit Modification Request for Addition of an Open Burning Unit at Technical Area (TA) 16 to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID No. NM0890010515. September 30, 2013. Refer To: WM-~~D0~~DO-13-0064, LAUR: 13-27579. The most recent LANL database does not report ESLs for any avian species.

~~Dioxin and furans were detected in all surface and subsurface soil samples (Table 3-4 and Table 3-5). The TEFs for birds and mammals were applied to calculate a TEQ for each sample (Table 3-3). Twelve of 16 samples had TEQs that exceeded the NE Eco SL for TCDD for mammals (Table 3-4) resulting in a HQ >0.3, and seven samples exceeded the LE Eco SL resulting in an HQ >0.3. Seven of 16 samples exceeded the NE Eco SL for birds (Table 3-5). An avian LE Eco SL was not available. The sample with the highest dioxin/furan concentrations was WST16-19-181367 which had an HQ of 102 for mammals (Table 3-4) and 13 for birds (Table 3-5).~~

A UCL95 based on the sample-specific TEQs was calculated for mammals and birds with ProUCL (EPA 2015~~) by calculating a UCL95 as the TECi for each congener, then multiplying by the receptor- and congener-specific TEFs and summing the products to obtain a UCL95 TEQ (Table 3-6). Since this TEQ is the sum of UCLs, it is expected to be highly conservative.~~). When these UCLs were divided by the ~~NE~~LE ESL for TCDD for mammals ~~and~~ (there is no LE ESL for birds~~,~~), the resulting ratios or HQs exceeded 0.1~~, as shown below:~~

~~Mammal~~				
~~UCL95 TEQ~~	~~NE ESL (mg/kg)~~	~~NE ESL HQ[1]~~	~~LE ESL (mg/kg)~~	~~LE ESL HQ~~

~~(mg/kg)~~				
~~2.81E-05~~	~~5.80E-07~~	~~48~~	~~3.80E-06~~	~~7~~
~~Bird~~				
~~UCL95 TEQ (mg/kg)~~	~~NE ESL (mg/kg)~~	~~NE ESL HQ~~	~~LE ESL (mg/kg)~~	~~LE ESL HQ~~
~~2.05E-05~~	~~4.10E-06~~	~~5~~	~~NA~~	~~NA~~

~~*[1] – the HQ is the ratio of the UCL TEQ/ESL*~~
~~*NA – Value not available*~~

for all mammalian receptors (Table 3-4). This analysis suggests that there may be toxicity to ecological receptors due to exposure to dioxins/furans. The dioxin/furans are further evaluated in the uncertainty analysis.

3.3.3. Other Organics

Maximum concentrations of ~~six~~nine organics in the ~~16 surface and subsurface~~ soil samples exceeded ~~initial minimum screening levels.~~NE ESLs. These were amino-2,6-dinitrotoluene[4-], benzoic acid, bis(2-ethylhexyl)phthalate, HMX, PETN, RDX, TATB, DRO, and TNT.

UCL95 values (Table 2-8), were calculated for these organics and compared to the ~~NE Eco SLs and~~ LE ~~Eco SLs~~ESLs (Table 3-~~2~~4). There ~~was~~were only two detects of benzoic acid, and one detection of PETN, which is too low a detection rate to allow calculation of a UCL95. Therefore, a median of the detected ~~concentration and the reported detection limit values~~concentrations was calculated and used as the estimate of the benzoic acid refined EPC, whereas the maximum detected value was used as the PETN EPC. This approach is consistent with ProUCL guidance (EPA 2015) which recommends use of alternative statistics when detection frequency is low. The highest value of each duplicate pair ~~from grid point 4~~ was ~~averaged prior to~~retained for calculating UCL95s ~~because retaining the higher sample size could artificially lower the UCL95 slightly~~.

~~PETN and TNT~~ HQs for amino-2,6-dinitrotoluene[4-], benzoic acid, DRO, and PETN based on refined EPC values ~~did not exceed the NE Eco SLs or~~ and the LE ~~Eco SLs~~ESLs were less than 0.1 and are not considered further (Table 3-~~2). HMX and TATB UCLs exceeded the NE Eco SLs, but not the LE Eco SLs.~~4). Bis(2-ethylhexyl)phthalate ~~and~~, HMX, RDX ~~exceeded the NE Eco SLs and the LE Eco SLs.~~

~~No more than half~~, TATB, and TNT had HQs above 0.1 for comparison of the ~~samples exceeded NE ESLs for any of the organic analytes, and fewer samples exceeded LE~~ refined EPC to the LE ESLs~~, suggesting a limited areal extent of contamination. Grid points (Figure 1-1) where the NE ESLs are exceeded are also noted for each of these four organics:~~

- ~~Bis(2-ethylhexyl)phthalate – 8/16 samples exceeded the NE ESL, and 5/16 samples exceeded the LE ESL. Grid points 1,~~ for one or more receptor groups (Table 3~~, 4, 5, 10, and 11 exceeded the NE ESLs.~~
- ~~HMX – 3/16 samples exceeded the NE ESL, and no samples exceeded the LE ESL. NE ESLs were exceeded at grid points 4 and 11.~~
- ~~RDX – 7/16 samples exceeded the NE ESL, and~~ 4~~/16 samples exceeded the LE ESL. NE ESLs were exceeded at grid points 3, 5, 4, and 11.~~
- ~~TATB – 7/16 samples exceeded the NE ESL, and 4/16 samples exceeded the LE ESL. NE ESLs were exceeded at grid points 1, 2, 3, 4, and 11.~~

~~This analysis suggests that there may be toxicity to ecological receptors due to exposure to these organics. These four organics are further evaluated in the uncertainty analysis.~~

).

3.3.1. Hazard Indices

The HIs for summation of inorganic, dioxin/furan, and other organic HQs for all receptors except the gray fox and mountain cottontail exceeded 1. This analysis suggests that there may be toxicity to ecological receptors due to exposure to within the Unit. The COPECs with HQs greater than 0.1 are further evaluated in the uncertainty analysis.

3.4. UNCERTAINTY ANALYSIS

3.4.1. Chemical Form

Inorganic analytes can speciate into different forms with varying degrees of toxicity. The assumptions used in the ESL derivations are conservative and not necessarily representative of actual conditions. These assumptions include maximum chemical bioavailability, maximum receptor ingestion rates, minimum bodyweight, and additive effects of multiple COPECs. These factors tend to result in conservative ESL estimates, which may lead to an overestimation of the potential risk. Toxicological data are typically based on the most toxic and bioavailable chemical species, which may or may not be found in the environment. The ESLs were calculated to ensure a conservative indication of potential risk (LANL 2018~~12a~~), and the values are biased toward overestimating the potential risk to receptors.

The chemical form of the individual COPECs was not determined as part of the investigation. COPECs are generally not 100% bioavailable to receptors in the natural environment because of interference from other natural processes, such as the adsorption of chemical constituents to matrix surfaces (e.g., soil) or rapid oxidation or reduction changes that render harmful chemical forms unavailable to biotic processes.

3.4.2. Exposure

Exposure parameters including the EPC and the intakes likely bias risk estimates high because they presume no movement of receptors in and out of source areas. Sampling focused on areas of known or expected contamination, which biases the EPC high. Receptors are assumed to spend 100% of their time in the contaminated area which results in conservative estimates of exposure.

3.4.3. Mixture Toxicity

The assumption of additive effects for multiple COPECs may result in an over- or under-estimation of the potential risk to receptors. Exposure to multiple contaminants may result in other than additive effects.

3.4.4. Small-Mammal Field Investigations

Small mammal trapping and analysis of whole organisms were conducted in the area near the Unit in 2011 and 2012. This information was considered useful for the current analysis. Field mice and voles were collected around the open-burn site and analyzed for dioxins and furans as well as metals in 2011 and for polychlorinated biphenyls (PCBs), high explosives, and perchlorate in 2012. Small-mammal community and population parameters were also measured across the site in 2012 (Fresquez et al. 2013).

Barium, cadmium, and nickel were detected in two to three whole body samples, and lead was detected in one whole body sample, above the regional statistical reference levels (RSRLs), which are the upper bounds of concentrations (mean plus three standard deviations) calculated from field mice collected at regional locations over nine miles away from the influence of the Laboratory (Fresquez 2009 and 2011a). The cadmium, nickel, and lead concentrations were slightly above the RSRLs, while barium concentrations were three to four times the RSRL. No high explosives were detected in any of the animals collected, and perchlorate concentrations were one or two orders of magnitude below the RSRL.

Dioxin and furan congeners were not detected above the detection limit in any of the whole-body samples analyzed; eight congeners were detected in one deer mouse sample, one congener was detected in one long-tailed vole sample, and no congeners were detected in the other four small mammals (three voles and one deer mouse) (Fresquez et al. 2013). Concentrations in whole body samples were well below the concentrations detected in the soil, and biological samples had fewer congeners detected than in 40% of the soil samples, and concentrations were below the deer mouse ~~Eco SL~~ESL for TCDD ~~(~~in LANL ~~2012b~~(2012). The dioxin and furan data are similar to other dioxin/furan field-mouse uptake studies at LANL (Fresquez 2011b) and nationally (Krouskop et al. 1991).

The data indicate dioxins and furans at the concentrations found in soil under natural field conditions are not significantly assimilated, either by ingestion and/or by surface contact, by field mice/voles possibly because of the adsorption of the chemical to soil surfaces or because of oxidation/reduction changes. In addition, the samples analyzed included the pelt and carcass so it is not clear whether the congeners detected represent uptake or adherence of soil particles to the pelt. Also, no adverse effect of burning ground operations was found on local small mammal populations based on species richness, capture rate, species diversity, sex ratios and adult body weights (Fresquez et al. 2013).

The presence of dioxins and furans in soil does not determine exposure and risk to receptors. Dioxins and furans are relatively unavailable for uptake by plants and animals because these compounds are tightly bound to soil particles, are immobile, and insoluble (Umbreit et al. 1986). EPA reported that the relative bioavailability of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofuran congeners in soil is less than 100% as compared with a lipid or organic solvent vehicle as the reference material (EPA 2010a). Abiotic constituents, compound aging, and other associated soil factors may influence soil bioavailability (e.g., bioavailability appears to decrease with aging based on comparisons of laboratory spiked soil and soil contaminated in situ [Umbreit et al. 1986]). This relationship is supported by the lack of uptake and impacts to biota around the Laboratory and at the TA-16 Burn Ground where dioxin and furan congeners have been detected. The difference between the toxicity represented by the ESLs and the lack of adverse effects may be related to the low bioavailability of dioxins and furans in soil.

Small mammal populations in the area show no evidence of significant elevated exposure. There do not appear to be population-related impacts based on the above analysis.

3.4.5. Avian Field Investigations

A total of four avian egg samples were obtained in 2018 from TA-16 and analyzed for inorganic elements (Gaukler and Stanek 2019). Two samples consisted of one western bluebird (*Sialia mexicana*) egg each. There was one composite sample of four western bluebird eggs, and one composite sample of two ash-throated flycatcher (*Myiarchus cinerascens*) eggs.

Concentrations of inorganic elements were compared with the upper-level bounds of background concentrations in bird eggs. The data indicated aluminum, arsenic, beryllium, cadmium, lead, nickel, thallium or vanadium were not detected in eggs. One sample contained higher concentrations of antimony (0.21 mg/kg) compared with background (0.11 mg/kg). Two samples contained higher concentrations of mercury (0.23 and 0.25 mg/kg) compared to background (0.18 mg/kg). The few elements that exceeded background were compared to the lowest observable adverse effect level (LOAEL), when available. There was no LOAEL for antimony. However, both of the egg samples were below the LOAEL for mercury (1.67 mg/kg, converted from wet to dry weight).

Although maximum concentrations of antimony exceeded ESLs, the UCL95 concentration did not. There is no toxicity information in the LANL Ecorisk Database for birds. Given that only one of four samples had elevated antimony relative to background, and that only half the soil samples had detections, these data suggest that antimony concentrations in eggs observed at TA-16 are not of ecological concern. Mercury was slightly higher than background in eggs, but below known toxicity levels. Mercury also does not appear to pose a hazard to birds.

Avian population metrics also do not suggest that birds in the vicinity of TA-16 399 are being negatively impacted (Hathcock et al 2018). Metrics including species richness and diversity were not statistically different from the Unit than at the control area. Abundance varied in the Unit and control area annually, but abundance in the Unit compared to controls were similar over time. Species composition indicates little difference between the Unit and control sites.

Combined, the egg concentration data and population metrics suggest that adverse health effects are not expected at the observed concentrations.

3.4.6. Detection Frequency and Areal Extent of Concentrations Greater than Screening Levels

The detection frequency and spatial pattern of the COPECs that have HQs greater than the LE ESL it considered. Barium, copper, lead, selenium and zinc are the only inorganics for which the UCL95 exceeded the LE ESL. Bis(2-ethylhexyl)phthalate, HMX, RDX, TATB, dioxin/furans, and TNT are the only organics for which the refined EPC based on the UCL95 exceeds LE ESLs.

Barium was detected in all samples collected. The barium UCL95 is 11 times higher than background values of 295 mg/kg. The minimum barium ESL is based on potential toxicity to plants; however, no toxicity to plants was noted in the field visit (i.e., chlorosis, dead plants). EPA (2005) indicates barium background concentrations in the Western US range from about 350 mg/kg to about 1100 mg/kg. A total of 27 of 39 samples exceed site background and 14 of 39 had concentrations higher than upper bound of Western US background of 1100 mg/kg. Sources of toxicity information for plants suggest that it takes concentrations of barium in soils above 2000 mg/kg to cause toxicity (Chaudhry et al. 1977). Nine samples exceeded this level for plants. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358. This analysis suggests that there may be toxicity to ecological receptors, in particular plant populations, at the site due to barium.

Copper was detected in 27 of 29 samples. Only 6/29 samples exceeded background values of 14.7 mg/kg. The UCL95 was only two times higher than background, suggesting copper is not significantly elevated within the Unit and exposure across the Unit is only slightly higher than inherent background.

Lead was detected in all samples. Of these, only 5 of 39 samples exceeded background values of 22.3 mg/kg. The UCL95 was about two times higher than background, suggesting exposure across the Unit is only slightly higher than inherent background. However, HQs based on the LE ESL were above 1.

Selenium was detected in 14 of 39 samples. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358. Eight of 39 samples were above the BV of 1.52 mg/kg. The UCL95 of 0.968 mg/kg was less than the BV, suggesting that exposure across the Unit will not exceed inherent background.

Zinc was detected in all samples. Of these, 13 of 39 samples exceeded background values of 48.8 mg/kg. The UCL95 was 1.2 times higher than background, suggesting exposure across the Unit is approximately equal to inherent background.

Bis(2-ethylhexyl)phthalate was detected in 10 of 29 samples. The American robin modeled as an insectivore was the most sensitive receptor. Five samples produced HQs above 1 for the robin and the kestrel, two samples produced HQs above 1 for the shrew and one sample produced an HQ above 1 for the deer mouse based on the LE ESLs. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358.

HMX was detected in 17 of 39 samples. Only one receptor, earthworms representing all soil fauna, exhibited HQs above 0.1. The maximum HQ was 1 for the LE ESL, suggesting HMX is not likely to produce an adverse effect on soil invertebrates. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358.

RDX was detected in 17 of 39 samples. The robin was the most sensitive ecological receptor regardless of feeding guild and was determined to be a more appropriate receptor for the area rather than the horned lark. Nine out of 39 samples had HQs above 1 for the robin as an herbivore, insectivore, or omnivore; three of 39 samples for the kestrel modeled as an insectivore/carnivore had HQs above 1, and four samples had HQs above 1 for the earthworm for comparison to LE ESLs. Maximum RDX concentrations were observed at WST16-19-181355.

TATB was detected in 22 of 38 samples. The earthworm was the only receptor for which HQs based on the LE ESL exceeded 1. HQs exceeded 1 in only one sample, the duplicate pair WST16-19-181357/181358, where the HQ was 2 in 181357 and 0.8 in 181358. This suggests that TATB is not going to cause adverse effects in soil fauna.

One or more dioxin/furan isomers were detected in all samples collected. The UCL95 compared to the LE ESL produced HQs above 0.1 for all mammalian receptors, and above 1 for shrew and deer mouse.

TNT was detected in 7 of 39 samples. The robin modeled as an herbivore was the most sensitive ecological receptor and the only one with an HQ above 0.1 for comparison of the UCL95 to the LE ESL. The maximum HQ was 1 for the LE ESL, suggesting TNT is not likely to produce an adverse effect on birds. Maximum concentrations were observed at duplicate pair WST16-19-181357/181358.

To summarize the results of evaluating the data against BVs and spatially, of these constituents identified as COPECs, only barium, bis(2-ethylhexyl)phthalate, dioxin/furans, lead, and RDX are frequently detected, are well above background, and have HQs based on the LE ESL above 1.

~~3.4.6.~~3.4.7. Detected Analytes~~COPECs~~ Without ESLs

Several chemicals do not have ESLs for any receptor in release 4.~~1~~2 of the ECORISK Database (LANL ~~2019~~2020a). In the absence of a chemical-specific ESL, concentrations ~~can be~~were compared with the ESLs for a surrogate chemical. Comparison to surrogate ESLs provides an estimate of potential effects of a ~~chemically~~similar related compound and a line of evidence to indicate the likelihood that ecological receptors are potentially impacted. Surrogates were obtained for 3,5-dinitroaniline, DRO, TATB, and isopropyltoluene[4-]. For birds, ESLs from a previous LANL database were used. Surrogate increase uncertainty, but are not expected to bias the risk results low or high.

ESLs were not available for total petroleum hydrocarbons DRO, which were detected in all samples. Using a value for mixed fractions, HQs were less than or equal to 1. Using the human health residential risk evaluation as a surrogate suggests that there would be no risk to ecological receptors due to exposure to DRO because all noncancer HQs were less than 1. The residential ratio for comparison of maximum DRO in soils to human health values was 0.0002, and the worker ratio was 0.00005. Residential HQs for TATB, 4-isopropyltoluene, and 3,5-dinitroaniline were less than 1.

Some chemicals without ESLs do not have chemical-specific toxicity data or surrogate chemicals to be used in the screening assessments and cannot be assessed quantitatively for potential ecological risk. These are calcium and nitrate.

~~ESLs were not available for total petroleum hydrocarbons (TPH). Diesel range organics (DRO) were detected in all samples. Using the human health residential risk evaluation as a surrogate suggests that there would be no risk to ecological receptors due to exposure to DRO because all ratios were less than 1. The residential ratio for comparison of maximum DRO in soils to human health values was 0.8, and the worker ratio was 0.2.~~

~~There are only three other organic chemicals for which ESLs were not obtained. These are 3,5-dinitroaniline, 4-isopropyl toluene, and 2,4-dinitrotoluene. These organics were detected in only one sample across the Unit. There is no human health SL for 3,5-dinitroaniline or 4-isopropyltoluene and the uncertainty of this missing information could minimally bias risk estimates high or low. The human health noncancer risk ratios were 0.001 for residents and 0.00009 for workers for 2,4-dinitrotoluene, and therefore ecological risk is not expected due to exposure to this chemical.~~

~~ESLs were not available for the cations and anions generally regarded as nutrients calcium, magnesium, nitrate, potassium, and sodium. ESLs were also not available for aluminum and iron, but human health risk ratios for residents for other anions and cations were 0.1 or lower. Only calcium was above background levels established for the site. Lack of ESLs for inorganic cations or anions is not expected to underestimate ecological risk at the site.~~

~~These chemicals~~There were no ESLs for calcium. Calcium is toxic to nonlaying chickens at 3.5 to 6% of the diet, or 35,000 mg/kg diet (Merck Manual 2020). Given that most birds or mammals consume soil at 10% or less of the diet, a toxic amount in soil would be on the order of 350,000 mg/kg or more, much higher than the maximum concentration of 16,100 mg/kg. Calcium did not exceed human health values. Calcium is unlikely to present an ecological risk.

Chemicals lacking ESLs are often infrequently detected across the site. In these cases, comparisons with human health SSLs are presented as part of a qualitative assessment. The comparison of concentrations to human health SSLs is a viable alternative for several reasons. Animal studies are used to infer effects on humans and are the basic premise of modern toxicology (EPA 1989). In addition, toxicity values derived for the calculation of human health SLs are often based on potential effects that are more sensitive than the ones used to derive ESLs (e.g., cellular effects for humans versus survival or reproductive effects for terrestrial animals). EPA also applies uncertainty factors or modifying factors to ensure the toxicity values are protective (i.e., they are adjusted by uncertainty factors to values much lower than the study results). Concentrations compared with these values are frequently an order of magnitude or more below the SLs, which corresponds to uncertainty factors of 10 or more. Therefore, it is assumed the differences in toxicity would not be more than an order of magnitude for any given chemical. The relative difference between values provides a weight of evidence that the potential toxicity of the chemical is likely to be low or very low to the receptor(s).

~~3.4.7.~~3.4.8. Data and Area Use Factors

The Unit is small with an areal extent of 0.~~2~~26 acres (ac) or 0.~~08~~1 hectares (ha) within the fenceline. This is less than the size of the home range of an individual robin or a deer mouse (LANL 2018). The slightly larger area within the SWMU boundary is 0.64 ac (0.26 ha). The total area where all of the samples were collected is approximately 2 acres.

The home range (HR) is used to calculate area use factors (AUFs) that are used in the EcoPRG equations (LANL 2018). Individual AUFs and population area use factors (PAUFs) may be used to modify the estimate of risk to wildlife receptors to allow estimates to be more site-specific. The application of AUFs or PAUFs reduces potential overestimation of risks for those receptors with HRs larger than the area of contamination being evaluated. The estimated ecological risk as indicated by the HQ or HI is multiplied by the AUF or PAUF. HQs for plants or invertebrates are not adjusted by area use.

Table 3-~~7~~9 presents the area use hazard analysis based on ~~NE~~LE ESLs~~.~~ and an area of 2 ac. The ~~NE~~LE ESLs for each COPC that ~~failed the screening evaluation because EPCs are higher than the ESLs~~exceeded background and was detected are shown~~ for each receptor~~. The site specific AUF and PAUFs are shown for an area equivalent to the fenced area of the Unit and the additional sampled area outside the fenceline. The UCL95 EPC (Table 2-8; Appendix A) is divided by the species-specific ESL and multiplied by the PAUF to obtain revised HQs. The habitat is not suitable for Mexican Spotted Owls or other special status species, and so an AUF evaluation was not conducted.

Several COPECs produce HQs above 0.1 for one or more receptors. These are:

- barium for robin modeled at all feeding guilds, the deer mouse, earthworm, and plants;
- selenium for deer mouse and plants;
- bis(2-ethylhexylphthalate) for the robin modeled as an insectivore or omnivore, deer mouse, and shrew;
- HMX for earthworms;
- RDX for robin modeled as an herbivore, insectivore or omnivore, and earthworms;
- TATB for earthworm; and
- TCDD for deer mouse and shrew.

The HIs are above 1 for the robin modeled as an ominivore and insectivore, the deer mouse, earthworms, plants, and the shrew.

Tables 3-10 to 3-15 present the ecological risk assessment based on the data collected from within the SWMU boundary. The total area within the SWMU boundary is smaller than the overall sampled area, which includes areas near other SWMUs and which may have been affected by activities at other SWMUs. The hazard analysis is based on the SWMU area of 0.64 ac (0.26 ha). The area within the SWMU boundary is the area most likely to have been impacted by activities at the Unit. Overall, utilizing data from within the SWMU boundary produces higher, more conservative refined EPCs due in part to the smaller sample size, with the exception of the dioxin/furans. There are HIs above 1 for most receptor groups based upon the refined EPC (Table 3-11).

Table 3-15 presents the hazard analysis utilizing only the data within the SWMU boundary. Bis(2-ethylhexyl)phthalate ~~NE~~LE ESL HQs are above 0.1 for the robin in both the insectivore and omnivore feeding categories. Barium ~~NE~~LE ESLs HQs were greater than 0.1 for plants and invertebrates, selenium ~~NE HQs are above 1 for plants, and RDX~~ LE HQs are above ~~1 for the earthworm.~~ 0.1 for plants, and HMX, RDX and TATB HQs are above 0.1 for the earthworm (Table 3-9). HQs are above 0.1 for dioxin/furans for deer mouse and shrew.

The HIs for nearly all ecological receptors based on data within the SWMU boundary are less than 1. The exceptions are for plants and earthworms, for which the HI is 20 and 4, respectively and the robin for which the HI is 2. Plants and earthworms are taxa for which the PAUF does not affect the HQ or HI since they are not mobile in the ecosystem.

~~Table 3-8 presents the area use hazard analysis based on LE ESLs. The barium LE ESL HQ for plants and earthworms is greater than 1. RDX LE ESL HQs for the earthworm are greater than 1. All the HQs for other receptors are below 1.~~

~~For dioxin/furans, a UCL95 was calculated for each congener, and then multiplied by the TEFs to obtain a UCL95 TEQ (Table 3-6). This was multiplied by the PAUF for mammals and birds (Table 3-7 and Table 3-8). Note that there are no avian LE ESLs. The HQs for dioxins/furans were less than 1.~~

3.5. CONCLUSIONS

~~For the May and August 2019 data, barium~~Barium, copper, lead, selenium, and ~~silver~~zinc were the only inorganics for which the UCL95 based on the 2 ac area exceeded both the BV and the ~~NE Eco SL. Barium and selenium are the only inorganics for which the UCL95 also exceeded the LE Eco SL.~~LE ESL to produce HQs above 0.1. Further evaluation with the PAUFs indicated that barium exceeded ~~an NE~~the LE ESL for plants and invertebrates, and selenium exceeded ~~an NE ESL~~the LE ESL for plants and deer mouse. No visual effects were noted on the plant community within the Unit. No effects have been observed in small mammals. When data from within the SWMU boundary only were considered, there were no HQs above 0.1 for ~~plants, but only barium exceeded an LE ESL.~~

~~The UCL95~~mammals or birds for ~~TCDD~~ inorganics when exposure was adjusted with the PAUF to reflect spatial averaging.

The refined EPC based on ~~mammalian TEFs~~ the UCL95 for TCDD exceeded the ~~NE and~~ LE ESLs~~.~~ to produce HQs above 0.1 for mammals. Birds are not as sensitive to the effects of TCDD considering the TEQ is slightly less and the NE ESL is higher than that for mammals~~.~~, but birds cannot be quantitatively addressed due to the absence of an LE ESL. Further evaluation with application of PAUFs indicated that HQs were above 1 for deer mouse and shrew, but not gray fox or cottontails. Further evaluation with application of PAUFs for data from within the SWMU only indicated that TCDD would not adversely ~~affect birds or~~ mammals since the ~~HQs~~HIs for mammals were ~~all~~ less than ~~1. Invertebrates are not potentially at risk due to dioxin/furans.~~or equal to 1. It is assumed that the evaluation for mammals is protective of avian species.

Bis(2-ethylhexyl)phthalate, HMX, RDX, ~~and~~ TATB and TNT are the only other organics for which the refined EPC based on the UCL95 exceeded ~~NE~~LE ESLs~~.~~ to produce HQs above 0.1. Further evaluation with the PAUFs indicated that bis(2-ethylhexyl)phthalate exceeded ~~NE~~LE ESLs for robins modeled as insectivores and omnivores, ~~and~~as well as deer mouse and shrew, and RDX produced HQs greater than 0.1 for robins at all feeding levels. In addition, after applying the PAUFs based on an area of 2 acres, HMX, TATB, and RDX exceeded ~~an NE ESL for invertebrates. RDX exceeded~~the LE ESL for earthworms. Evaluating the data only within the SWMU boundary suggested that explosives would be above the LE ESL for invertebrates ~~represented by earthworms.~~but not birds, and bis(2-ethylhexyl phthalate would have HQs above 0.1 for robins feeding as insectivores and omnivores, and deer mice.

The HIs for six of the 11 receptors exceed 1 if the entire 2 ac area is considered, where the maximum HI is 10 for plants. The HIs for nearly all ecological receptors are less than 1 based on data from within the

SWMU only. The exceptions are for plants and earthworms, for which the HI is 20 and 4, respectively, and robin, for which the HI is 2. Plants and earthworms are taxa for which the PAUF does not affect the HQ or HI since they are not mobile in the ecosystem.

The small mammal tissue study indicated little uptake of dioxins/furans by small mammals at TA-16 as a whole, as well as little effect on mammal populations. ~~Eggs~~For avian species, eggs analyzed for inorganics had antimony and mercury concentrations above egg background values, but mercury concentrations were below known toxic levels. Antimony was detected in one of four egg samples and half of the soil samples, and concentrations do not appear widespread. Antimony toxicity data for birds were not obtained. Population metrics for birds were not statistically significantly different from controls.

NMED guidance (2018) indicate that ecological risk assessments require inquiries into the relationship between an assessed endpoint and the expected response when exposed to site contamination. While comparison to literature published values show a potential for elevated risk to receptors potentially in the area, studies conducted in the area show no adverse population effects to small mammals or birds in the area. Additionally, when thinking of the near and foreseeable future use for the site, vegetation in the area will be kept to a minimum, as it is located in the general area of an operating Unit. There is not a likely species impact to representative receptors. Because biological data from the area indicate no adverse effects, and because HQs and HIs, while exceeding targets of 0.1 and 1, respectively, are relatively low, the Unit does not appear to present a significant ecological risk.

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Tables

Table 2-1. NMSSLs and Surrogate Values Used in the Risk Assessment

Parameter Category	Parameter name	CAS NO.	Residential Cancer (mg/kg)	Residential Noncancer (mg/kg)	Industrial Cancer (mg/kg)	Industrial Noncancer (mg/kg)	Construction Worker Noncancer (mg/kg)	Construction Worker Cancer (mg/kg)	SL-SSL, DAF 20 (mg/kg)
INORGANIC	Aluminum	7429-90-5	-	7.80E+04	-	1.29E+06	4.14E+04	-	5.97E+05
-	Antimony	7440-36-0	-	3.13E+01	-	5.19E+02	1.42E+02	-	6.56E+00
-	Arsenic	7440-38-2	7.07E+00	1.30E+01	3.59E+01	2.08E+02	4.12E+01	2.16E+02	5.83E+00
-	Barium	7440-39-3	-	1.56E+04	-	2.55E+05	4.39E+03	-	2.70E+03
-	Beryllium	7440-41-7	6.44E+04	1.56E+02	3.13E+05	2.58E+03	1.48E+02	2.71E+03	1.96E+02
-	Cadmium	7440-43-9	8.59E+04	7.05E+01	4.17E+05	1.11E+03	7.21E+01	3.61E+03	9.39E+00
-	Calcium	Ca	-	1.30E+07	-	3.24E+07	8.85E+06	-	-
-	Chromium	16065-83-1	9.66E+01	4.52E+04	5.05E+02	3.14E+05	1.34E+02	4.68E+02	2.05E+05
-	Cobalt	7440-48-4	1.72E+04	2.34E+01	8.34E+04	3.88E+02	3.67E+01	7.22E+02	5.40E+00
-	Copper	7440-50-8	-	3.13E+03	-	5.19E+04	1.42E+04	-	9.15E+02
-	Iron	7439-89-6	-	5.48E+04	-	9.08E+05	2.48E+05	-	6.96E+03
-	Lead	7439-92-1	-	4.00E+02	-	8.00E+02	8.00E+02	-	2.70E+02
-	Magnesium	Mg	-	1.56E+07	-	5.68E+06	1.55E+06	-	-
-	Manganese	7439-96-5	-	1.05E+04	-	1.60E+05	4.64E+02	-	2.63E+03
-	Mercury	7487-94-7	-	2.35E+01	-	3.89E+02	7.71E+01	-	5.13E+00
-	Nickel	7440-02-0	5.95E+05	1.56E+03	2.89E+06	2.57E+04	7.53E+02	2.50E+04	4.85E+02
-	Nitrate	14797-55-8	-	1.25E+05	-	2.08E+06	5.66E+05	-	4.25E+02
-	Perchlorate	14797-73-0	-	5.48E+01	-	9.08E+02	2.48E+02	-	1.17E-01
-	Potassium	K	-	1.56E+07	-	7.62E+07	2.08E+07	-	-
-	Selenium	7782-49-2	-	3.91E+02	-	6.49E+03	1.75E+03	-	1.02E+01
-	Silver	7440-22-4	-	3.91E+02	-	6.49E+03	1.77E+03	-	1.38E+01
-	Sodium	Na	-	7.82E+06	-	3.73E+07	1.02E+07	-	-
-	Thallium	7440-28-0	-	7.82E-01	-	1.30E+01	3.54E+00	-	2.85E+00
-	Vanadium	7440-62-2	-	3.94E+02	-	6.53E+03	6.14E+02	-	1.26E+03
-	Zinc	7440-66-6	-	2.35E+04	-	3.89E+05	1.06E+05	-	7.41E+03
ORGANIC	2,3,7,8-TCDD	1746-01-6	4.90E-05	5.06E-05	2.38E-04	8.08E-04	2.26E-04	1.72E-03	2.24E-04
-	2,4-Diamino-6-nitrotoluene	6629-29-4	*3.20E+01*	*7.00E+01*	*1.50E+02*	*1.10E+03*	*1.10E+03*	*1.50E+02*	-
-	2,6-Diamino-4-nitrotoluene	59229-75-3	*3.20E+01*	*7.00E+01*	*1.50E+02*	*1.10E+03*	*1.10E+03*	*1.50E+02*	-
-	3,5-Dinitroaniline	618-87-1	-	*7.70E+00*	-	*1.10E+02*	*1.10E+02*	-	-
-	Acenaphthene	83-32-9	-	3.48E+03	-	5.05E+04	1.51E+04	-	8.25E+01
-	Acenaphthylene	208-96-8	-	*3.48E+03*	-	*5.05E+04*	*1.51E+04*	-	*8.25E+01*
-	Acetone	67-64-1	-	6.63E+04	-	9.60E+05	2.42E+05	-	4.98E+01
-	Amino-2,6-dinitrotoluene[4-]	19406-51-0	-	*7.70E+00*	-	*1.10E+02*	*1.10E+02*	-	-
-	Amino-4,6-dinitrotoluene[2-]	35572-78-2	-	*7.70E+00*	-	*1.10E+02*	*1.10E+02*	-	-
-	Aniline	62-53-3	*9.50E+02*	*4.40E+02*	*4.00E+03*	*5.70E+03*	*5.70E+03*	*4.00E+03*	-
-	Anthracene	120-12-7	-	1.74E+04	-	2.53E+05	7.53E+04	-	8.51E+02
-	Azobenzene	103-33-3	*5.60E+01*	-	*2.60E+02*	-	-	*2.60E+02*	-
-	Benzene	71-43-2	1.78E+01	1.14E+02	8.72E+01	7.29E+02	1.42E+02	4.23E+02	4.18E-02
-	Benzo(a)anthracene	56-55-3	1.53E+00	-	3.23E+01	-	-	2.40E+02	6.37E-01
-	Benzo(a)pyrene	50-32-8	1.12E+00	1.74E+01	2.36E+01	2.51E+02	1.50E+01	1.73E+02	4.42E+00

Parameter Category	Parameter name	CAS NO.	Residential Cancer (mg/kg)	Residential Noncancer (mg/kg)	Industrial Cancer (mg/kg)	Industrial Noncancer (mg/kg)	Construction Worker Noncancer (mg/kg)	Construction Worker Cancer (mg/kg)	SL-SSL, DAF 20 (mg/kg)
-	Benzo(b)fluoranthene	205-99-2	1.53E+00	-	3.23E+01	-	-	2.40E+02	6.17E+00
-	Benzo(g,h,i)perylene	191-24-2	1.12E+00	1.74E+01	2.36E+01	2.51E+02	1.50E+01	1.73E+02	4.42E+00
-	Benzo(k)fluoranthene	207-08-9	1.53E+01	-	3.23E+02	-	-	2.31E+03	6.05E+01
-	Benzoic Acid	65-85-0	-	2.50E+05	-	3.30E+06	3.30E+06	-	-
-	Benzyl Alcohol	100-51-6	-	6.30E+03	-	8.20E+04	8.20E+04	-	-
-	Bis(2-chloroethoxy)methane	111-91-1	-	1.90E+02	-	2.50E+03	2.50E+03	-	-
-	Bis(2-chloroethyl)ether	111-44-4	3.11E+00	-	1.57E+01	-	-	1.95E+00	6.05E-04
-	Bis(2-ethylhexyl)phthalate	117-81-7	3.80E+02	1.23E+03	1.83E+03	1.83E+04	5.38E+03	1.34E+04	2.00E+02
-	Bromobenzene	108-86-1	-	2.90E+02	-	1.80E+03	1.80E+03	-	-
-	Bromochloromethane	74-97-5	-	1.50E+02	-	6.30E+02	6.30E+02	-	-
-	Bromodichloromethane	75-27-4	6.19E+00	1.56E+03	3.02E+01	2.60E+04	7.08E+03	1.43E+02	6.21E-03
-	Bromoform	75-25-2	6.74E+02	1.23E+03	1.76E+03	1.83E+04	5.38E+03	2.37E+04	1.47E-01
-	Bromomethane	74-83-9	-	1.77E+01	-	9.45E+01	1.79E+01	-	3.43E-02
-	Bromophenyl-phenylether[4-]	101-55-3	-	1.60E+02	-	2.30E+03	2.30E+03	-	-
-	Butanone[2-]	78-93-3	-	3.74E+04	-	4.11E+05	9.17E+04	-	2.01E+01
-	Butylbenzene[n-]	104-51-8	-	3.90E+03	-	5.80E+04	5.80E+04	-	-
-	Butylbenzene[sec-]	135-98-8	-	7.80E+03	-	1.20E+05	1.20E+05	-	-
-	Butylbenzene[tert-]	98-06-6	-	7.80E+03	-	1.20E+05	1.20E+05	-	-
-	Butylbenzylphthalate	85-68-7	2.90E+03	1.30E+04	1.20E+04	1.60E+05	1.60E+05	1.20E+04	-
-	Carbon Disulfide	75-15-0	-	1.55E+03	-	8.54E+03	1.62E+03	-	4.42E+00
-	Carbon Tetrachloride	56-23-5	1.07E+01	1.44E+02	5.25E+01	1.02E+03	2.02E+02	2.52E+02	3.67E-02
-	Chloro-3-methylphenol[4-]	59-50-7	-	6.30E+03	-	8.20E+04	8.20E+04	-	-
-	Chloroaniline[4-]	106-47-8	2.70E+01	2.50E+02	1.10E+02	3.30E+03	3.30E+03	1.10E+02	-
-	Chlorobenzene	108-90-7	-	3.78E+02	-	2.16E+03	4.12E+02	-	1.08E+00
-	Chlorodibromomethane	124-48-1	1.39E+01	1.23E+03	6.74E+01	1.83E+04	5.38E+03	3.40E+02	7.55E-03
-	Chloroethane	75-00-3	-	1.90E+04	-	8.95E+04	1.66E+04	-	1.07E+02
-	Chloroform	67-66-3	5.90E+00	3.06E+02	2.87E+01	2.00E+03	3.91E+02	1.34E+02	1.09E-02
-	Chloromethane	74-87-3	4.11E+01	2.68E+02	2.01E+02	1.26E+03	2.35E+02	9.56E+02	9.52E-02
-	Chloronaphthalene[2-]	91-58-7	-	6.26E+03	-	1.04E+05	2.83E+04	-	5.70E+01
-	Chlorophenol[2-]	95-57-8	-	3.91E+02	-	6.49E+03	1.77E+03	-	1.15E+00
-	Chlorophenyl-phenyl[4-] Ether	7005-72-3	-	-	-	-	-	-	-
-	Chlorotoluene[2-]	95-49-8	-	1.56E+03	-	2.60E+04	7.08E+03	-	3.56E+00
-	Chlorotoluene[4-]	106-43-4	-	1.56E+03	-	2.60E+04	7.08E+03	-	3.56E+00
-	Chrysene	218-01-9	1.53E+02	-	3.23E+03	-	-	2.31E+04	1.86E+02
-	Dibenz(a,h)anthracene	53-70-3	1.53E-01	-	3.23E+00	-	-	2.40E+01	1.97E+00
-	Dibenzofuran	132-64-9	-	7.80E+01	-	1.20E+03	1.20E+03	-	-
-	Dibromo-3-Chloropropane[1,2-]	96-12-8	8.58E-02	5.88E+00	1.18E+00	4.11E+01	8.29E+00	5.53E+00	1.39E-03
-	Dibromoethane[1,2-]	106-93-4	6.72E-01	1.35E+02	3.31E+00	7.38E+02	1.40E+02	1.63E+01	3.52E-04
-	Dibromomethane	74-95-3	-	5.79E+01	-	2.88E+02	5.39E+01	-	3.35E-02
-	Dichlorobenzene[1,2-]	95-50-1	-	2.15E+03	-	1.30E+04	2.50E+03	-	9.08E+00
-	Dichlorobenzene[1,3-]	541-73-1	1.29E+03	5.48E+03	6.73E+03	9.08E+04	2.48E+04	4.59E+04	1.12E+00
	Dichlorobenzene[1,4-]	106-46-7	1.29E+03	5.48E+03	6.73E+03	9.08E+04	2.48E+04	4.59E+04	1.12E+00

Parameter Category	Parameter name	CAS NO.	Residential Cancer (mg/kg)	Residential Noncancer (mg/kg)	Industrial Cancer (mg/kg)	Industrial Noncancer (mg/kg)	Construction Worker Noncancer (mg/kg)	Construction Worker Cancer (mg/kg)	SL-SSL, DAF 20 (mg/kg)
-	Dichlorobenzidine[3,3'-]	91-94-1	1.18E+01	-	5.70E+01	-	-	4.10E+02	1.24E-01
-	Dichlorodifluoromethane	75-71-8	-	1.82E+02	-	8.65E+02	1.61E+02	-	7.23E+00
-	Dichloroethane[1,1-]	75-34-3	7.86E+01	1.56E+04	3.83E+02	2.60E+05	7.08E+04	1.82E+03	1.36E-01
-	Dichloroethane[1,2-]	107-06-2	8.32E+00	5.56E+01	4.07E+01	2.86E+02	5.38E+01	1.95E+02	2.38E-02
-	Dichloroethene[1,1-]	75-35-4	-	4.40E+02	-	2.26E+03	4.24E+02	-	1.95E+00
-	Dichloroethene[cis-1,2-]	156-59-2	-	1.56E+02	-	2.60E+03	7.08E+02	-	3.52E-01
-	Dichloroethene[trans-1,2-]	156-60-5	-	2.95E+02	-	1.61E+03	3.05E+02	-	5.03E-01
-	Dichlorophenol[2,4-]	120-83-2	-	1.85E+02	-	2.75E+03	8.07E+02	-	8.25E-01
-	Dichloropropane[1,2-]	78-87-5	1.78E+01	2.90E+01	8.68E+01	1.37E+02	2.54E+01	4.15E+02	2.77E-02
-	Dichloropropane[1,3-]	142-28-9	*1.78E+01*	*2.90E+01*	*8.68E+01*	*1.37E+02*	*2.54E+01*	*4.15E+02*	*2.77E-02*
-	Dichloropropane[2,2-]	594-20-7	*1.78E+01*	*2.90E+01*	*8.68E+01*	*1.37E+02*	*2.54E+01*	*4.15E+02*	*2.77E-02*
-	Dichloropropene[1,1-]	563-58-6	*2.93E+01*	*1.41E+02*	*1.46E+02*	*6.95E+02*	*1.30E+02*	*7.81E+02*	*2.81E-02*
-	Dichloropropene[cis-1,3-]	10061-01-5	*2.93E+01*	*1.41E+02*	*1.46E+02*	*6.95E+02*	*1.30E+02*	*7.81E+02*	*2.81E-02*
-	Dichloropropene[trans-1,3-]	10061-02-6	*2.93E+01*	*1.41E+02*	*1.46E+02*	*6.95E+02*	*1.30E+02*	*7.81E+02*	*2.81E-02*
-	Diethylphthalate	84-66-2	-	4.93E+04	-	7.33E+05	2.15E+05	-	9.79E+01
-	Dimethyl Phthalate	131-11-3	-	*4.93E+04*	-	*7.33E+05*	*2.15E+05*	-	*9.79E+01*
-	Dimethylphenol[2,4-]	105-67-9	-	1.23E+03	-	1.83E+04	5.38E+03	-	6.45E+00
-	Di-n-butylphthalate	84-74-2	-	6.16E+03	-	9.16E+04	2.69E+04	-	3.38E+01
-	Dinitro-2-methylphenol[4,6-]	534-52-1	-	4.93E+00	-	7.33E+01	2.15E+01	-	3.98E-02
-	Dinitrobenzene[1,3-]	99-65-0	-	-	-	*8.20E+01*	*8.20E+01*	-	-
-	Dinitrophenol[2,4-]	51-28-5	-	1.23E+02	-	1.83E+03	5.38E+02	-	6.69E-01
-	Dinitrotoluene[2,4-]	121-14-2	1.71E+01	1.23E+02	8.23E+01	1.82E+03	5.36E+02	6.00E+02	4.92E-02
-	Dinitrotoluene[2,6-]	606-20-2	3.56E+00	1.85E+01	1.72E+01	2.76E+02	8.09E+01	1.65E+02	1.02E-02
-	Di-n-octylphthalate	117-84-0	-	*6.30E+02*	-	*8.20E+03*	*8.20E+03*	-	-
-	Diphenylamine	122-39-4	-	*6.30E+03*	-	*8.20E+04*	*8.20E+04*	-	-
-	Ethylbenzene	100-41-4	7.51E+01	3.93E+03	3.68E+02	2.90E+04	5.80E+03	1.77E+03	1.23E+01
-	Fluoranthene	206-44-0	-	2.32E+03	-	3.37E+04	1.00E+04	-	1.34E+03
-	Fluorene	86-73-7	-	2.32E+03	-	3.37E+04	1.00E+04	-	8.00E+01
-	Hexachlorobenzene	118-74-1	3.33E+00	4.93E+01	1.60E+01	7.33E+02	2.15E+02	1.17E+02	1.89E-01
-	Hexachlorobutadiene	87-68-3	6.83E+01	6.16E+01	5.21E+01	9.16E+02	2.69E+02	2.40E+03	4.13E-02
-	Hexachlorocyclopentadiene	77-47-4	-	2.30E+00	-	5.49E+03	8.67E+02	-	2.40E+00
-	Hexachloroethane	67-72-1	1.33E+02	4.31E+01	6.41E+02	6.41E+02	1.88E+02	4.67E+03	3.20E-02
-	Hexanone[2-]	591-78-6	-	*2.00E+02*	-	*1.30E+03*	*1.30E+03*	-	-
-	HMX	2691-41-0	-	3.85E+03	-	6.33E+04	1.74E+04	-	1.94E+01
-	Indeno(1,2,3-cd)pyrene	193-39-5	1.53E+00	-	3.23E+01	-	-	2.40E+02	2.01E+01
-	Iodomethane	74-88-4	NV	NV	NV	NV	NV	NV	NV
-	Isophorone	78-59-1	5.61E+03	1.23E+04	2.70E+04	1.83E+05	5.37E+04	1.98E+05	4.23E+00
-	Isopropylbenzene	98-82-8	-	2.36E+03	-	1.42E+04	2.74E+03	-	1.14E+01
-	Isopropyltoluene[4-]	99-87-6	-	*5.23E+03*	-	*6.13E+04*	*1.40E+04*	-	*1.21E+01*
-	Methyl-2-pentanone[4-]	108-10-1	-	5.81E+03	-	8.16E+04	2.02E+04	-	4.80E+00
-	Methylene Chloride	75-09-2	7.66E+02	4.09E+02	1.44E+04	5.13E+03	1.21E+03	8.96E+04	4.71E-01
-	Methylnaphthalene[2-]	91-57-6	-	2.32E+02	-	3.37E+03	1.00E+03	-	2.76E+00

Parameter Category	Parameter name	CAS NO.	Residential Cancer (mg/kg)	Residential Noncancer (mg/kg)	Industrial Cancer (mg/kg)	Industrial Noncancer (mg/kg)	Construction Worker Noncancer (mg/kg)	Construction Worker Cancer (mg/kg)	SL-SSL, DAF 20 (mg/kg)
-	Methylphenol[2-]	95-48-7	-	*3.20E+03*	-	*4.10E+04*	*4.10E+04*	-	-
-	Methylphenol[3-,4-]	65794-96-9	-	*3.20E+03*	-	*4.10E+04*	*4.10E+04*	-	-
-	Methylphenol[4-]	106-44-5	-	*6.30E+03*	-	*8.20E+04*	*8.20E+04*	-	-
-	Naphthalene	91-20-3	4.97E+01	1.62E+02	2.41E+02	8.43E+02	1.59E+02	1.11E+03	8.23E-02
-	Nitroaniline[2-]	88-74-4	-	*6.30E+02*	-	*8.00E+03*	*8.00E+03*	-	-
-	Nitroaniline[3-]	99-09-2	*2.70E+02*	*2.50E+02*	*1.10E+03*	*3.30E+03*	*3.30E+03*	*1.10E+03*	-
-	Nitroaniline[4-]	100-01-6	*2.70E+02*	*2.50E+02*	*1.10E+03*	*3.30E+03*	*3.30E+03*	*1.10E+03*	-
-	Nitrobenzene	98-95-3	6.04E+01	1.31E+02	2.93E+02	1.54E+03	3.53E+02	1.35E+03	1.44E-02
-	Nitrophenol[2-]	88-75-5	-	*1.85E+04*	-	*2.75E+05*	*7.74E+04*	-	*5.23E+01*
-	Nitrophenol[4-]	100-02-7	-	*1.85E+04*	-	*2.75E+05*	*7.74E+04*	-	*5.23E+01*
-	Nitrosodimethylamine[N-]	62-75-9	2.34E-02	4.93E-01	5.03E-01	7.33E+00	2.14E+00	3.66E+00	2.04E-05
-	Nitroso-di-n-propylamine[N-]	621-64-7	*7.80E-01*	-	*3.30E+00*	-	-	*3.30E+00*	-
-	Nitrotoluene[2-]	88-72-2	3.16E+01	7.04E+01	1.65E+02	1.17E+03	3.19E+02	1.13E+03	4.58E-02
-	Nitrotoluene[3-]	99-08-1	-	6.16E+00	-	9.16E+01	2.69E+01	-	2.50E-02
-	Nitrotoluene[4-]	99-99-0	3.33E+02	2.47E+02	1.60E+03	3.67E+03	1.08E+03	1.18E+04	6.13E-01
-	Oxybis(1-chloropropane)[2,2'-]	108-60-1	9.93E+01	-	5.19E+02	-	-	3.54E+03	4.75E-02
-	Pentachlorophenol	87-86-5	9.85E+00	2.34E+02	4.45E+01	3.18E+03	9.89E+02	3.46E+02	1.52E-01
-	PETN	78-11-5	*1.40E+03*	*1.30E+02*	*5.70E+03*	*1.60E+03*	*1.60E+03*	*5.70E+03*	-
-	Phenanthrene	85-01-8	-	1.74E+03	-	2.53E+04	7.53E+03	-	8.59E+01
-	Phenol	108-95-2	-	1.85E+04	-	2.75E+05	7.74E+04	-	5.23E+01
-	Propylbenzene[1-]	103-65-1	-	*3.80E+03*	-	*2.40E+04*	*2.40E+04*	-	-
-	Pyrene	129-00-0	-	1.74E+03	-	2.53E+04	7.53E+03	-	1.92E+02
-	Pyridine	110-86-1	-	*7.80E+01*	-	*1.20E+03*	*1.20E+03*	-	-
-	RDX	121-82-4	8.31E+01	3.01E+02	4.28E+02	4.89E+03	1.35E+03	2.96E+03	5.93E-02
-	Styrene	100-42-5	-	7.26E+03	-	5.13E+04	1.02E+04	-	2.06E+01
-	TATB	3058-38-6	-	*2.20E+03*	-	*3.20E+04*	*3.20E+04*	-	-
-	Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	4.90E-05	5.06E-05	2.38E-04	8.08E-04	2.26E-04	1.72E-03	2.24E-04
-	Tetrachlorodibenzofuran[2,3,7,8-]	51207-31-9	4.90E-04	-	2.43E-03	-	-	1.72E-02	7.69E-06
-	Tetrachloroethane[1,1,1,2-]	630-20-6	2.81E+01	2.35E+03	1.37E+02	3.89E+04	1.06E+04	6.59E+02	3.60E-02
-	Tetrachloroethane[1,1,2,2-]	79-34-5	7.98E+00	1.56E+03	3.94E+01	2.60E+04	7.08E+03	1.97E+02	4.81E-03
-	Tetrachloroethene	127-18-4	3.37E+02	1.11E+02	1.65E+03	6.29E+02	1.20E+02	7.91E+03	3.21E-01
-	Tetryl	479-45-8	-	1.56E+02	-	2.59E+03	7.06E+02	-	5.59E+00
-	Toluene	108-88-3	-	5.23E+03	-	6.13E+04	1.40E+04	-	1.21E+01
-	Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	-	2.00E+03	-	3.00E+03	-	-	5.72E+03
-	Total Petroleum Hydrocarbons Gasoline Range Org.	TPH-GRO	-	1.00E+02	-	5.00E+02	-	-	6.93E+03
-	Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	-	5.08E+04	-	2.43E+05	4.53E+04	-	3.20E+03
-	Trichlorobenzene[1,2,4-]	120-82-1	2.40E+02	8.29E+01	1.25E+03	4.23E+02	7.91E+01	8.54E+03	3.10E+00
-	Trichloroethane[1,1,1-]	71-55-6	-	1.44E+04	-	7.25E+04	1.36E+04	-	5.11E+01
-	Trichloroethane[1,1,2-]	79-00-5	1.88E+01	2.61E+00	9.21E+01	1.24E+01	2.30E+00	4.30E+03	2.68E-02
-	Trichloroethene	79-01-6	1.55E+01	6.77E+00	1.12E+02	3.65E+01	6.90E+00	5.37E+03	3.10E-02

Parameter Category	Parameter name	CAS NO.	Residential Cancer (mg/kg)	Residential Noncancer (mg/kg)	Industrial Cancer (mg/kg)	Industrial Noncancer (mg/kg)	Construction Worker Noncancer (mg/kg)	Construction Worker Cancer (mg/kg)	SL-SSL, DAF 20 (mg/kg)
-	Trichlorofluoromethane	75-69-4	-	1.23E+03	-	6.03E+03	1.13E+03	-	1.57E+01
-	Trichlorophenol[2,4,5-]	95-95-4	-	6.16E+03	-	9.16E+04	2.69E+04	-	6.62E+01
-	Trichlorophenol[2,4,6-]	88-06-2	4.84E+02	6.16E+01	2.33E+03	9.16E+02	2.69E+02	1.70E+04	6.74E-01
-	Trichloropropane[1,2,3-]	96-18-4	5.10E-02	7.09E+00	1.21E+00	3.40E+01	6.31E+00	8.26E+00	5.82E-05
-	Trimethylbenzene[1,2,4-]	95-63-6	-	*3.00E+02*	-	*1.80E+03*	*1.80E+03*	-	-
-	Trimethylbenzene[1,3,5-]	108-67-8	-	*2.70E+02*	-	*1.50E+03*	*1.50E+03*	-	-
-	Trinitrobenzene[1,3,5-]	99-35-4	-	*2.20E+03*	-	*3.20E+04*	*3.20E+04*	-	-
	Trinitrotoluene[2,4,6-]	118-96-7	2.11E+02	3.60E+01	1.07E+03	5.73E+02	1.61E+02	7.50E+03	8.61E-01
	Tris (o-cresyl) phosphate	78-30-8	*1.70E+03*	*6.30E+03*	*7.20E+03*	*8.20E+04*	*8.20E+04*	*7.20E+03*	-
	Vinyl Chloride	75-01-4	7.42E-01	1.13E+02	2.84E+01	8.16E+02	1.62E+02	1.61E+02	1.34E-02
	Xylene[1,2-]	95-47-6	-	8.05E+02	-	3.94E+03	7.36E+02	-	2.98E+00
	Xylene[1,3-]+Xylene[1,4-]	Xylene[m+p]	-	8.71E+02	-	4.28E+03	7.98E+02	-	1.54E+02

Notes:

Italics indicate a surrogate was used because an NMSSL was not available. See Section 2.1.3

mg/kg – milligram per kilogram

NV – No value

SL-SSL DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of 2

Table 2-2. Summary Statistics for the Risk Assessment Soil Data~~Table 2-1. Summary Statistics for the May and August 2019 Soil Data~~

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Inorganics							
Aluminum	7429-90-5	29	1.45E+03	1.25E+04	6.23E+00	8.08E+00	29
Antimony	7440-36-0	29	4.18E-01	1.22E+00	3.02E-01	3.92E-01	7
Arsenic	7440-38-2	39	6.56E-01	3.67E+00	1.79E-01	3.89E-01	39
Barium	7440-39-3	39	6.99E+01	1.26E+04	9.16E-02	1.20E+01	39
Beryllium	7440-41-7	29	1.43E-01	1.13E+00	1.79E-02	2.30E-02	29
Cadmium	7440-43-9	39	3.19E-01	5.62E-01	2.00E-02	1.19E-01	10
Calcium	Ca	29	9.63E+02	1.61E+04	7.33E+00	9.59E+00	29
Chromium	16065-83-1	39	3.05E+00	1.11E+01	1.37E-01	2.40E-01	39
Cobalt	7440-48-4	29	1.02E+00	3.40E+00	1.37E-01	1.62E+00	20
Copper	7440-50-8	29	5.78E+00	1.13E+02	2.75E-01	3.56E-01	27
Iron	7439-89-6	29	3.06E+03	1.70E+04	7.33E+00	9.59E+00	29
Lead	7439-92-1	39	5.19E+00	2.28E+02	1.00E-01	3.92E-01	39
Magnesium	Mg	29	7.60E+02	2.24E+03	7.78E+00	1.01E+01	29
Manganese	7439-96-5	29	6.36E+01	5.38E+02	1.83E-01	2.40E-01	29
Mercury	7487-94-7	39	3.68E-03	4.00E-02	3.57E-03	4.60E-03	34
Nickel	7440-02-0	29	3.30E+00	1.07E+01	8.95E-02	1.15E-01	29
Nitrate	14797-55-8	12	5.14E-01	4.02E+00	3.12E-01	3.67E-01	12
Perchlorate	14797-73-0	29	5.17E-04	1.73E-03	5.00E-04	6.10E-04	7
Potassium	K	29	2.47E+02	1.80E+03	5.86E+00	7.60E+00	29
Selenium	7782-49-2	39	9.58E-01	3.05E+00	2.95E-01	5.90E-01	14
Silver	7440-22-4	39	1.57E-01	7.95E+00	9.16E-02	1.20E-01	35
Sodium	Na	29	5.85E+01	1.54E+02	6.41E+00	8.31E+00	29
Thallium	7440-28-0	29	7.72E-02	4.55E-01	5.37E-02	1.61E-01	19
Vanadium	7440-62-2	29	6.99E+00	1.90E+01	9.16E-02	1.19E-01	29
Zinc	7440-66-6	29	2.64E+01	1.15E+02	3.66E-01	4.75E-01	29
Organics							
2,3,7,8-TCDD	1746-01-6	10	-	1.34E-06	8.83E-08	1.35E-07	7
2,4-Diamino-6-nitrotoluene	6629-29-4	39	ND	ND	4.78E-01	5.08E-01	0
2,6-Diamino-4-nitrotoluene	59229-75-3	39	ND	ND	6.32E-01	6.70E-01	0
3,5-Dinitroaniline	618-87-1	39	1.33E+00	1.33E+00	2.87E-01	3.05E-01	1
Acenaphthene	83-32-9	29	ND	ND	1.00E-02	3.05E-01	0
Acenaphthylene	208-96-8	29	ND	ND	1.00E-02	3.05E-01	0
Acetone	67-64-1	24	ND	ND	1.53E-03	2.04E-03	0
Amino-2,6-dinitrotoluene[4-]	19406-51-0	39	2.10E-01	3.24E+00	1.44E-01	1.52E-01	8
mino-4,6-dinitrotoluene[2-]	35572-78-2	39	2.77E-01	1.49E+00	1.44E-01	1.52E-01	8

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Aniline	62-53-3	29	ND	ND	1.00E-01	3.05E+00	0
Anthracene	120-12-7	29	1.42E-02	5.09E-01	1.00E-02	3.05E-01	3
Azobenzene	103-33-3	29	ND	ND	1.00E-01	3.05E+00	0
Benzene	71-43-2	24	ND	ND	3.05E-04	4.07E-04	0
Benzo(a)anthracene	56-55-3	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(a)pyrene	50-32-8	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(b)fluoranthene	205-99-2	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(g,h,i)perylene	191-24-2	29	ND	ND	1.00E-02	3.05E-01	0
Benzo(k)fluoranthene	207-08-9	29	ND	ND	1.00E-02	3.05E-01	0
Benzoic Acid	65-85-0	29	4.83E-01	4.90E-01	1.67E-01	5.09E+00	2
Benzyl Alcohol	100-51-6	29	ND	ND	1.00E-01	3.05E+00	0
Bis(2-chloroethoxy)methane	111-91-1	29	ND	ND	1.00E-01	3.05E+00	0
Bis(2-chloroethyl)ether	111-44-4	29	ND	ND	1.00E-01	3.05E+00	0
Bis(2-ethylhexyl)phthalate	117-81-7	29	1.11E-02	5.66E+01	1.01E-02	3.05E-01	10
Bromobenzene	108-86-1	24	ND	ND	3.05E-04	4.07E-04	0
Bromochloromethane	74-97-5	24	ND	ND	3.05E-04	4.07E-04	0
Bromodichloromethane	75-27-4	24	ND	ND	3.05E-04	4.07E-04	0
Bromoform	75-25-2	24	ND	ND	3.05E-04	4.07E-04	0
Bromomethane	74-83-9	24	ND	ND	3.05E-04	4.07E-04	0
Bromophenyl-phenylether[4-]	101-55-3	29	ND	ND	1.00E-01	3.05E+00	0
Butanone[2-]	78-93-3	24	ND	ND	1.53E-03	2.04E-03	0
Butylbenzene[n-]	104-51-8	24	ND	ND	3.05E-04	4.07E-04	0
Butylbenzene[sec-]	135-98-8	24	ND	ND	3.05E-04	4.07E-04	0
Butylbenzene[tert-]	98-06-6	24	ND	ND	3.05E-04	4.07E-04	0
Butylbenzylphthalate	85-68-7	29	ND	ND	1.01E-02	3.05E-01	0
Carbon Disulfide	75-15-0	24	ND	ND	1.53E-03	2.04E-03	0
Carbon Tetrachloride	56-23-5	24	ND	ND	3.05E-04	4.07E-04	0
Chloro-3-methylphenol[4-]	59-50-7	29	ND	ND	1.34E-01	4.07E+00	0
Chloroaniline[4-]	106-47-8	29	ND	ND	1.00E-01	3.05E+00	0
Chlorobenzene	108-90-7	24	ND	ND	3.05E-04	4.07E-04	0
Chlorodibromomethane	124-48-1	24	ND	ND	3.05E-04	4.07E-04	0
Chloroethane	75-00-3	24	ND	ND	3.05E-04	4.07E-04	0
Chloroform	67-66-3	24	ND	ND	3.05E-04	4.07E-04	0
Chloromethane	74-87-3	24	ND	ND	3.05E-04	4.07E-04	0
Chloronaphthalene[2-]	91-58-7	29	ND	ND	1.00E-02	3.05E-01	0
Chlorophenol[2-]	95-57-8	29	ND	ND	1.00E-01	3.05E+00	0
Chlorophenyl-phenyl[4-] Ether	7005-72-3	29	ND	ND	1.00E-01	3.05E+00	0
Chlorotoluene[2-]	95-49-8	24	ND	ND	3.05E-04	4.07E-04	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Chlorotoluene[4-]	106-43-4	24	ND	ND	3.05E-04	4.07E-04	0
Chrysene	218-01-9	29	ND	ND	1.00E-02	3.05E-01	0
Dibenz(a,h)anthracene	53-70-3	29	ND	ND	1.00E-02	3.05E-01	0
Dibenzofuran	132-64-9	29	ND	ND	1.00E-01	3.05E+00	0
Dibromo-3-Chloropropane[1,2-]	96-12-8	24	ND	ND	5.07E-04	6.10E-04	0
Dibromoethane[1,2-]	106-93-4	24	ND	ND	3.05E-04	4.07E-04	0
Dibromomethane	74-95-3	24	ND	ND	3.05E-04	4.07E-04	0
Dichlorobenzene[1,2-]	95-50-1	53	ND	ND	3.05E-04	3.05E+00	0
Dichlorobenzene[1,3-]	541-73-1	53	ND	ND	3.05E-04	3.05E+00	0
Dichlorobenzene[1,4-]	106-46-7	53	ND	ND	3.05E-04	3.05E+00	0
Dichlorobenzidine[3,3'-]	91-94-1	29	ND	ND	1.00E-01	3.05E+00	0
Dichlorodifluoromethane	75-71-8	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethane[1,1-]	75-34-3	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethane[1,2-]	107-06-2	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethene[1,1-]	75-35-4	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethene[cis-1,2-]	156-59-2	24	ND	ND	3.05E-04	4.07E-04	0
Dichloroethene[trans-1,2-]	156-60-5	24	ND	ND	3.05E-04	4.07E-04	0
Dichlorophenol[2,4-]	120-83-2	29	ND	ND	1.00E-01	3.05E+00	0
Dichloropropane[1,2-]	78-87-5	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropane[1,3-]	142-28-9	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropane[2,2-]	594-20-7	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropene[1,1-]	563-58-6	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropene[cis-1,3-]	10061-01-5	24	ND	ND	3.05E-04	4.07E-04	0
Dichloropropene[trans-1,3-]	10061-02-6	24	ND	ND	3.05E-04	4.07E-04	0
Diethylphthalate	84-66-2	29	ND	ND	1.01E-02	3.05E-01	0
Dimethyl Phthalate	131-11-3	29	ND	ND	1.01E-02	3.05E-01	0
Dimethylphenol[2,4-]	105-67-9	29	ND	ND	1.00E-01	3.05E+00	0
Di-n-butylphthalate	84-74-2	29	ND	ND	1.01E-02	3.05E-01	0
Dinitro-2-methylphenol[4,6-]	534-52-1	29	ND	ND	1.00E-01	3.05E+00	0
Dinitrobenzene[1,3-]	99-65-0	39	ND	ND	1.44E-01	1.52E-01	0
Dinitrophenol[2,4-]	51-28-5	29	ND	ND	1.00E-01	3.05E+00	0
Dinitrotoluene[2,4-]	121-14-2	68	1.72E-01	1.72E-01	1.00E-01	3.05E+00	1
Dinitrotoluene[2,6-]	606-20-2	68	ND	ND	1.00E-01	3.05E+00	0
Di-n-octylphthalate	117-84-0	29	ND	ND	1.01E-02	3.05E-01	0
Diphenylamine	122-39-4	29	ND	ND	1.00E-01	3.05E+00	0
Ethylbenzene	100-41-4	24	ND	ND	3.05E-04	4.07E-04	0
Fluoranthene	206-44-0	29	ND	ND	1.00E-02	3.05E-01	0
Fluorene	86-73-7	29	ND	ND	1.00E-02	3.05E-01	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Hexachlorobenzene	118-74-1	29	ND	ND	1.00E-01	3.05E+00	0
Hexachlorobutadiene	87-68-3	29	ND	ND	1.00E-01	3.05E+00	0
Hexachlorocyclopentadiene	77-47-4	29	ND	ND	1.00E-01	3.05E+00	0
Hexachloroethane	67-72-1	29	ND	ND	1.00E-01	3.05E+00	0
Hexanone[2-]	591-78-6	24	ND	ND	1.53E-03	2.04E-03	0
HMX	2691-41-0	39	1.82E-01	1.60E+02	1.44E-01	3.73E+01	17
Indeno(1,2,3-cd)pyrene	193-39-5	29	ND	ND	1.00E-02	3.05E-01	0
Iodomethane	74-88-4	24	ND	ND	1.53E-03	2.04E-03	0
Isophorone	78-59-1	29	ND	ND	1.00E-01	3.05E+00	0
Isopropylbenzene	98-82-8	24	ND	ND	3.05E-04	4.07E-04	0
Isopropyltoluene[4-]	99-87-6	24	4.24E-04	1.05E-03	3.05E-04	4.07E-04	2
Methyl-2-pentanone[4-]	108-10-1	24	ND	ND	1.53E-03	2.04E-03	0
Methylene Chloride	75-09-2	24	2.62E-03	4.73E-03	1.69E-03	2.16E-03	2
Methylnaphthalene[2-]	91-57-6	29	1.31E-02	1.31E-02	1.00E-02	3.05E-01	1
Methylphenol[2-]	95-48-7	29	ND	ND	1.00E-01	3.05E+00	0
Methylphenol[3-,4-]	65794-96-9	14	ND	ND	1.01E-01	3.05E+00	0
Methylphenol[4-]	106-44-5	15	ND	ND	1.00E-01	1.08E-01	0
Naphthalene	91-20-3	29	ND	ND	1.00E-02	3.05E-01	0
Nitroaniline[2-]	88-74-4	29	ND	ND	1.10E-01	3.36E+00	0
Nitroaniline[3-]	99-09-2	29	ND	ND	1.00E-01	3.05E+00	0
Nitroaniline[4-]	100-01-6	29	ND	ND	1.00E-01	3.05E+00	0
Nitrobenzene	98-95-3	68	ND	ND	1.00E-01	3.05E+00	0
Nitrophenol[2-]	88-75-5	29	ND	ND	1.00E-01	3.05E+00	0
Nitrophenol[4-]	100-02-7	29	ND	ND	1.00E-01	3.05E+00	0
Nitrosodimethylamine[N-]	62-75-9	29	ND	ND	1.00E-01	3.05E+00	0
Nitroso-di-n-propylamine[N-]	621-64-7	29	ND	ND	1.00E-01	3.05E+00	0
Nitrotoluene[2-]	88-72-2	39	ND	ND	1.44E-01	1.52E-01	0
Nitrotoluene[3-]	99-08-1	39	ND	ND	1.44E-01	1.52E-01	0
Nitrotoluene[4-]	99-99-0	39	ND	ND	1.44E-01	1.52E-01	0
Oxybis(1-chloropropane)[2,2'-]	108-60-1	29	ND	ND	1.00E-01	3.05E+00	0
Pentachlorophenol	87-86-5	29	ND	ND	1.00E-01	3.05E+00	0
PETN	78-11-5	39	3.88E+01	3.88E+01	2.39E-01	6.25E+00	1
Phenanthrene	85-01-8	29	ND	ND	1.00E-02	3.05E-01	0
Phenol	108-95-2	29	ND	ND	1.00E-01	3.05E+00	0
Propylbenzene[1-]	103-65-1	24	ND	ND	3.05E-04	4.07E-04	0
Pyrene	129-00-0	29	ND	ND	1.00E-02	3.05E-01	0
Pyridine	110-86-1	29	ND	ND	1.00E-01	3.05E+00	0
RDX	121-82-4	39	1.56E-01	7.24E+01	1.46E-01	3.75E+00	17

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Styrene	100-42-5	24	ND	ND	3.05E-04	4.07E-04	0
TATB	3058-38-6	38	3.65E-01	4.32E+01	2.87E-01	3.00E+00	22
Tetrachloroethane[1,1,1,2-]	630-20-6	24	ND	ND	3.05E-04	4.07E-04	0
Tetrachloroethane[1,1,2,2-]	79-34-5	24	ND	ND	3.05E-04	4.07E-04	0
Tetrachloroethene	127-18-4	24	ND	ND	3.05E-04	4.07E-04	0
Tetryl	479-45-8	25	ND	ND	1.44E-01	1.52E-01	0
Toluene	108-88-3	24	ND	ND	3.05E-04	4.07E-04	0
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	14	3.54E+00	7.91E+01	2.19E+00	2.64E+00	14
Total Petroleum Hydrocarbons Gasoline Range Org.	TPH-GRO	14	ND	ND	1.41E-02	2.31E-02	0
Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	24	ND	ND	1.53E-03	2.04E-03	0
Trichlorobenzene[1,2,4-]	120-82-1	29	ND	ND	1.00E-01	3.05E+00	0
Trichloroethane[1,1,1-]	71-55-6	24	ND	ND	3.05E-04	4.07E-04	0
Trichloroethane[1,1,2-]	79-00-5	24	ND	ND	3.05E-04	4.07E-04	0
Trichloroethene	79-01-6	24	ND	ND	3.05E-04	4.07E-04	0
Trichlorofluoromethane	75-69-4	24	ND	ND	3.05E-04	4.07E-04	0
Trichlorophenol[2,4,5-]	95-95-4	29	ND	ND	1.00E-01	3.05E+00	0
Trichlorophenol[2,4,6-]	88-06-2	29	ND	ND	1.00E-01	3.05E+00	0
Trichloropropane[1,2,3-]	96-18-4	24	ND	ND	3.05E-04	4.07E-04	0
Trimethylbenzene[1,2,4-]	95-63-6	24	ND	ND	3.05E-04	4.07E-04	0
Trimethylbenzene[1,3,5-]	108-67-8	24	ND	ND	3.05E-04	4.07E-04	0
Trinitrobenzene[1,3,5-]	99-35-4	39	3.97E-01	4.60E-01	1.44E-01	1.52E-01	3
Trinitrotoluene[2,4,6-]	118-96-7	39	2.42E-01	1.27E+01	1.44E-01	1.49E+00	7
Tris (o-cresyl) phosphate	78-30-8	39	ND	ND	2.87E-01	3.05E-01	0
Vinyl Chloride	75-01-4	24	ND	ND	3.05E-04	4.07E-04	0
Xylene[1,2-]	95-47-6	24	ND	ND	3.05E-04	4.07E-04	0
Xylene[1,3-]+Xylene[1,4-]	Xylene[m+p]	24	ND	ND	3.05E-04	8.14E-04	0

Note: Data are for soils depths from 0 to 12”. Data as shown contain duplicates.
ND – Not detected

~~Analyte Name~~	~~Sample Size~~	~~Minimum (mg/kg)~~	~~Maximum (mg/kg)~~	~~Mean (mg/kg)~~	~~SD (mg/kg)~~	~~Minimum MDL (mg/kg)~~	~~Maximum MDL (mg/kg)~~	~~Number of Detected Values~~
~~Inorganics – Surface Soil~~								
~~Aluminum~~	~~12~~	~~1.45E+03~~	~~8.59E+03~~	~~5.08E+03~~	~~2.18E+03~~	~~6.45E+00~~	~~7.60E+00~~	~~12~~
~~Antimony~~	~~12~~	~~3.23E-01~~	~~1.22E+00~~	~~5.90E-01~~	~~3.26E-01~~	~~3.13E-01~~	~~3.69E-01~~	~~6~~
~~Arsenic~~	~~12~~	~~1.35E+00~~	~~3.32E+00~~	~~2.19E+00~~	~~7.11E-01~~	~~3.14E-01~~	~~3.74E-01~~	~~12~~
~~Barium~~	~~12~~	~~1.27E+02~~	~~1.26E+04~~	~~4.47E+03~~	~~5.20E+03~~	~~9.91E-02~~	~~1.01E+00~~	~~12~~

Analyte Name	Sample Size	Minimum (mg/kg)	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Beryllium	12	1.43E-01	9.38E-01	4.79E-01	2.61E-01	1.86E-02	2.21E-02	12
Cadmium	12	9.49E-02	1.12E-01	1.03E-01	4.80E-03	9.49E-02	1.12E-01	0
Calcium	12	9.63E+02	1.61E+04	3.38E+03	4.74E+03	7.62E+00	8.79E+00	12
Chromium	12	3.65E+00	1.05E+01	5.88E+00	1.75E+00	1.42E-01	1.68E-01	12
Cobalt	12	1.02E+00	3.03E+00	1.78E+00	7.04E-01	1.49E-01	1.51E+00	8
Copper	12	4.12E+00	3.04E+01	1.24E+01	8.70E+00	2.85E-01	3.35E-01	11
Iron	12	3.06E+03	6.57E+03	4.90E+03	1.19E+03	7.62E+00	8.79E+00	12
Lead	12	8.19E+00	2.81E+01	1.38E+01	6.95E+00	3.13E-01	3.69E-01	12
Magnesium	12	8.01E+02	1.50E+03	1.15E+03	2.34E+02	8.06E+00	9.51E+00	12
Manganese	12	6.36E+01	2.65E+02	1.58E+02	6.41E+01	1.91E-01	2.20E-01	12
Mercury	12	3.68E-03	2.05E-02	9.66E-03	5.57E-03	3.57E-03	4.18E-03	10
Nickel	12	3.30E+00	1.07E+01	5.28E+00	2.04E+00	9.28E-02	1.11E-01	12
Nitrate	12	3.46E-01	3.59E+00	1.43E+00	1.12E+00	3.12E-01	3.65E-01	10
Perchlorate	12	5.02E-04	5.67E-04	5.24E-04	2.13E-05	5.02E-04	5.67E-04	0
Potassium	12	2.47E+02	1.64E+03	9.10E+02	4.25E+02	6.07E+00	7.16E+00	12
Selenium	12	9.58E-01	3.05E+00	1.59E+00	6.53E-01	3.34E-01	3.98E-01	12
Silver	12	1.02E-01	1.23E+01	2.22E+00	3.64E+00	9.49E-02	1.12E-01	9
Sodium	12	5.85E+01	1.89E+02	9.58E+01	3.72E+01	6.64E+00	7.83E+00	12
Thallium	12	1.30E-01	2.44E-01	1.69E-01	4.38E-02	1.30E-01	1.55E-01	5
Vanadium	12	6.99E+00	2.03E+01	1.29E+01	3.77E+00	9.49E-02	1.12E-01	12
Zinc	12	2.96E+01	1.00E+02	5.19E+01	2.14E+01	3.79E-01	4.47E-01	12
Organics – Surface Soil								
2,4-Diamino-6-nitrotoluene	12	4.95E-01	5.00E-01	4.98E-01	2.14E-03	4.95E-01	5.00E-01	0
2,6-Diamino-4-nitrotoluene	12	6.53E-01	6.60E-01	6.58E-01	3.00E-03	6.53E-01	6.60E-01	0
3,5-Dinitroaniline	12	2.97E-01	1.33E+00	3.85E-01	2.98E-01	2.97E-01	3.00E-01	1
Acenaphthene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Acenaphthylene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Acetone	15	1.69E-03	1.91E-03	1.78E-03	7.63E-05	1.69E-03	1.91E-03	0
Amino-2,6-dinitrotoluene[4-]	12	1.49E-01	3.24E+00	7.41E-01	9.71E-01	1.49E-01	1.50E-01	6
Amino-4,6-dinitrotoluene[2-]	12	1.49E-01	7.59E-01	2.71E-01	1.89E-01	1.49E-01	1.50E-01	6
Aniline	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Anthracene	12	1.04E-02	5.09E-01	7.03E-02	1.44E-01	1.01E-02	3.05E-01	4
Azobenzene	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Benzene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Benzo(a)anthracene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0

Analyte Name	Sample Size	Minimum (mg/kg)	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Benzo(a)pyrene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Benzo(b)fluoranthene	12	1.01E-02	3.05E-01	4.19E-02	8.43E-02	1.01E-02	3.05E-01	1
Benzo(g,h,i)perylene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Benzo(k)fluoranthene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Benzoic Acid	12	1.69E-01	5.09E+00	6.98E-01	1.41E+00	1.69E-01	5.09E+00	0
Benzyl Alcohol	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Bis(2-chloroethoxy)methane	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Bis(2-chloroethyl)ether	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Bis(2-ethylhexyl)phthalate	12	1.06E-02	5.66E+01	5.65E+00	1.62E+01	1.01E-02	3.05E-01	8
Bromobenzene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Bromochloromethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Bromodichloromethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Bromoform	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Bromomethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Bromophenyl-phenylether[4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Butanone[2-]	15	1.69E-03	1.91E-03	1.78E-03	7.63E-05	1.69E-03	1.91E-03	0
Butylbenzene[n-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Butylbenzene[sec-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Butylbenzene[tert-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Butylbenzylphthalate	12	1.01E-02	3.05E-01	4.27E-02	8.40E-02	1.01E-02	3.05E-01	1
Carbon Disulfide	15	1.69E-03	1.91E-03	1.78E-03	7.63E-05	1.69E-03	1.91E-03	0
Carbon Tetrachloride	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chloro-3-methylphenol[4-]	12	1.35E-01	4.07E+00	5.58E-01	1.12E+00	1.35E-01	4.07E+00	0
Chloroaniline[4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Chlorobenzene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chlorodibromomethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chloroethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chloroform	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chloromethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chloronaphthalene[2-]	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Chlorophenol[2-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Chlorophenyl-phenyl[4-] Ether	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Chlorotoluene[2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chlorotoluene[4-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Chrysene	12	1.01E-02	3.05E-01	4.19E-02	8.43E-02	1.01E-02	3.05E-01	1
Dibenz(a,h)anthracene	12	1.01E-02	3.05E-01	4.26E-02	8.40E-02	1.01E-02	3.05E-01	1
Dibenzofuran	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Dibromo-3-Chloropropane[1,2-]	15	5.07E-04	5.73E-04	5.33E-04	2.30E-05	5.07E-04	5.73E-04	0
Dibromoethane[1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dibromomethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichlorobenzene[1,2-]	27	3.37E-04	3.05E+00	1.86E-01	5.88E-01	3.37E-04	3.05E+00	0
Dichlorobenzene[1,3-]	27	3.37E-04	3.05E+00	1.86E-01	5.88E-01	3.37E-04	3.05E+00	0
Dichlorobenzene[1,4-]	27	3.37E-04	3.05E+00	1.86E-01	5.88E-01	3.37E-04	3.05E+00	0

Analyte Name	Sample Size	Minimum (mg/kg)	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Dichlorobenzidine[3,3'-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Dichlorodifluoromethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloroethane[1,1-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloroethane[1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloroethene[1,1-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloroethene[cis-1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloroethene[trans-1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichlorophenol[2,4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Dichloropropane[1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloropropane[1,3-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloropropane[2,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloropropene[1,1-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloropropene[cis-1,3-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Dichloropropene[trans-1,3-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Diethylphthalate	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Dimethyl Phthalate	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Dimethylphenol[2,4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Di-n-butylphthalate	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Dinitro-2-methylphenol[4,6-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Dinitrobenzene[1,3-]	12	1.49E-01	1.50E-01	1.50E-01	5.22E-04	1.49E-01	1.50E-01	0
Dinitrophenol[2,4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Dinitrotoluene[2,4-]	24	1.01E-01	3.05E+00	2.85E-01	5.99E-01	1.01E-01	3.05E+00	1
Dinitrotoluene[2,6-]	24	1.01E-01	3.05E+00	2.84E-01	5.99E-01	1.01E-01	3.05E+00	0
Di-n-octylphthalate	12	1.01E-02	3.05E-01	4.29E-02	8.39E-02	1.01E-02	3.05E-01	1
Diphenylamine	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Ethylbenzene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Fluoranthene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Fluorene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	12	2.98E-06	1.40E-03	1.53E-04	3.96E-04	1.48E-06	1.63E-06	12
Heptachlorodibenzodioxins (Total)	12	7.18E-06	2.48E-03	2.81E-04	6.99E-04			12
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	12	2.60E-06	4.66E-04	5.12E-05	1.32E-04	1.48E-06	1.63E-06	12
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	12	4.50E-07	2.38E-05	2.90E-06	6.63E-06	1.48E-06	1.63E-06	8
Heptachlorodibenzofurans (Total)	12	3.71E-06	9.52E-04	1.06E-04	2.68E-04			12
Hexachlorobenzene	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Hexachlorobutadiene	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Hexachlorocyclopentadiene	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	12	4.50E-07	3.20E-05	3.57E-06	9.01E-06	1.48E-06	1.63E-06	8
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	12	4.50E-07	6.02E-05	6.50E-06	1.70E-05	1.48E-06	1.63E-06	10
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	12	4.74E-07	7.04E-05	7.47E-06	1.99E-05	1.48E-06	1.63E-06	10
Hexachlorodibenzodioxins (Total)	12	5.87E-07	5.86E-04	6.40E-05	1.66E-04			12
Hexachlorodibenzofuran[1,2,3,4,7,8-]	12	4.50E-07	1.70E-05	2.52E-06	4.62E-06	1.48E-06	1.63E-06	10
Hexachlorodibenzofuran[1,2,3,6,7,8-]	12	4.50E-07	2.54E-05	3.00E-06	7.08E-06	1.48E-06	1.63E-06	8
Hexachlorodibenzofuran[1,2,3,7,8,9-]	12	4.44E-07	1.79E-06	5.80E-07	3.81E-07	1.48E-06	1.63E-06	2

Analyte Name	Sample Size	Minimum (mg/kg)	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Hexachlorodibenzofuran[2,3,4,6,7,8-]	12	4.50E-07	3.19E-05	3.84E-06	8.89E-06	1.48E-06	1.63E-06	8
Hexachlorodibenzofurans (Total)	12	1.60E-06	5.64E-04	6.07E-05	1.59E-04			12
Hexachloroethane	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Hexanone[2-]	15	1.69E-03	1.91E-03	1.78E-03	7.63E-05	1.69E-03	1.91E-03	0
HMX	12	1.49E-01	1.60E+02	3.30E+01	6.04E+01	1.49E-01	3.73E+01	5
Indeno(1,2,3-cd)pyrene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Iodomethane	15	1.69E-03	1.91E-03	1.78E-03	7.63E-05	1.69E-03	1.91E-03	0
Isophorone	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Isopropylbenzene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Isopropyltoluene[4-]	15	3.37E-04	1.05E-03	4.00E-04	1.80E-04	3.37E-04	3.81E-04	1
Methyl-2-pentanone[4-]	15	1.69E-03	1.91E-03	1.78E-03	7.63E-05	1.69E-03	1.91E-03	0
Methylene Chloride	15	1.69E-03	4.73E-03	2.04E-03	7.77E-04	1.69E-03	1.91E-03	2
Methylnaphthalene[2-]	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Methylphenol[2-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Methylphenol[3-,4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Naphthalene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Nitroaniline[2-]	12	1.11E-01	3.36E+00	4.61E-01	9.29E-01	1.11E-01	3.36E+00	0
Nitroaniline[3-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Nitroaniline[4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Nitrobenzene	24	1.01E-01	3.05E+00	2.84E-01	5.99E-01	1.01E-01	3.05E+00	0
Nitrophenol[2-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Nitrophenol[4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Nitrosodimethylamine[N-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Nitroso-di-n-propylamine[N-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Nitrotoluene[2-]	12	1.49E-01	1.50E-01	1.50E-01	5.22E-04	1.49E-01	1.50E-01	0
Nitrotoluene[3-]	12	1.49E-01	1.50E-01	1.50E-01	5.22E-04	1.49E-01	1.50E-01	0
Nitrotoluene[4-]	12	1.49E-01	1.50E-01	1.50E-01	5.22E-04	1.49E-01	1.50E-01	0
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	12	1.70E-05	6.97E-03	8.01E-04	1.97E-03	2.96E-06	3.24E-06	12
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	12	3.31E-06	8.31E-04	9.52E-05	2.34E-04	2.96E-06	3.24E-06	12
Oxybis(1-chloropropane)[2,2'-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Pentachlorodibenzodioxin[1,2,3,7,8-]	12	4.44E-07	1.23E-05	1.55E-06	3.40E-06	1.48E-06	1.63E-06	4
Pentachlorodibenzodioxins (Total)	12	0.00E+00	9.02E-05	9.13E-06	2.56E-05			8
Pentachlorodibenzofuran[1,2,3,7,8-]	12	4.44E-07	2.27E-06	8.85E-07	6.37E-07	1.48E-06	1.63E-06	7
Pentachlorodibenzofuran[2,3,4,7,8-]	12	4.50E-07	3.37E-06	1.06E-06	1.06E-06	1.48E-06	1.63E-06	5
Pentachlorodibenzofurans (Totals)	12	0.00E+00	1.32E-04	1.70E-05	3.66E-05			11
Pentachlorophenol	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
PETN	12	2.48E-01	3.88E+01	3.46E+00	1.11E+01	2.48E-01	6.25E+00	1
Phenanthrene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Phenol	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Propylbenzene[1-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Pyrene	12	1.01E-02	3.05E-01	4.18E-02	8.43E-02	1.01E-02	3.05E-01	0
Pyridine	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
RDX	12	1.49E-01	6.07E+02	6.06E+01	1.73E+02	1.49E-01	3.71E+01	5

Analyte Name	Sample Size	Minimum (mg/kg)	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Styrene	15	3.38E-04	7.10E-04	5.27E-04	1.63E-04	3.37E-04	3.81E-04	0
TATB	11	2.99E-01	4.32E+01	1.40E+01	1.53E+01	2.97E-01	3.00E+00	9
Tetrachlorodibenzodioxin[2,3,7,8-]	12	9.12E-08	7.57E-07	2.09E-07	1.76E-07	2.96E-07	3.24E-07	3
Tetrachlorodibenzodioxins (Total)	12	0.00E+00	9.77E-06	1.52E-06	2.77E-06			3
Tetrachlorodibenzofuran[2,3,7,8-]	14	1.97E-07	2.71E-06	8.71E-07	8.22E-07	2.96E-07	3.24E-07	4
Tetrachlorodibenzofurans (Totals)	12	2.09E-07	2.47E-05	5.62E-06	7.52E-06			8
Tetrachloroethane[1,1,1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Tetrachloroethane[1,1,2,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Tetrachloroethene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Tetryl	12	1.49E-01	1.50E-01	1.50E-01	5.22E-04	1.49E-01	1.50E-01	0
Toluene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Total Petroleum Hydrocarbons Diesel Range Organics	12	3.68E+00	7.91E+01	1.73E+01	2.03E+01	2.19E+00	2.48E+00	12
Total Petroleum Hydrocarbons Gasoline Range Org.	12	1.41E-02	2.27E-02	1.82E-02	2.33E-03	1.41E-02	2.27E-02	0
Trichloro-1,2,2-trifluoroethane[1,1,2-]	15	1.69E-03	1.91E-03	1.78E-03	7.63E-05	1.69E-03	1.91E-03	0
Trichlorobenzene[1,2,4-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Trichloroethane[1,1,1-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Trichloroethane[1,1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Trichloroethene	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Trichlorofluoromethane	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Trichlorophenol[2,4,5-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Trichlorophenol[2,4,6-]	12	1.01E-01	3.05E+00	4.18E-01	8.43E-01	1.01E-01	3.05E+00	0
Trichloropropane[1,2,3-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Trimethylbenzene[1,2,4-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Trimethylbenzene[1,3,5-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Trinitrobenzene[1,3,5-]	12	1.49E-01	1.21E+00	2.86E-01	3.12E-01	1.49E-01	1.50E-01	3
Trinitrotoluene[2,4,6-]	12	1.49E-01	1.27E+01	2.24E+00	3.85E+00	1.49E-01	1.49E+00	6
Tris (o-cresyl) phosphate	12	2.97E-01	3.00E-01	2.99E-01	1.28E-03	2.97E-01	3.00E-01	0
Vinyl Chloride	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Xylene[1,2-]	15	3.37E-04	3.81E-04	3.55E-04	1.53E-05	3.37E-04	3.81E-04	0
Xylene[1,3-]+Xylene[1,4-]	15	6.76E-04	7.64E-04	7.11E-04	3.07E-05	6.76E-04	7.64E-04	0
Inorganics – Subsurface Soil								
Aluminum	4	3.57E+03	1.04E+04	6.15E+03	3.00E+03	7.53E+00	8.08E+00	4
Antimony	4	3.65E-01	5.57E-01	4.21E-01	9.16E-02	3.65E-01	3.92E-01	1
Barium	4	6.99E+01	2.73E+03	1.24E+03	1.14E+03	1.07E-01	1.08E+00	4
Calcium	4	1.01E+03	1.63E+03	1.32E+03	3.41E+02	8.54E+00	9.59E+00	4
Cadmium	4	1.11E-01	1.19E-01	1.14E-01	3.56E-03	1.11E-01	1.19E-01	0
Cobalt	4	1.01E+00	2.82E+00	1.95E+00	7.96E-01	1.60E-01	1.62E+00	3
Chromium	4	5.27E+00	7.72E+00	6.10E+00	1.11E+00	1.66E-01	1.78E-01	4
Copper	4	3.99E+00	1.15E+01	7.06E+00	3.53E+00	3.32E-01	3.56E-01	2
Iron	4	4.19E+03	6.73E+03	5.50E+03	1.04E+03	8.54E+00	9.59E+00	4
Lead	4	4.16E+00	1.02E+01	7.41E+00	3.19E+00	3.65E-01	3.92E-01	4

~~Analyte Name~~	~~Sample Size~~	~~Minimum (mg/kg)~~	~~Maximum (mg/kg)~~	~~Mean (mg/kg)~~	~~SD (mg/kg)~~	~~Minimum MDL (mg/kg)~~	~~Maximum MDL (mg/kg)~~	~~Number of Detected Values~~
~~Mercury~~	~~6~~	~~4.69E-03~~	~~1.36E-02~~	~~7.78E-03~~	~~3.63E-03~~	~~3.90E-03~~	~~4.88E-03~~	~~4~~
~~Potassium~~	~~4~~	~~7.88E+02~~	~~1.78E+03~~	~~1.17E+03~~	~~4.33E+02~~	~~7.08E+00~~	~~7.60E+00~~	~~4~~
~~Magnesium~~	~~4~~	~~9.92E+02~~	~~1.84E+03~~	~~1.30E+03~~	~~3.71E+02~~	~~9.41E+00~~	~~1.01E+01~~	~~4~~
~~Manganese~~	~~4~~	~~1.21E+02~~	~~2.91E+02~~	~~2.14E+02~~	~~7.80E+01~~	~~2.13E-01~~	~~2.40E-01~~	~~4~~
~~Sodium~~	~~4~~	~~8.58E+01~~	~~1.54E+02~~	~~1.31E+02~~	~~3.08E+01~~	~~7.75E+00~~	~~8.31E+00~~	~~4~~
~~Nitrate~~	~~4~~	~~3.69E-01~~	~~7.96E-01~~	~~5.17E-01~~	~~1.97E-01~~	~~3.67E-01~~	~~3.88E-01~~	~~2~~
~~Perchlorate~~	~~4~~	~~5.73E-04~~	~~6.10E-04~~	~~5.89E-04~~	~~1.64E-05~~	~~5.73E-04~~	~~6.10E-04~~	~~0~~
~~Silver~~	~~4~~	~~1.12E-01~~	~~1.53E+00~~	~~8.61E-01~~	~~6.36E-01~~	~~1.11E-01~~	~~1.19E-01~~	~~3~~
~~Vanadium~~	~~4~~	~~8.49E+00~~	~~1.90E+01~~	~~1.22E+01~~	~~4.76E+00~~	~~1.11E-01~~	~~1.19E-01~~	~~4~~
~~Zinc~~	~~4~~	~~3.56E+01~~	~~7.36E+01~~	~~4.85E+01~~	~~1.78E+01~~	~~4.43E-01~~	~~4.75E-01~~	~~4~~
~~Organics – Subsurface Soil~~								
~~2,4-Diamino-6-nitrotoluene~~	~~4~~	~~4.98E-01~~	~~5.00E-01~~	~~4.99E-01~~	~~1.00E-03~~	~~4.98E-01~~	~~5.00E-01~~	~~0~~
~~2,6-Diamino-4-nitrotoluene~~	~~4~~	~~6.57E-01~~	~~6.60E-01~~	~~6.58E-01~~	~~1.50E-03~~	~~6.57E-01~~	~~6.60E-01~~	~~0~~
~~3,5-Dinitroaniline~~	~~4~~	~~2.99E-01~~	~~3.00E-01~~	~~2.99E-01~~	~~5.00E-04~~	~~2.99E-01~~	~~3.00E-01~~	~~0~~
~~Acenaphthene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Acenaphthylene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Acetone~~	~~4~~	~~1.93E-03~~	~~2.04E-03~~	~~1.97E-03~~	~~5.19E-05~~	~~1.93E-03~~	~~2.04E-03~~	~~0~~
~~Amino-2,6-dinitrotoluene[4-]~~	~~4~~	~~1.49E-01~~	~~1.38E+00~~	~~4.57E-01~~	~~6.16E-01~~	~~1.49E-01~~	~~1.50E-01~~	~~1~~
~~Amino-4,6-dinitrotoluene[2-]~~	~~4~~	~~1.49E-01~~	~~1.49E+00~~	~~4.84E-01~~	~~6.71E-01~~	~~1.49E-01~~	~~1.50E-01~~	~~1~~
~~Aniline~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Anthracene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Azobenzene~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Benzene~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Benzo(a)anthracene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Benzo(a)pyrene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Benzo(b)fluoranthene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Benzo(g,h,i)perylene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Benzo(k)fluoranthene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Benzoic Acid~~	~~4~~	~~1.92E-01~~	~~2.03E-01~~	~~1.96E-01~~	~~4.99E-03~~	~~1.92E-01~~	~~2.03E-01~~	~~0~~
~~Benzyl Alcohol~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Bis(2-chloroethoxy)methane~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Bis(2-chloroethyl)ether~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Bis(2-ethylhexyl)phthalate~~	~~4~~	~~1.16E-02~~	~~2.26E+00~~	~~5.75E-01~~	~~1.12E+00~~	~~1.15E-02~~	~~1.22E-02~~	~~3~~
~~Bromobenzene~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Bromochloromethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Bromodichloromethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Bromoform~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Bromomethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Bromophenyl-phenylether[4-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Butanone[2-]~~	~~4~~	~~1.93E-03~~	~~2.04E-03~~	~~1.97E-03~~	~~5.19E-05~~	~~1.93E-03~~	~~2.04E-03~~	~~0~~
~~Butylbenzene[n-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Butylbenzene[sec-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Butylbenzene[tert-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~

~~Analyte Name~~	~~Sample Size~~	~~Minimum (mg/kg)~~	~~Maximum (mg/kg)~~	~~Mean (mg/kg)~~	~~SD (mg/kg)~~	~~Minimum MDL (mg/kg)~~	~~Maximum MDL (mg/kg)~~	~~Number of Detected Values~~
~~Butylbenzylphthalate~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Carbon Disulfide~~	~~4~~	~~1.93E-03~~	~~2.04E-03~~	~~1.97E-03~~	~~5.19E-05~~	~~1.93E-03~~	~~2.04E-03~~	~~0~~
~~Carbon Tetrachloride~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chloro-3-methylphenol[4-]~~	~~4~~	~~1.54E-01~~	~~1.63E-01~~	~~1.57E-01~~	~~4.27E-03~~	~~1.54E-01~~	~~1.63E-01~~	~~0~~
~~Chloroaniline[4-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Chlorobenzene~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chlorodibromomethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chloroethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chloroform~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chloromethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chloronaphthalene[2-]~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Chlorophenol[2-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Chlorophenyl-phenyl[4-] Ether~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Chlorotoluene[2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chlorotoluene[4-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Chrysene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Dibenz(a,h)anthracene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Dibenzofuran~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Dibromo-3-Chloropropane[1,2-]~~	~~4~~	~~5.78E-04~~	~~6.10E-04~~	~~5.90E-04~~	~~1.49E-05~~	~~5.78E-04~~	~~6.10E-04~~	~~0~~
~~Dibromoethane[1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dibromomethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichlorobenzene[1,2-]~~	~~8~~	~~3.85E-04~~	~~1.22E-01~~	~~5.91E-02~~	~~6.28E-02~~	~~3.85E-04~~	~~1.22E-01~~	~~0~~
~~Dichlorobenzene[1,3-]~~	~~8~~	~~3.85E-04~~	~~1.22E-01~~	~~5.91E-02~~	~~6.28E-02~~	~~3.85E-04~~	~~1.22E-01~~	~~0~~
~~Dichlorobenzene[1,4-]~~	~~8~~	~~3.85E-04~~	~~1.22E-01~~	~~5.91E-02~~	~~6.28E-02~~	~~3.85E-04~~	~~1.22E-01~~	~~0~~
~~Dichlorobenzidine[3,3'-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Dichlorodifluoromethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloroethane[1,1-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloroethane[1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloroethene[1,1-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloroethene[cis-1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloroethene[trans-1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichlorophenol[2,4-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Dichloropropane[1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloropropane[1,3-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloropropane[2,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloropropene[1,1-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloropropene[cis-1,3-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Dichloropropene[trans-1,3-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Diethylphthalate~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Dimethyl Phthalate~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Dimethylphenol[2,4-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Di-n-butylphthalate~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Dinitro-2-methylphenol[4,6-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~

Analyte Name	Sample Size	Minimum (mg/kg)	Maximum (mg/kg)	Mean (mg/kg)	SD (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Dinitrobenzene[1,3-]	4	1.49E-01	1.50E-01	1.49E-01	5.00E-04	1.49E-01	1.50E-01	0
Dinitrophenol[2,4-]	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Dinitrotoluene[2,4-]	8	1.15E-01	1.50E-01	1.34E-01	1.70E-02	1.15E-01	1.50E-01	0
Dinitrotoluene[2,6-]	8	1.15E-01	1.50E-01	1.34E-01	1.70E-02	1.15E-01	1.50E-01	0
Di-n-octylphthalate	4	1.15E-02	1.22E-02	1.18E-02	3.10E-04	1.15E-02	1.22E-02	0
Diphenylamine	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Ethylbenzene	4	3.85E-04	4.07E-04	3.93E-04	1.02E-05	3.85E-04	4.07E-04	0
Fluoranthene	4	1.15E-02	1.22E-02	1.18E-02	3.10E-04	1.15E-02	1.22E-02	0
Fluorene	4	1.15E-02	1.22E-02	1.18E-02	3.10E-04	1.15E-02	1.22E-02	0
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	4	4.72E-07	1.05E-04	3.32E-05	4.87E-05	1.57E-06	1.62E-06	3
Heptachlorodibenzodioxins (Total)	4	0.00E+00	1.79E-04	5.93E-05	8.12E-05	-	-	3
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	4	4.72E-07	3.47E-05	1.07E-05	1.62E-05	1.57E-06	1.62E-06	3
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	4	4.69E-07	2.20E-06	9.06E-07	8.63E-07	1.57E-06	1.62E-06	1
Heptachlorodibenzofurans (Total)	4	0.00E+00	8.14E-05	2.31E-05	3.89E-05	-	-	3
Hexachlorobenzene	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Hexachlorobutadiene	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Hexachlorocyclopentadiene	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	4	4.69E-07	1.95E-06	8.44E-07	7.38E-07	1.57E-06	1.62E-06	1
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	4	4.69E-07	4.06E-06	1.43E-06	1.76E-06	1.57E-06	1.62E-06	2
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	4	4.69E-07	4.20E-06	1.57E-06	1.78E-06	1.57E-06	1.62E-06	2
Hexachlorodibenzodioxins (Total)	4	0.00E+00	3.19E-05	1.02E-05	1.47E-05	-	-	3
Hexachlorodibenzofuran[1,2,3,4,7,8-]	4	4.69E-07	1.64E-06	7.66E-07	5.83E-07	1.57E-06	1.62E-06	1
Hexachlorodibenzofuran[1,2,3,6,7,8-]	4	4.69E-07	1.56E-06	7.46E-07	5.43E-07	1.57E-06	1.62E-06	1
Hexachlorodibenzofuran[1,2,3,7,8,9-]	4	4.69E-07	4.84E-07	4.76E-07	6.95E-09	1.57E-06	1.62E-06	0
Hexachlorodibenzofuran[2,3,4,6,7,8-]	4	4.69E-07	1.91E-06	8.34E-07	7.18E-07	1.57E-06	1.62E-06	1
Hexachlorodibenzofurans (Total)	4	0.00E+00	3.55E-05	1.03E-05	1.69E-05	-	-	3
Hexachloroethane	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Hexanone[2-]	4	1.93E-03	2.04E-03	1.97E-03	5.19E-05	1.93E-03	2.04E-03	0
HMX	4	1.49E-01	7.00E+00	3.57E+00	3.95E+00	1.49E-01	1.50E-01	2
Indeno(1,2,3-cd)pyrene	4	1.15E-02	1.22E-02	1.18E-02	3.10E-04	1.15E-02	1.22E-02	0
Iodomethane	4	1.93E-03	2.04E-03	1.97E-03	5.19E-05	1.93E-03	2.04E-03	0
Isophorone	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Isopropylbenzene	4	3.85E-04	4.07E-04	3.93E-04	1.02E-05	3.85E-04	4.07E-04	0
Isopropyltoluene[4-]	4	3.85E-04	4.07E-04	3.93E-04	1.02E-05	3.85E-04	4.07E-04	0
Methyl-2-pentanone[4-]	4	1.93E-03	2.04E-03	1.97E-03	5.19E-05	1.93E-03	2.04E-03	0
Methylene Chloride	4	1.93E-03	2.04E-03	1.97E-03	5.19E-05	1.93E-03	2.04E-03	0
Methylnaphthalene[2-]	4	1.15E-02	1.22E-02	1.18E-02	3.10E-04	1.15E-02	1.22E-02	0
Methylphenol[2-]	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Methylphenol[3-,4-]	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Naphthalene	4	1.15E-02	1.22E-02	1.18E-02	3.10E-04	1.15E-02	1.22E-02	0
Nitroaniline[2-]	4	1.27E-01	1.34E-01	1.30E-01	3.32E-03	1.27E-01	1.34E-01	0
Nitroaniline[3-]	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0
Nitroaniline[4-]	4	1.15E-01	1.22E-01	1.18E-01	3.10E-03	1.15E-01	1.22E-01	0

~~Analyte Name~~	~~Sample Size~~	~~Minimum (mg/kg)~~	~~Maximum (mg/kg)~~	~~Mean (mg/kg)~~	~~SD (mg/kg)~~	~~Minimum MDL (mg/kg)~~	~~Maximum MDL (mg/kg)~~	~~Number of Detected Values~~
~~Nitrobenzene~~	~~8~~	~~1.15E-01~~	~~1.50E-01~~	~~1.34E-01~~	~~1.70E-02~~	~~1.15E-01~~	~~1.50E-01~~	~~0~~
~~Nitrophenol[2-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Nitrophenol[4-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Nitrosodimethylamine[N-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Nitroso-di-n-propylamine[N-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Nitrotoluene[2-]~~	~~4~~	~~1.49E-01~~	~~1.50E-01~~	~~1.49E-01~~	~~5.00E-04~~	~~1.49E-01~~	~~1.50E-01~~	~~0~~
~~Nitrotoluene[3-]~~	~~4~~	~~1.49E-01~~	~~1.50E-01~~	~~1.49E-01~~	~~5.00E-04~~	~~1.49E-01~~	~~1.50E-01~~	~~0~~
~~Nitrotoluene[4-]~~	~~4~~	~~1.49E-01~~	~~1.50E-01~~	~~1.49E-01~~	~~5.00E-04~~	~~1.49E-01~~	~~1.50E-01~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~4~~	~~2.62E-06~~	~~6.50E-04~~	~~2.07E-04~~	~~3.00E-04~~	~~3.12E-06~~	~~3.22E-06~~	~~4~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~4~~	~~9.45E-07~~	~~8.35E-05~~	~~2.55E-05~~	~~3.90E-05~~	~~3.12E-06~~	~~3.22E-06~~	~~3~~
~~Oxybis(1-chloropropane)[2,2'-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4~~	~~4.69E-07~~	~~6.70E-07~~	~~5.24E-07~~	~~9.77E-08~~	~~1.57E-06~~	~~1.62E-06~~	~~1~~
~~Pentachlorodibenzodioxins (Total)~~	~~4~~	~~0.00E+00~~	~~4.00E-06~~	~~1.13E-06~~	~~1.93E-06~~	~~-~~	~~-~~	~~2~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~4~~	~~4.69E-07~~	~~5.68E-07~~	~~4.98E-07~~	~~4.69E-08~~	~~1.57E-06~~	~~1.62E-06~~	~~1~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~4~~	~~4.69E-07~~	~~4.84E-07~~	~~4.76E-07~~	~~6.95E-09~~	~~1.57E-06~~	~~1.62E-06~~	~~0~~
~~Pentachlorodibenzofurans (Totals)~~	~~4~~	~~0.00E+00~~	~~6.52E-06~~	~~1.63E-06~~	~~3.26E-06~~	~~-~~	~~-~~	~~1~~
~~Pentachlorophenol~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~PETN~~	~~4~~	~~2.49E-01~~	~~2.50E-01~~	~~2.49E-01~~	~~5.00E-04~~	~~2.49E-01~~	~~2.50E-01~~	~~0~~
~~Phenanthrene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Phenol~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Propylbenzene[1-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Pyrene~~	~~4~~	~~1.15E-02~~	~~1.22E-02~~	~~1.18E-02~~	~~3.10E-04~~	~~1.15E-02~~	~~1.22E-02~~	~~0~~
~~Pyridine~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~RDX~~	~~4~~	~~1.49E-01~~	~~2.98E+01~~	~~8.76E+00~~	~~1.42E+01~~	~~1.49E-01~~	~~1.50E+00~~	~~2~~
~~Styrene~~	~~4~~	~~7.19E-04~~	~~7.57E-04~~	~~7.38E-04~~	~~1.70E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~TATB~~	~~4~~	~~2.99E-01~~	~~5.97E+00~~	~~1.72E+00~~	~~2.84E+00~~	~~2.99E-01~~	~~3.00E-01~~	~~1~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~4~~	~~9.45E-08~~	~~2.03E-07~~	~~1.63E-07~~	~~4.99E-08~~	~~3.12E-07~~	~~3.22E-07~~	~~1~~
~~Tetrachlorodibenzodioxins (Total)~~	~~4~~	~~0.00E+00~~	~~1.90E-06~~	~~9.30E-07~~	~~1.07E-06~~	~~-~~	~~-~~	~~2~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~4~~	~~1.91E-07~~	~~5.64E-07~~	~~3.24E-07~~	~~1.73E-07~~	~~3.12E-07~~	~~3.22E-07~~	~~0~~
~~Tetrachlorodibenzofurans (Totals)~~	~~4~~	~~0.00E+00~~	~~3.35E-06~~	~~1.03E-06~~	~~1.56E-06~~	~~-~~	~~-~~	~~1~~
~~Tetrachloroethane[1,1,1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Tetrachloroethane[1,1,2,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Tetrachloroethene~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Tetryl~~	~~4~~	~~1.49E-01~~	~~1.50E-01~~	~~1.49E-01~~	~~5.00E-04~~	~~1.49E-01~~	~~1.50E-01~~	~~0~~
~~Toluene~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Total Petroleum Hydrocarbons Diesel Range Organics~~	~~4~~	~~3.54E+00~~	~~1.24E+01~~	~~6.72E+00~~	~~3.91E+00~~	~~2.50E+00~~	~~2.64E+00~~	~~4~~
~~Total Petroleum Hydrocarbons Gasoline Range Org.~~	~~4~~	~~1.94E-02~~	~~2.31E-02~~	~~2.08E-02~~	~~1.62E-03~~	~~1.94E-02~~	~~2.31E-02~~	~~0~~
~~Trichloro-1,2,2-trifluoroethane[1,1,2-]~~	~~4~~	~~1.93E-03~~	~~2.04E-03~~	~~1.97E-03~~	~~5.19E-05~~	~~1.93E-03~~	~~2.04E-03~~	~~0~~
~~Trichlorobenzene[1,2,4-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Trichloroethane[1,1,1-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Trichloroethane[1,1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~

~~Analyte Name~~	~~Sample Size~~	~~Minimum (mg/kg)~~	~~Maximum (mg/kg)~~	~~Mean (mg/kg)~~	~~SD (mg/kg)~~	~~Minimum MDL (mg/kg)~~	~~Maximum MDL (mg/kg)~~	~~Number of Detected Values~~
~~Trichloroethene~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Trichlorofluoromethane~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Trichlorophenol[2,4,5-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Trichlorophenol[2,4,6-]~~	~~4~~	~~1.15E-01~~	~~1.22E-01~~	~~1.18E-01~~	~~3.10E-03~~	~~1.15E-01~~	~~1.22E-01~~	~~0~~
~~Trichloropropane[1,2,3-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Trimethylbenzene[1,2,4-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Trimethylbenzene[1,3,5-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Trinitrobenzene[1,3,5-]~~	~~4~~	~~1.49E-01~~	~~1.50E-01~~	~~1.49E-01~~	~~5.00E-04~~	~~1.49E-01~~	~~1.50E-01~~	~~0~~
~~Trinitrotoluene[2,4,6-]~~	~~4~~	~~1.49E-01~~	~~2.38E+00~~	~~7.18E-01~~	~~1.11E+00~~	~~1.49E-01~~	~~1.50E-01~~	~~2~~
~~Tris (o-cresyl) phosphate~~	~~4~~	~~2.99E-01~~	~~3.00E-01~~	~~2.99E-01~~	~~5.00E-04~~	~~2.99E-01~~	~~3.00E-01~~	~~0~~
~~Vinyl Chloride~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Xylene[1,2-]~~	~~4~~	~~3.85E-04~~	~~4.07E-04~~	~~3.93E-04~~	~~1.02E-05~~	~~3.85E-04~~	~~4.07E-04~~	~~0~~
~~Xylene[1,3-]+Xylene[1,4-]~~	~~4~~	~~7.71E-04~~	~~8.14E-04~~	~~7.87E-04~~	~~1.99E-05~~	~~7.71E-04~~	~~8.14E-04~~	~~0~~

~~Note: Data contain duplicates that have not been averaged~~

Table 2-3. Comparison of Maximum Detected Values to Background

~~Table 2-2. Human Health Screening Results for Comparison to Maximum Detected Exposure Point Concentrations Greater than Background - 2019 Sampling Data~~

Parameter Category	**Parameter Name**	**Maximum Detected Value (mg/kg)**	**BV (mg/kg)**	**Maximum BV Ratio**
INORGANIC	Aluminum	1.25E+04	2.92E+04	4.28E-01
-	Antimony	1.22E+00	8.30E-01	1.47E+00
-	Arsenic	3.67E+00	8.17E+00	4.49E-01
-	Barium	1.26E+04	2.95E+02	4.27E+01
-	Beryllium	1.13E+00	1.83E+00	6.17E-01
-	Cadmium	5.62E-01	4.00E-01	1.41E+00
-	Calcium	1.61E+04	6.12E+03	2.63E+00
-	Chromium	1.11E+01	1.93E+01	5.75E-01
-	Cobalt	3.40E+00	8.64E+00	3.94E-01
-	Copper	1.13E+02	1.47E+01	7.69E+00
-	Iron	1.70E+04	2.15E+04	7.91E-01
	Lead	2.28E+02	2.23E+01	1.02E+01
	Magnesium	2.24E+03	4.61E+03	4.86E-01
	Manganese	5.38E+02	6.71E+02	8.02E-01
	Mercury	4.00E-02	1.00E-01	4.00E-01
	Nickel	1.07E+01	1.54E+01	6.95E-01
	Nitrate	4.02E+00	NV	NA
	Perchlorate	1.73E-03	NV	NA
	Potassium	1.80E+03	3.46E+03	5.20E-01
	Selenium	3.05E+00	1.52E+00	2.01E+00
	Silver	7.95E+00	1.00E+00	7.95E+00
	Sodium	1.54E+02	9.15E+02	1.68E-01
	Thallium	4.55E-01	7.30E-01	6.23E-01
	Vanadium	1.90E+01	3.96E+01	4.80E-01
	Zinc	1.15E+02	4.88E+01	2.36E+00

Notes: Shaded cells indicate maximum exceeds background, analyte further evaluated
Analytes indicated as NA are carried forward

BV – Background value
mg/kg – Milligram per kilogram
NA – Not applicable
NV – No value

~~Parameter~~	~~Maximum EPC (mg/kg)~~	~~Number of Detected Values~~	~~Background~~		~~Cancer~~				
			~~BV~~	~~BV Ratio~~	~~Res Cancer NMSSL~~	~~Worker Cancer NMSSL~~	~~Res Cancer RR~~	~~Worker Cancer RR~~	~~Res Non-Cancer NMSSL~~
~~INORGANICS~~									

Parameter	Maximum EPC (mg/kg)	Number of Detected Values	Background		Cancer				
			BV	BV Ratio	Res Cancer NMSSL	Worker Cancer NMSSL	Res Cancer RR	Worker Cancer RR	Res Non-Cancer NMSSL
Aluminum	1.04E+04	16	29200	0.4	0.0E+00	0.0E+00	NA	NA	7.8E+04
Antimony	1.22E+00	7	0.83	1.5	0.0E+00	0.0E+00	NA	NA	3.1E+01
Arsenic	3.67E+00	16	8.17	0.4	7.1E+00	3.6E+01	5E-01	1E-01	1.3E+01
Barium	1.26E+04	16	295	43	0.0E+00	0.0E+00	NA	NA	1.6E+04
Beryllium	1.11E+00	16	1.83	0.6	6.4E+04	3.1E+05	2E-05	4E-06	1.6E+02
Calcium	1.61E+04	16	6120	3	0.0E+00	0.0E+00	NA	NA	1.3E+07
Chromium	1.05E+01	16	19.3	0.5	0.0E+00	0.0E+00	NA	NA	1.2E+05
Cobalt	3.03E+00	11	8.64	0.4	1.7E+04	8.3E+04	2E-04	4E-05	2.3E+01
Copper	3.04E+01	13	14.7	2	0.0E+00	0.0E+00	NA	NA	3.1E+03
Iron	6.73E+03	16	21500	0.3	0.0E+00	0.0E+00	NA	NA	5.5E+04
Lead	2.81E+01	16	22.3	1.3	0.0E+00	0.0E+00	NA	NA	4.0E+02
Magnesium	1.84E+03	16	4610	0.4	0.0E+00	0.0E+00	NA	NA	1.6E+07
Manganese	2.91E+02	16	671	0.4	0.0E+00	0.0E+00	NA	NA	1.1E+04
Mercury	2.05E-02	14	0.1	0.2	0.0E+00	0.0E+00	NA	NA	2.3E+01
Nickel	1.07E+01	16	15.4	0.7	5.9E+05	2.9E+06	2E-05	4E-06	1.6E+03
Nitrate	4.02E+00	14	NA	NA	0.0E+00	0.0E+00	NA	NA	1.3E+05
Potassium	1.78E+03	16	3460	0.5	0.0E+00	0.0E+00	NA	NA	1.6E+07
Selenium	3.05E+00	16	1.52	2	0.0E+00	0.0E+00	NA	NA	3.9E+02
Silver	1.23E+01	12	1	12	0.0E+00	0.0E+00	NA	NA	3.9E+02
Sodium	1.89E+02	16	915	0.2	0.0E+00	0.0E+00	NA	NA	7.8E+06
Thallium	2.44E-01	7	0.73	0.3	0.0E+00	0.0E+00	NA	NA	7.8E-01
Vanadium	2.03E+01	16	39.6	0.5	0.0E+00	0.0E+00	NA	NA	3.9E+02
Zinc	1.00E+02	16	48.8	2	0.0E+00	0.0E+00	NA	NA	2.3E+04
ORGANICS									
3,5-Dinitroaniline	1.33E+00	1	NA	NA	NA	NA	NA	NA	NA
Acetone	4.36E-03	1	NA	NA	0.0E+00	0.0E+00	NA	NA	6.6E+04
Amino-2,6-dinitrotoluene[4-]	3.24E+00	7	NA	NA	NA	NA	NA	NA	NA
Amino-4,6-dinitrotoluene[2-]	1.49E+00	7	NA	NA	NA	NA	NA	NA	NA
Anthracene	5.09E-01	4	NA	NA	0.0E+00	0.0E+00	NA	NA	1.7E+04
Benzo(b)fluoranthene	3.05E-01	1	NA	NA	1.5E+00	3.2E+01	2E-01	9E-03	0.0E+00
Bis(2-ethylhexyl)phthalate	5.66E+01	11	NA	NA	3.8E+02	1.8E+03	1E-01	3E-02	1.2E+03
Butylbenzylphthalate	3.05E-01	1	NA	NA	NA	NA	1E-04	3E-05	NA
Chrysene	3.05E-01	1	NA	NA	1.5E+02	3.2E+03	2E-03	9E-05	0.0E+00
Dibenz(a,h)anthracene	3.05E-01	1	NA	NA	1.5E-01	3.2E+00	2E+00	9E-02	0.0E+00
Dinitrotoluene[2,4-]	3.05E+00	1	NA	NA	1.7E+01	8.2E+01	2E-01	4E-02	1.2E+02
Di-n-octylphthalate	3.05E-01	1	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	1.40E-03	15	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzodioxins (Total)	2.48E-03	15	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	4.66E-04	15	NA	NA	NA	NA	NA	NA	NA

~~Parameter~~	~~Maximum EPC (mg/kg)~~	~~Number of Detected Values~~	~~Background~~		~~Cancer~~				
			~~BV~~	~~BV Ratio~~	~~Res Cancer NMSSL~~	~~Worker Cancer NMSSL~~	~~Res Cancer RR~~	~~Worker Cancer RR~~	~~Res Non-Cancer NMSSL~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~2.38E-05~~	~~9~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Heptachlorodibenzofurans (Total)~~	~~9.52E-04~~	~~15~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~3.20E-05~~	~~9~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~6.02E-05~~	~~12~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~7.04E-05~~	~~12~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzodioxins (Total)~~	~~5.86E-04~~	~~15~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~1.70E-05~~	~~11~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~2.54E-05~~	~~9~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~1.79E-06~~	~~2~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~3.19E-05~~	~~9~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Hexachlorodibenzofurans (Total)~~	~~5.64E-04~~	~~15~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~HMX~~	~~1.60E+02~~	~~7~~	~~NA~~	~~NA~~	~~0.0E+00~~	~~0.0E+00~~	~~NA~~	~~NA~~	~~3.8E+03~~
~~Isopropyltoluene[4-]~~	~~1.05E-03~~	~~1~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Methylene Chloride~~	~~4.73E-03~~	~~2~~	~~NA~~	~~NA~~	~~7.7E+02~~	~~1.4E+04~~	~~6E-06~~	~~3E-07~~	~~4.1E+02~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~6.97E-03~~	~~16~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~8.31E-04~~	~~15~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~1.23E-05~~	~~5~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Pentachlorodibenzodioxins (Total)~~	~~9.02E-05~~	~~10~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~2.27E-06~~	~~8~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~3.37E-06~~	~~5~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~

~~Parameter~~	~~Maximum EPC (mg/kg)~~	~~Number of Detected Values~~	~~Background~~		~~Cancer~~				
			~~BV~~	~~BV Ratio~~	~~Res Cancer NMSSL~~	~~Worker Cancer NMSSL~~	~~Res Cancer RR~~	~~Worker Cancer RR~~	~~Res Non-Cancer NMSSL~~
~~Pentachlorodibenzofurans (Totals)~~	~~1.32E-04~~	~~12~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~PETN~~	~~3.88E+01~~	~~1~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~3E-02~~	~~7E-03~~	~~NA~~
~~RDX~~	~~6.07E+02~~	~~7~~	~~NA~~	~~NA~~	~~8.31E+01~~	~~4.28E+02~~	~~7E+00~~	~~1E+00~~	~~3.0E+02~~
~~TATB~~	~~4.32E+01~~	~~10~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~7.57E-07~~	~~4~~	~~NA~~	~~NA~~	~~4.9E-05~~	~~2.4E-04~~	~~2E-02~~	~~3E-03~~	~~5.1E-05~~
~~Tetrachlorodibenzodioxins (Total)~~	~~9.77E-06~~	~~5~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~2.71E-06~~	~~4~~	~~NA~~	~~NA~~	~~4.9E-04~~	~~2.4E-03~~	~~6E-03~~	~~1E-03~~	~~0.0E+00~~
~~Tetrachlorodibenzofurans (Totals)~~	~~2.47E-05~~	~~9~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Total Petroleum Hydrocarbons Diesel Range Organics~~	~~7.91E+01~~	~~16~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
~~Inorganic Hazard Index~~							~~0E+00~~	~~0E+00~~	
~~Organic Hazard Index~~							~~1E+01~~	~~2E+00~~	

~~Notes:~~
~~All data in mg/kg~~
~~Shaded Max/BV cells indicate the maximum>BV~~
~~Shaded NMSSL cells indicate the EPA RSL for an HQ of 1 is used because a NMSSL is not available~~
~~Italics – a surrogate is applied. See Section 1.2.3~~
~~If the maximum <BV, no further evaluation is performed~~
~~Cancer ratio = Maximum/NMSSL cancer~~
~~HQ = Maximum/NMSSL Noncancer~~

~~Abbreviations:~~
~~BV – Background value~~
~~Eco SL – Ecological screening level~~
~~EPA – U.S. Environmental Protection Agency~~
~~HQ – Noncancer hazard quotient~~
~~Max – Maximum reported result~~
~~NA – Not available~~
~~NC – Noncancer~~
~~NMSSL – New Mexico soil screening level~~
~~Res - Resident~~
~~RSL – Regional Screening level~~

Table 2-4. Human Health Screening Results for Maximum Detected Exposure Point Concentrations Greater than Background

Parameter Category	**Name**	**Maximum Detected Value (mg/kg)**	**Resident Cancer Risk**	**Resident HQ**	**Industrial Worker Cancer Risk**	**Industrial Worker HQ**	**CW Cancer Risk**	**CW HQ**	**SL-SSL, DAF 20 Ratio**
INORGANIC	Antimony	1.22E+00	NA	4E-02	NA	2E-03	NA	9E-03	2E-01
	Barium	1.26E+04	NA	8E-01	NA	5E-02	NA	3E+00	5E+00
	Cadmium	5.62E-01	7E-11	8E-03	1E-11	5E-04	2E-09	8E-03	6E-02
	Calcium	1.61E+04	NA	1E-03	NA	5E-04	NA	2E-03	NA
	Copper	1.13E+02	NA	4E-02	NA	2E-03	NA	8E-03	1E-01
	Nitrate	4.02E+00	NA	3E-05	NA	2E-06	NA	7E-06	9E-03
	Perchlorate	1.73E-03	NA	3E-05	NA	2E-06	NA	7E-06	1E-02
	Selenium	3.05E+00	NA	8E-03	NA	5E-04	NA	2E-03	3E-01
	Silver	7.95E+00	NA	2E-02	NA	1E-03	NA	4E-03	6E-01
	Zinc	1.15E+02	NA	5E-03	NA	3E-04	NA	1E-03	2E-02
ORGANIC	2,3,7,8 TCDD TEQ	6.08E+00	6E-05	6E+00	1E-05	4E-01	2E-06	1E+00	1E+00
	3,5-Dinitroaniline	1.33E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Amino-2,6-dinitrotoluene[4-]	3.24E+00	NA	4E-01	NA	3E-02	NA	3E-02	NA
	Amino-4,6-dinitrotoluene[2-]	1.49E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Anthracene	5.09E-01	NA	3E-05	NA	2E-06	NA	7E-06	6E-04
	Benzoic Acid	4.90E-01	NA	2E-06	NA	1E-07	NA	1E-07	NA
	Bis(2-ethylhexyl)phthalate	5.66E+01	1E-06	5E-02	3E-07	3E-03	4E-08	1E-02	3E-01
	Dinitrotoluene[2,4-]	1.72E-01	1E-07	1E-03	2E-08	9E-05	3E-09	3E-04	3E+00
	HMX	1.60E+02	NA	4E-02	NA	3E-03	NA	9E-03	8E+00
	Isopropyltoluene[4-]	1.05E-03	NA	2E-07	NA	2E-08	NA	7E-08	9E-05
	Methylene Chloride	4.73E-03	6E-11	1E-05	3E-12	9E-07	5E-13	4E-06	1E-02
	Methylnaphthalene[2-]	1.31E-02	NA	6E-05	NA	4E-06	NA	1E-05	5E-03
	PETN	3.88E+01	3E-07	3E-01	7E-08	2E-02	7E-08	2E-02	NA
	RDX	7.24E+01	9E-06	2E-01	2E-06	1E-02	2E-07	5E-02	1E+03
	TATB	4.32E+01	NA	2E-02	NA	1E-03	NA	1E-03	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	7.91E+01	NA	4E-02	NA	3E-02	NA	NA	1E-02
	Trinitrobenzene[1,3,5-]	4.60E-01	NA	2E-04	NA	1E-05	NA	1E-05	NA
	Trinitrotoluene[2,4,6-]	1.27E+01	6E-07	4E-01	1E-07	2E-02	2E-08	8E-02	1E+01
Cumulative Cancer Risk			7E-05		1E-05		2E-06		
Hazard Index				9E+00		6E-01		4E+00	1E+03

Notes:
Shaded cells indicate risk or HQ exceeds target

CW – Construction worker
HQ – Noncancer hazard quotient
mg/kg – milligram per kilogram
NA – Not applicable
SL-SSL, DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of

Table 2-5. Human Health TEFs

Category	Name	TEF	CAS
Chlorinated dibenzo-p-dioxins	2,3,7,8-TCDD	1	1746-01-6
-	1,2,3,7,8-PeCDD	1	40321-76-4
-	1,2,3,4,7,8-HxCDD	0.1	39227-28-6
-	1,2,3,6,7,8-HxCDD	0.1	57653-85-7
-	1,2,3,7,8,9-HxCDD	0.1	19408-74-3
-	1,2,3,4,6,7,8-HpCDD	0.01	35822-46-9
Chlorinated dibenzofurans	OCDD	0.0003	3268-87-9
-	2,3,7,8-TCDF	0.1	51207-31-9
-	1,2,3,7,8-PeCDF	0.03	57117-41-6
-	2,3,4,7,8-PeCDF	0.3	57117-31-4
-	1,2,3,4,7,8-HxCDF	0.1	70648-26-9
-	1,2,3,6,7,8-HxCDF	0.1	57653-85-7
-	1,2,3,7,8,9-HxCDF	0.1	72918-21-9
-	2,3,4,6,7,8-HxCDF	0.1	60851-34-5
-	1,2,3,4,6,7,8-HpCDF	0.01	67562-39-4
-	1,2,3,4,7,8,9-HpCDF	0.01	55673-89-7
-	OCDF	0.0003	39001-02-0

Source: NMED (2019), EPA (2010b).

Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample~~Table 2-3. Dioxin and Furan Soil Data, Human Health TEFs, and Screening Results by Sample~~

Parameter name	09RCRA695		09RCRA697		09RCRA699		09RCRA701		09RCRA703		09RCRA705		09RCRA707		09RCRA709		09RCRA711		09RCRA731	
	Result (mg/kg)	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	3.41E-05	1	8.61E-05	1	1.02E-04	1	5.06E-05	1	2.09E-04	1	2.08E-04	1	1.29E-04	1	1.85E-04	1	4.80E-03	1	3.18E-05	1
1,2,3,4,5,6,7,8-OCDF	3.98E-06	1	1.25E-05	1	1.27E-05	1	5.82E-06	1	2.93E-05	1	2.79E-05	1	1.95E-05	1	2.19E-05	1	6.57E-04	1	3.64E-06	1
1,2,3,4,6,7,8-HpCDD	4.50E-06	1	8.35E-06	1	1.31E-05	1	8.37E-06	1	3.67E-05	1	3.66E-05	1	2.01E-05	1	3.23E-05	1	9.00E-04	1	5.93E-06	1
1,2,3,4,6,7,8-HpCDF	2.33E-06	1	3.50E-06	1	4.30E-06	1	3.05E-06	1	1.27E-05	1	1.13E-05	1	7.27E-06	1	8.71E-06	1	2.88E-04	1	2.02E-06	1
1,2,3,4,7,8,9-HpCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	1.02E-06	1	9.20E-07	1	7.30E-07	1	7.41E-07	1	1.92E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	7.33E-07	1	7.41E-07	1	4.44E-07	0	7.71E-07	1	1.79E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDF	6.73E-07	1	5.88E-07	1	5.83E-07	1	4.66E-07	0	9.55E-07	1	7.64E-07	1	7.87E-07	1	7.66E-07	1	1.21E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDD	4.36E-07	0	4.67E-07	1	5.61E-07	1	4.66E-07	0	1.58E-06	1	1.40E-06	1	7.53E-07	1	1.28E-06	1	3.33E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDF	4.36E-07	0	4.53E-07	1	4.82E-07	1	4.66E-07	0	8.90E-07	1	0.00E+00	1	7.41E-07	1	7.37E-07	1	1.44E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDD	4.36E-07	0	0.00E+00	1	0.00E+00	1	4.66E-07	0	1.65E-06	1	1.49E-06	1	8.03E-07	1	0.00E+00	1	4.07E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	4.44E-07	0	2.02E-06	1	4.42E-07	0
1,2,3,7,8-PeCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	0.00E+00	1	6.99E-06	1	4.42E-07	0
1,2,3,7,8-PeCDF	1.59E-06	1	4.83E-07	1	8.30E-07	1	4.66E-07	0	4.64E-07	0	4.60E-07	0	5.72E-07	1	4.76E-07	1	1.65E-06	1	4.42E-07	0
2,3,4,6,7,8-HxCDF	4.36E-07	0	6.30E-07	1	5.67E-07	1	4.66E-07	0	1.13E-06	1	9.33E-07	1	0.00E+00	1	8.63E-07	1	1.78E-05	1	4.42E-07	0
2,3,4,7,8-PeCDF	4.36E-07	0	5.13E-07	1	4.48E-07	0	4.66E-07	0	4.66E-07	1	4.60E-07	0	6.77E-07	1	0.00E+00	1	1.97E-06	1	4.42E-07	0
2,3,7,8-TCDD	9.11E-08	0	1.03E-07	1	1.33E-07	1	9.37E-08	0	6.18E-07	1	1.11E-07	0	0.00E+00	1	5.49E-07	1	1.34E-06	1	4.61E-07	1
2,3,7,8-TCDF	3.14E-06	1	6.59E-07	1	0.00E+00	1	1.14E-06	1	1.82E-07	0	5.45E-07	1	0.00E+00	1	5.95E-07	1	1.51E-06	1	2.45E-07	1
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.02E-08		2.58E-08		3.06E-08		1.52E-08		6.27E-08		6.24E-08		3.87E-08		5.55E-08		1.44E-06		9.54E-09	
1,2,3,4,5,6,7,8-OCDF	1.19E-09		3.75E-09		3.81E-09		1.75E-09		8.79E-09		8.37E-09		5.85E-09		6.57E-09		1.97E-07		1.09E-09	
1,2,3,4,6,7,8-HpCDD	4.50E-08		8.35E-08		1.31E-07		8.37E-08		3.67E-07		3.66E-07		2.01E-07		3.23E-07		9.00E-06		5.93E-08	
1,2,3,4,6,7,8-HpCDF	2.33E-08		3.50E-08		4.30E-08		3.05E-08		1.27E-07		1.13E-07		7.27E-08		8.71E-08		2.88E-06		2.02E-08	
1,2,3,4,7,8,9-HpCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.02E-08		9.20E-09		7.30E-09		7.41E-09		1.92E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.33E-08		7.41E-08		0.00E+00		7.71E-08		1.79E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	6.73E-08		5.88E-08		5.83E-08		0.00E+00		9.55E-08		7.64E-08		7.87E-08		7.66E-08		1.21E-06		0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00		4.67E-08		5.61E-08		0.00E+00		1.58E-07		1.40E-07		7.53E-08		1.28E-07		3.33E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00		4.53E-08		4.82E-08		0.00E+00		8.90E-08		0.00E+00		7.41E-08		7.37E-08		1.44E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.65E-07		1.49E-07		8.03E-08		0.00E+00		4.07E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.02E-07		0.00E+00	
1,2,3,7,8-PeCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.99E-06		0.00E+00	
1,2,3,7,8-PeCDF	4.77E-08		1.45E-08		2.49E-08		0.00E+00		0.00E+00		0.00E+00		1.72E-08		1.43E-08		4.95E-08		0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00		6.30E-08		5.67E-08		0.00E+00		1.13E-07		9.33E-08		0.00E+00		0.00E+00		1.78E-06		0.00E+00	
2,3,4,6,7,S-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.63E-08		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		1.54E-07		0.00E+00		0.00E+00		1.40E-07		0.00E+00		2.03E-07		0.00E+00		5.91E-07		0.00E+00	
2,3,7,8-TCDD	0.00E+00		1.03E-07		1.33E-07		0.00E+00		6.18E-07		0.00E+00		0.00E+00		5.49E-07		1.34E-06		4.61E-07	
2,3,7,8-TCDF	3.14E-07		6.59E-08		0.00E+00		1.14E-07		0.00E+00		5.45E-08		0.00E+00		5.95E-08		1.51E-07		2.45E-08	
TEQ	**5.09E-07**		**6.99E-07**		**5.86E-07**		**2.45E-07**		**2.03E-06**		**1.15E-06**		**8.54E-07**		**1.54E-06**		**3.67E-05**		**5.76E-07**	

Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

Parameter name	CAS NO.	RE16-12-17672 Result (mg/kg)	DC	RE16-12-17673 Result (mg/kg)	DC	RE16-12-17674 Result (mg/kg)	DC	RE16-12-17675 Result (mg/kg)	DC	RE16-12-17676 Result (mg/kg)	DC	RE16-12-17677 Result (mg/kg)	DC	RE16-12-17678 Result (mg/kg)	DC	RE16-12-17679 Result (mg/kg)	DC	RE16-12-17680 Result (mg/kg)	DC	RE16-12-17681 Result (mg/kg)	DC
Sample Data																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	6.68E-05	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1				
1,2,3,4,5,6,7,8-OCDF	39001-02-0	8.05E-06	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1	6.32E-03	1
1,2,3,4,6,7,8-HpCDD	35822-46-9	1.20E-05	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1	8.77E-03	1
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.75E-06	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1	2.35E-03	1
1,2,3,4,7,8,9-HpCDF	55673-89-7	1.73E-06	0	1.39E-06	1	1.81E-06	0	8.79E-07	1	1.17E-06	1	1.74E-06	0	1.71E-06	0	1.50E-06	1	3.30E-05	1	1.59E-04	1
1,2,3,4,7,8-HxCDD	39227-28-6	1.73E-06	0	1.20E-06	1	1.81E-06	0	7.40E-07	1	8.66E-07	1	1.74E-06	0	1.71E-06	0	1.61E-06	1	3.08E-05	1	1.52E-04	1
1,2,3,4,7,8-HxCDF	70648-26-9	9.68E-07	1	1.75E-06	1	1.81E-06	0	7.33E-07	1	8.23E-07	1	1.74E-06	0	1.71E-06	0	9.85E-07	1	1.69E-05	1	8.36E-05	1
1,2,3,6,7,8-HxCDD	57653-85-7	8.23E-07	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	1.74E-06	0	7.55E-07	1	3.69E-06	1	7.18E-05	1	3.33E-04	1
1,2,3,6,7,8-HxCDF	57117-44-9	9.02E-07	1	1.10E-06	1	1.81E-06	0	7.05E-07	1	7.81E-07	1	1.74E-06	0	1.71E-06	0	1.32E-06	1	2.23E-05	1	1.07E-04	1
1,2,3,7,8,9-HxCDD	19408-74-3	1.73E-06	0	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	1.74E-06	0	6.99E-07	1	4.34E-06	1	8.71E-05	1	3.71E-04	1
1,2,3,7,8,9-HxCDF	72918-21-9	1.73E-06	0	1.67E-06	0	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	2.88E-06	1	1.41E-05	1
1,2,3,7,8-PeCDD	40321-76-4	1.73E-06	0	7.45E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	8.39E-07	1	1.11E-05	1	5.63E-05	1
1,2,3,7,8-PeCDF	57117-41-6	7.01E-07	1	1.61E-06	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	6.50E-07	1	1.77E-06	1	7.35E-06	1
2,3,4,6,7,8-HxCDF	60851-34-5	7.80E-07	1	1.49E-06	1	1.81E-06	0	9.09E-07	1	7.41E-07	1	1.74E-06	0	1.71E-06	0	1.57E-06	1	2.66E-05	1	1.37E-04	1
2,3,4,7,8-PeCDF	57117-31-4	1.73E-06	0	8.97E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	3.00E-06	1	1.25E-05	1
2,3,7,8-TCDD	1746-01-6	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	4.17E-07	1	1.49E-06	1	3.09E-06	1
2,3,7,8-TCDF	51207-31-9	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	3.43E-07	0	3.43E-07	0	3.45E-06	0
TECs																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	2.00E-08		1.14E-07		3.24E-08		7.20E-08		9.96E-08		1.13E-08		3.27E-08		1.44E-07		0.00E+00		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	39001-02-0	2.42E-09		1.36E-08		3.54E-09		8.46E-09		1.09E-08		1.07E-09		3.03E-09		1.48E-08		3.84E-07		1.90E-06	
1,2,3,4,6,7,8-HpCDD	35822-46-9	1.20E-07		5.27E-07		1.81E-07		3.48E-07		4.21E-07		5.33E-08		1.49E-07		8.02E-07		1.70E-05		8.77E-05	
1,2,3,4,6,7,8-HpCDF	67562-39-4	5.75E-08		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06		2.35E-05	
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.00E+00		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07		1.59E-06	
1,2,3,4,7,8-HxCDD	39227-28-6	0.00E+00		1.20E-07		0.00E+00		7.40E-08		8.66E-08		0.00E+00		0.00E+00		1.61E-07		3.08E-06		1.52E-05	
1,2,3,4,7,8-HxCDF	70648-26-9	9.68E-08		1.75E-07		0.00E+00		7.33E-08		8.23E-08		0.00E+00		0.00E+00		9.85E-08		1.69E-06		8.36E-06	
1,2,3,6,7,8-HxCDD	57653-85-7	8.23E-08		2.52E-07		1.04E-07		1.58E-07		1.75E-07		0.00E+00		7.55E-08		3.69E-07		7.18E-06		3.33E-05	
1,2,3,6,7,8-HxCDF	57117-44-9	9.02E-08		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06		1.07E-05	
1,2,3,7,8,9-HxCDD	19408-74-3	0.00E+00		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06		3.71E-05	
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07		1.41E-06	
1,2,3,7,8-PeCDD	40321-76-4	0.00E+00		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05		5.63E-05	
1,2,3,7,8-PeCDF	57117-41-6	2.10E-08		4.83E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.95E-08		5.31E-08		2.21E-07	
2,3,4,6,7,8-HxCDF	60851-34-5	7.80E-08		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06		1.37E-05	
2,3,4,7,8-PeCDF	57117-31-4	0.00E+00		2.69E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.00E-07		3.75E-06	
2,3,7,8-TCDD	1746-01-6	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06		3.09E-06	
2,3,7,8-TCDF	51207-31-9	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ		**5.68E-07**		**2.97E-06**		**4.76E-07**		**1.21E-06**		**1.38E-06**		**8.62E-08**		**3.60E-07**		**3.86E-06**		**6.27E-05**		**2.98E-04**	

v Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

Parameter name	WST16-13-29794 Result (mg/kg)	DC	WST16-13-29795 Result (mg/kg)	DC	WST16-13-29796 Result (mg/kg)	DC	WST16-13-29797 Result (mg/kg)	DC	WST16-13-29798 Result (mg/kg)	DC	WST16-19-181353 Result (mg/kg)	DC	WST16-19-181354 Result (mg/kg)	DC	WST16-19-181355 Result (mg/kg)	DC	WST16-19-181357 Result (mg/kg)	DC	WST16-19-181358 Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	5.63E-04	1	5.51E-02	1	6.70E-03	1	5.06E-02	1	6.65E-03	1	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1
1,2,3,4,5,6,7,8-OCDF	6.17E-05	1	7.03E-03	1	7.40E-04	1	7.63E-03	1	8.40E-04	1	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1
1,2,3,4,6,7,8-HpCDD	9.21E-05	1	7.44E-03	1	1.11E-03	1	6.81E-03	1	9.64E-04	1	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1
1,2,3,4,6,7,8-HpCDF	3.96E-05	1	2.51E-03	1	4.11E-04	1	2.22E-03	1	3.37E-04	1	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1
1,2,3,4,7,8,9-HpCDF	1.97E-06	1	1.49E-04	1	1.78E-05	1	1.44E-04	1	2.01E-05	1	1.89E-06	1	9.85E-07	1	1.55E-06	0	7.85E-07	1	1.07E-06	1
1,2,3,4,7,8-HxCDD	2.45E-06	1	1.41E-04	1	2.48E-05	1	1.24E-04	1	1.89E-05	1	9.07E-07	1	1.14E-06	1	1.55E-06	0	6.78E-07	1	8.31E-07	1
1,2,3,4,7,8-HxCDF	1.15E-06	1	8.96E-05	1	1.27E-05	1	7.31E-05	1	1.18E-05	1	2.44E-06	1	8.29E-07	1	1.55E-06	0	7.14E-07	1	1.42E-06	1
1,2,3,6,7,8-HxCDD	4.76E-06	1	3.02E-04	1	5.18E-05	1	2.74E-04	1	4.40E-05	1	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1
1,2,3,6,7,8-HxCDF	1.87E-06	1	9.84E-05	1	1.93E-05	1	8.49E-05	1	1.47E-05	1	1.71E-06	1	9.81E-07	1	1.55E-06	0	6.89E-07	1	1.04E-06	1
1,2,3,7,8,9-HxCDD	5.94E-06	1	3.23E-04	1	6.26E-05	1	2.82E-04	1	5.09E-05	1	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1
1,2,3,7,8,9-HxCDF	1.69E-06	0	1.68E-05	0	1.93E-06	1	1.67E-05	0	1.87E-06	1	4.96E-07	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDD	6.20E-07	1	3.83E-05	1	7.93E-06	1	3.22E-05	1	5.83E-06	1	4.88E-07	1	5.71E-07	1	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDF	1.69E-06	0	1.68E-05	0	1.18E-06	1	1.67E-05	0	8.73E-07	1	2.03E-06	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	5.99E-07	1
2,3,4,6,7,8-HxCDF	2.21E-06	1	1.37E-04	1	2.41E-05	1	1.10E-04	1	1.84E-05	1	2.45E-06	1	1.14E-06	1	1.55E-06	0	8.59E-07	1	1.55E-06	1
2,3,4,7,8-PeCDF	1.69E-06	0	1.05E-05	1	1.81E-06	1	7.67E-06	1	1.42E-06	1	1.43E-06	1	1.59E-06	0	1.55E-06	0	4.69E-07	1	1.06E-06	1
2,3,7,8-TCDD	3.38E-07	0	3.36E-06	0	3.44E-07	1	3.35E-06	0	3.34E-07	0	2.15E-07	1	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
2,3,7,8-TCDF	3.38E-07	0	3.36E-06	0	3.34E-07	0	3.35E-06	0	3.34E-07	0	1.66E-06	2	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.69E-07		1.65E-05		2.01E-06		1.52E-05		2.00E-06		9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08	
1,2,3,4,5,6,7,8-OCDF	1.85E-08		2.11E-06		2.22E-07		2.29E-06		2.52E-07		1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09	
1,2,3,4,6,7,8-HpCDD	9.21E-07		7.44E-05		1.11E-05		6.81E-05		9.64E-06		4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07	
1,2,3,4,6,7,8-HpCDF	3.96E-07		2.51E-05		4.11E-06		2.22E-05		3.37E-06		1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07	
1,2,3,4,7,8,9-HpCDF	1.97E-08		1.49E-06		1.78E-07		1.44E-06		2.01E-07		1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08	
1,2,3,4,7,8-HxCDD	2.45E-07		1.41E-05		2.48E-06		1.24E-05		1.89E-06		9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08	
1,2,3,4,7,8-HxCDF	1.15E-07		8.96E-06		1.27E-06		7.31E-06		1.18E-06		2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07	
1,2,3,6,7,8-HxCDD	4.76E-07		3.02E-05		5.18E-06		2.74E-05		4.40E-06		1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07	
1,2,3,6,7,8-HxCDF	1.87E-07		9.84E-06		1.93E-06		8.49E-06		1.47E-06		1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07	
1,2,3,7,8,9-HxCDD	5.94E-07		3.23E-05		6.26E-06		2.82E-05		5.09E-06		1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		1.93E-07		0.00E+00		1.87E-07		4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	6.20E-07		3.83E-05		7.93E-06		3.22E-05		5.83E-06		4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	0.00E+00		0.00E+00		3.54E-08		0.00E+00		2.62E-08		6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08	
2,3,4,6,7,8-HxCDF	2.21E-07		1.37E-05		2.41E-06		1.10E-05		1.84E-06		2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07	
2,3,4,7,8-PeCDF	0.00E+00		3.15E-06		5.43E-07		2.30E-06		4.26E-07		4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07	
2,3,7,8-TCDD	0.00E+00		0.00E+00		3.44E-07		0.00E+00		0.00E+00		2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.98E-06**		**2.70E-04**		**4.62E-05**		**2.39E-04**		**3.78E-05**		**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**	

Table 2-6. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

Parameter name	WST16-19-181359		WST16-19-181361		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																		
1,2,3,4,5,6,7,8-OCDD	6.50E-04	1	1.26E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1			1.70E-05	1
1,2,3,4,5,6,7,8-OCDF	8.35E-05	1	1.45E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1	8.31E-04	1	3.31E-06	1
1,2,3,4,6,7,8-HpCDD	1.05E-04	1	2.15E-05	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1	1.40E-03	1	2.98E-06	1
1,2,3,4,6,7,8-HpCDF	3.47E-05	1	9.10E-06	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1	4.66E-04	1	2.60E-06	1
1,2,3,4,7,8,9-HpCDF	2.20E-06	1	5.71E-07	1	1.58E-06	0	1.57E-06	0	3.26E-06	1	1.62E-06	0	1.50E-06	0	2.38E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDD	1.95E-06	1	7.03E-07	1	5.72E-07	1	1.57E-06	0	4.13E-06	1	1.62E-06	0	1.50E-06	0	3.20E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDF	1.64E-06	1	8.72E-07	1	8.57E-07	1	1.57E-06	0	2.06E-06	1	1.62E-06	0	1.50E-06	0	1.70E-05	1	6.08E-07	1
1,2,3,6,7,8-HxCDD	4.06E-06	1	1.13E-06	1	8.53E-07	1	1.57E-06	0	7.10E-06	1	7.06E-07	1	1.50E-06	0	6.02E-05	1	1.61E-06	0
1,2,3,6,7,8-HxCDF	1.56E-06	1	7.59E-07	1	1.58E-06	0	1.57E-06	0	2.57E-06	1	1.62E-06	0	1.50E-06	0	2.54E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDD	4.20E-06	1	1.04E-06	1	7.43E-07	1	1.57E-06	0	8.50E-06	1	1.13E-06	1	5.09E-07	1	7.04E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	1.79E-06	1	1.61E-06	0
1,2,3,7,8-PeCDD	6.70E-07	1	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.53E-06	1	1.62E-06	0	1.50E-06	0	1.23E-05	1	1.61E-06	0
1,2,3,7,8-PeCDF	5.68E-07	1	6.81E-07	1	8.34E-07	1	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	2.27E-06	1	6.14E-07	1
2,3,4,6,7,8-HxCDF	1.91E-06	1	1.03E-06	1	1.58E-06	0	1.57E-06	0	3.56E-06	1	1.62E-06	0	1.50E-06	0	3.19E-05	1	1.61E-06	0
2,3,4,7,8-PeCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	3.11E-06	1	1.61E-06	0
2,3,7,8-TCDD	2.03E-07	1	3.10E-07	0	2.10E-07	1	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	7.57E-07	1	3.20E-07	0
2,3,7,8-TCDF	3.20E-07	0	3.10E-07	0	3.16E-07	0	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	3.24E-07	0	3.20E-07	0
TECs																		
1,2,3,4,5,6,7,8-OCDD	1.95E-07		3.78E-08		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08		0.00E+00		5.10E-09	
1,2,3,4,5,6,7,8-OCDF	2.51E-08		4.35E-09		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09		2.49E-07		9.93E-10	
1,2,3,4,6,7,8-HpCDD	1.05E-06		2.15E-07		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07		1.40E-05		2.98E-08	
1,2,3,4,6,7,8-HpCDF	3.47E-07		9.10E-08		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08		4.66E-06		2.60E-08	
1,2,3,4,7,8,9-HpCDF	2.20E-08		5.71E-09		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00		2.38E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	1.95E-07		7.03E-08		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00		3.20E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	1.64E-07		8.72E-08		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00		1.70E-06		6.08E-08	
1,2,3,6,7,8-HxCDD	4.06E-07		1.13E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00		6.02E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	1.56E-07		7.59E-08		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00		2.54E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	4.20E-07		1.04E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08		7.04E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.79E-07		0.00E+00	
1,2,3,7,8-PeCDD	6.70E-07		0.00E+00		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00		1.23E-05		0.00E+00	
1,2,3,7,8-PeCDF	1.70E-08		2.04E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.81E-08		1.84E-08	
2,3,4,6,7,8-HxCDF	1.91E-07		1.03E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00		3.19E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.33E-07		0.00E+00	
2,3,7,8-TCDD	2.03E-07		0.00E+00		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.57E-07		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**4.06E-06**		**9.28E-07**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**		**5.71E-05**		**1.41E-07**	

Notes: The TECi are summed in each column to obtain the TEQ
Detect Code (DC) = 1 is detected, 0 is not detected
Shaded columns indicate a duplicate pair

~~Parameter Name~~	~~WST16-19-181353~~		~~WST16-19-181354~~		~~WST16-19-181355~~		~~WST16-19-181356~~		~~WST16-19-181357~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~4.52E-05~~	~~1~~	~~5.55E-05~~	~~1~~	~~0.00001~~	~~1~~	~~9.42E-06~~	~~1~~	~~2.24E-05~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.80E-05~~	~~1~~	~~1.82E-05~~	~~1~~	~~3.96E-06~~	~~1~~	~~6.41E-06~~	~~1~~	~~9.10E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.89E-06~~	~~1~~	~~9.85E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~5.75E-07~~	~~1~~	~~7.85E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~9.07E-07~~	~~1~~	~~1.14E-06~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~6.78E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.87E-06~~	~~1~~	~~2.08E-06~~	~~1~~	~~5.4E-07~~	~~1~~	~~5.22E-07~~	~~1~~	~~1.16E-06~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.90E-06~~	~~1~~	~~2.19E-06~~	~~1~~	~~5.75E-07~~	~~1~~	~~4.74E-07~~	~~0~~	~~1.12E-06~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~2.44E-06~~	~~1~~	~~8.29E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~2.48E-06~~	~~1~~	~~7.14E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.71E-06~~	~~1~~	~~9.81E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~1.02E-06~~	~~1~~	~~6.89E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.96E-07~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~4.44E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~2.45E-06~~	~~1~~	~~1.14E-06~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~1~~	~~8.59E-07~~	~~1~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~3.01E-04~~	~~1~~	~~3.50E-04~~	~~1~~	~~5.32E-05~~	~~1~~	~~1.70E-06~~	~~1~~	~~8.59E-07~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~4.39E-05~~	~~1~~	~~3.27E-05~~	~~1~~	~~5.67E-06~~	~~1~~	~~5.78E-05~~	~~1~~	~~1.48E-04~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.88E-07~~	~~1~~	~~5.71E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~4.44E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~2.03E-06~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~1.27E-06~~	~~1~~	~~4.44E-07~~	~~0~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~1.43E-06~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~3.37E-06~~	~~1~~	~~4.69E-07~~	~~1~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~2.15E-07~~	~~1~~	~~1.44E-07~~	~~0~~	~~1.53E-07~~	~~0~~	~~1.16E-07~~	~~0~~	~~1.52E-07~~	~~0~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~1.66E-06~~	~~1~~	~~4.05E-07~~	~~0~~	~~1.97E-07~~	~~0~~	~~2.71E-06~~	~~1~~	~~5.5E-07~~	~~0~~

Congener Name	WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181356		WST16-19-181357	
	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	0.01	4.52E-07	0.01	5.55E-07	0.01	1.00E-07	0.01	9.42E-08	0.01	2.24E-07
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	0.01	1.80E-07	0.01	1.82E-07	0.01	3.96E-08	0.01	6.41E-08	0.01	9.10E-08
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	0.01	1.89E-08	0.01	9.85E-09	0.01	ND	0.01	5.75E-09	0.01	7.85E-09
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	0.1	9.07E-08	0.1	1.14E-07	0.1	ND	0.1	ND	0.1	6.78E-08
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	0.1	1.87E-07	0.1	2.08E-07	0.1	5.40E-08	0.1	5.22E-08	0.1	1.16E-07
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	0.1	1.90E-07	0.1	2.19E-07	0.1	5.75E-08	0.1	ND	0.1	1.12E-07
Hexachlorodibenzofuran[1,2,3,4,7,8-]	0.1	2.44E-07	0.1	8.29E-08	0.1	ND	0.1	2.48E-07	0.1	7.14E-08
Hexachlorodibenzofuran[1,2,3,6,7,8-]	0.1	1.71E-07	0.1	9.81E-08	0.1	ND	0.1	1.02E-07	0.1	6.89E-08
Hexachlorodibenzofuran[1,2,3,7,8,9-]	0.1	4.96E-08	0.1	ND	0.1	ND	0.1	ND	0.1	ND
Hexachlorodibenzofuran[2,3,4,6,7,8-]	0.1	2.45E-07	0.1	1.14E-07	0.1	ND	0.1	1.70E-07	0.1	8.59E-08
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	0.0003	9.03E-08	0.0003	1.05E-07	0.0003	1.60E-08	0.0003	1.73E-08	0.0003	4.44E-08
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	0.0003	1.32E-08	0.0003	9.81E-09	0.0003	1.70E-09	0.0003	6.15E-09	0.0003	5.55E-09
Pentachlorodibenzodioxin[1,2,3,7,8-]	1	4.88E-07	1	5.71E-07	1	ND	1	ND	1	ND
Pentachlorodibenzofuran[1,2,3,7,8-]	0.03	6.09E-08	0.03	ND	0.03	ND	0.03	3.81E-08	0.03	ND
Pentachlorodibenzofuran[2,3,4,7,8-]	0.3	4.29E-07	0.3	ND	0.3	ND	0.3	1.01E-06	0.3	1.41E-07
Tetrachlorodibenzodioxin[2,3,7,8-]	1	2.15E-07	1	ND	1	ND	1	ND	1	ND
Tetrachlorodibenzofuran[2,3,7,8-]	0.1	1.66E-07	0.1	ND	0.1	ND	0.1	2.71E-07	0.1	ND
TEQ	-	3.29E-06	-	2.27E-06	-	2.69E-07	-	2.08E-06	-	1.04E-06
NMED SSL Residential = 5E-05	**RR =**	7E-02	-	5E-02	-	5E-03	-	4E-02	-	2E-02
NMED SSL Industrial = 8E-03	**RR =**	4E-04	-	3E-04	-	3E-05	-	2E-04	-	1E-04

~~Parameter Name~~	~~WST16-19-181358~~		~~WST16-19-181359~~		~~WST16-19-181360~~		~~WST16-19-181361~~		~~WST16-19-181362~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~3.34E-05~~	~~1~~	~~1.05E-04~~	~~1~~	~~4.72E-07~~	~~0~~	~~2.15E-05~~	~~1~~	~~2.40E-05~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.30E-05~~	~~1~~	~~3.47E-05~~	~~1~~	~~4.72E-07~~	~~0~~	~~9.10E-06~~	~~1~~	~~5.40E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.07E-06~~	~~1~~	~~2.20E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~5.71E-07~~	~~1~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~8.31E-07~~	~~1~~	~~1.95E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~7.03E-07~~	~~1~~	~~5.72E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.58E-06~~	~~1~~	~~4.06E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.13E-06~~	~~1~~	~~8.53E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.72E-06~~	~~1~~	~~4.20E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.04E-06~~	~~1~~	~~7.43E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~1.42E-06~~	~~1~~	~~1.64E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~8.72E-07~~	~~1~~	~~8.57E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.04E-06~~	~~1~~	~~1.56E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~7.59E-07~~	~~1~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.56E-07~~	~~0~~	~~4.80E-07~~	~~0~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~1.55E-06~~	~~1~~	~~1.91E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.03E-06~~	~~1~~	~~4.74E-07~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~2.19E-04~~	~~1~~	~~6.50E-04~~	~~1~~	~~2.62E-06~~	~~1~~	~~1.26E-04~~	~~1~~	~~1.71E-04~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~2.88E-05~~	~~1~~	~~8.35E-05~~	~~1~~	~~9.45E-07~~	~~0~~	~~1.45E-05~~	~~1~~	~~1.93E-05~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.56E-07~~	~~0~~	~~6.70E-07~~	~~1~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~5.99E-07~~	~~1~~	~~5.68E-07~~	~~1~~	~~4.72E-07~~	~~0~~	~~6.81E-07~~	~~1~~	~~8.34E-07~~	~~1~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~1.06E-06~~	~~1~~	~~4.80E-07~~	~~0~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.84E-07~~	~~0~~	~~2.03E-07~~	~~1~~	~~9.45E-08~~	~~0~~	~~1.82E-07~~	~~0~~	~~2.10E-07~~	~~1~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~6.29E-07~~	~~0~~	~~5.64E-07~~	~~0~~	~~1.91E-07~~	~~0~~	~~5.04E-07~~	~~0~~	~~4.72E-07~~	~~0~~

~~Congener Name~~	~~WST16-19-181358~~		~~WST16-19-181359~~		~~WST16-19-181360~~		~~WST16-19-181361~~		~~WST16-19-181362~~	
	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~0.01~~	~~3.34E-07~~	~~0.01~~	~~1.05E-06~~	~~0.01~~	~~ND~~	~~0.01~~	~~2.15E-07~~	~~0.01~~	~~2.40E-07~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~0.01~~	~~1.30E-07~~	~~0.01~~	~~3.47E-07~~	~~0.01~~	~~ND~~	~~0.01~~	~~9.10E-08~~	~~0.01~~	~~5.40E-08~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~0.01~~	~~1.07E-08~~	~~0.01~~	~~2.20E-08~~	~~0.01~~	~~ND~~	~~0.01~~	~~5.71E-09~~	~~0.01~~	~~ND~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~0.1~~	~~8.31E-08~~	~~0.1~~	~~1.95E-07~~	~~0.1~~	~~ND~~	~~0.1~~	~~7.03E-08~~	~~0.1~~	~~5.72E-08~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~0.1~~	~~1.58E-07~~	~~0.1~~	~~4.06E-07~~	~~0.1~~	~~ND~~	~~0.1~~	~~1.13E-07~~	~~0.1~~	~~8.53E-08~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~0.1~~	~~1.72E-07~~	~~0.1~~	~~4.20E-07~~	~~0.1~~	~~ND~~	~~0.1~~	~~1.04E-07~~	~~0.1~~	~~7.43E-08~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~0.1~~	~~1.42E-07~~	~~0.1~~	~~1.64E-07~~	~~0.1~~	~~ND~~	~~0.1~~	~~8.72E-08~~	~~0.1~~	~~8.57E-08~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~0.1~~	~~1.04E-07~~	~~0.1~~	~~1.56E-07~~	~~0.1~~	~~ND~~	~~0.1~~	~~7.59E-08~~	~~0.1~~	~~ND~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~0.1~~	~~1.55E-07~~	~~0.1~~	~~1.91E-07~~	~~0.1~~	~~ND~~	~~0.1~~	~~1.03E-07~~	~~0.1~~	~~ND~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~0.0003~~	~~6.57E-08~~	~~0.0003~~	~~1.95E-07~~	~~0.0003~~	~~7.86E-10~~	~~0.0003~~	~~3.78E-08~~	~~0.0003~~	~~5.13E-08~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~0.0003~~	~~8.64E-09~~	~~0.0003~~	~~2.51E-08~~	~~0.0003~~	~~ND~~	~~0.0003~~	~~4.35E-09~~	~~0.0003~~	~~5.79E-09~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~1~~	~~ND~~	~~1~~	~~6.70E-07~~	~~1~~	~~ND~~	~~1~~	~~ND~~	~~1~~	~~ND~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~0.03~~	~~1.80E-08~~	~~0.03~~	~~1.70E-08~~	~~0.03~~	~~ND~~	~~0.03~~	~~2.04E-08~~	~~0.03~~	~~2.50E-08~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~0.3~~	~~3.18E-07~~	~~0.3~~	~~ND~~	~~0.3~~	~~ND~~	~~0.3~~	~~ND~~	~~0.3~~	~~ND~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1~~	~~ND~~	~~1~~	~~2.03E-07~~	~~1~~	~~ND~~	~~1~~	~~ND~~	~~1~~	~~2.10E-07~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~	~~0.1~~	~~ND~~
~~TEQ~~	-	~~1.70E-06~~	-	~~4.06E-06~~	-	~~7.86E-10~~	-	~~9.28E-07~~	-	~~8.89E-07~~
~~**NMED SSL Residential**~~	~~-RR=~~	~~3.47E-02~~	-	~~8.29E-02~~	-	~~1.60E-05~~	-	~~1.89E-02~~	-	~~1.81E-02~~
~~**NMED SSL Industrial**~~	~~-RR=~~	~~2.01E-04~~	-	~~4.79E-04~~	-	~~9.28E-08~~	-	~~1.10E-04~~	-	~~1.05E-04~~

-	WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
Parameter Name	Result	Detect	Result	Detect	Result	Detect	Result	Detect	Result	Detect	Result	Detect
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1	1.40E-03	1	2.98E-06	1
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1	4.66E-04	1	2.60E-06	1
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	4.69E-07	0	3.26E-06	1	4.84E-07	0	4.50E-07	0	2.38E-05	1	4.81E-07	0
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	4.69E-07	0	4.13E-06	1	4.84E-07	0	4.50E-07	0	3.20E-05	1	4.81E-07	0
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	4.69E-07	0	7.10E-06	1	7.06E-07	1	4.50E-07	0	6.02E-05	1	4.81E-07	0
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	4.69E-07	0	8.50E-06	1	1.13E-06	1	5.09E-07	1	7.04E-05	1	4.81E-07	0
Hexachlorodibenzofuran[1,2,3,4,7,8-]	4.69E-07	0	2.06E-06	1	4.84E-07	0	4.50E-07	0	1.70E-05	1	6.08E-07	1
Hexachlorodibenzofuran[1,2,3,6,7,8-]	4.69E-07	0	2.57E-06	1	4.84E-07	0	4.50E-07	0	2.54E-05	1	4.81E-07	0
Hexachlorodibenzofuran[1,2,3,7,8,9-]	4.69E-07	0	4.87E-07	0	4.84E-07	0	4.50E-07	0	1.79E-06	1	4.81E-07	0
Hexachlorodibenzofuran[2,3,4,6,7,8-]	4.69E-07	0	3.56E-06	1	4.84E-07	0	4.50E-07	0	3.19E-05	1	4.81E-07	0
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1	-	-	1.70E-05	1
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1	8.31E-04	1	3.31E-06	1
Pentachlorodibenzodioxin[1,2,3,7,8-]	4.69E-07	0	1.53E-06	1	4.84E-07	0	4.50E-07	0	1.23E-05	1	4.81E-07	0
Pentachlorodibenzofuran[1,2,3,7,8-]	4.69E-07	0	4.87E-07	0	4.84E-07	0	4.50E-07	0	2.27E-06	1	6.14E-07	1
Pentachlorodibenzofuran[2,3,4,7,8-]	4.69E-07	0	4.87E-07	0	4.84E-07	0	4.50E-07	0	3.11E-06	1	4.81E-07	0
Tetrachlorodibenzodioxin[2,3,7,8-]	1.97E-07	0	1.62E-07	0	1.57E-07	0	9.12E-08	0	7.57E-07	1	1.40E-07	0
Tetrachlorodibenzofuran[2,3,7,8-]	3.36E-07	0	2.59E-07	0	2.05E-07	0	2.57E-07	0	5.55E-07	0	3.62E-07	0

Congener Name	WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	0.01	6.19E-08	0.01	1.99E-06	0.01	2.10E-07	0.01	1.01E-07	0.01	1.40E-05	0.01	2.98E-08
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	0.01	1.22E-08	0.01	5.96E-07	0.01	6.41E-08	0.01	3.30E-08	0.01	4.66E-06	0.01	2.60E-08
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	0.01	ND	0.01	3.26E-08	0.01	ND	0.01	ND	0.01	2.38E-07	0.01	ND
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	0.1	ND	0.1	4.13E-07	0.1	ND	0.1	ND	0.1	3.20E-06	0.1	ND
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	0.1	ND	0.1	7.10E-07	0.1	7.06E-08	0.1	ND	0.1	6.02E-06	0.1	ND
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	0.1	ND	0.1	8.50E-07	0.1	1.13E-07	0.1	5.09E-08	0.1	7.04E-06	0.1	ND
Hexachlorodibenzofuran[1,2,3,4,7,8-]	0.1	ND	0.1	2.06E-07	0.1	ND	0.1	ND	0.1	1.70E-06	0.1	6.08E-08
Hexachlorodibenzofuran[1,2,3,6,7,8-]	0.1	ND	0.1	2.57E-07	0.1	ND	0.1	ND	0.1	2.54E-06	0.1	ND
Hexachlorodibenzofuran[1,2,3,7,8,9-]	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	1.79E-07	0.1	ND
Hexachlorodibenzofuran[2,3,4,6,7,8-]	0.1	ND	0.1	3.56E-07	0.1	ND	0.1	ND	0.1	3.19E-06	0.1	ND
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	0.0003	1.38E-08	0.0003	3.39E-07	0.0003	3.84E-08	0.0003	2.02E-08	0.0003	ND	0.0003	5.10E-09
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	0.0003	1.47E-09	0.0003	3.51E-08	0.0003	3.84E-09	0.0003	2.15E-09	0.0003	2.49E-07	0.0003	9.93E-10
Pentachlorodibenzodioxin[1,2,3,7,8-]	1	ND	1	1.53E-06	1	ND	1	ND	1	1.23E-05	1.	ND
Pentachlorodibenzofuran[1,2,3,7,8-]	0.03	ND	0.03	ND	0.03	ND	0.03	ND	0.03	6.81E-08	0.03	1.84E-08
Pentachlorodibenzofuran[2,3,4,7,8-]	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	9.33E-07	0.3	ND
Tetrachlorodibenzodioxin[2,3,7,8-]	1	ND	1	ND	1	ND	1	ND	1	7.57E-07	1	ND
Tetrachlorodibenzofuran[2,3,7,8-]	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND	0.1	ND
TEQ	-	8.94E-08	-	7.31E-06	-	5.00E-07	-	2.07E-07	-	5.71E-05	-	1.41E-07
NMED SSL Residential	RR =	1.82E-03	-	1.49E-01	-	1.02E-02	-	4.23E-03	-	1.17E+00	-	2.88E-03
NMED SSL Industrial	RR =	1.06E-05	-	8.63E-04	-	5.90E-05	-	2.45E-05	-	6.74E-03	-	1.67E-05

~~Notes: The TECi are summed in each column to obtain the TEQ. The TEQ is divided by the residential or the industrial SSLs for TCDD to obtain a risk ratio, shown directly under the TEQ. None of the TEQs exceeded the SLs..~~
~~All data in mg/kg~~
~~Detect Code = 1 is detected, 0 is not detected~~
~~RR - Ratio of TEQ to NMED SSL~~

Table 2-7.Dioxin Furan Cancer Risk and Hazard Quotients by Receptor

Sample ID	**TCDD TEQ**	**Resident Cancer Risk**	**Resident HQ**	**Industrial Worker Cancer Risk**	**Industrial Worker HQ**	**CW Cancer Risk**	**CW HQ**	**SL-SSL, DAF 20 Ratio**
09RCRA695	5E-07	1E-12	1E-02	2E-08	6E-04	3E-09	2E-03	2E-03
09RCRA697	7E-07	1E-07	1E-02	3E-08	9E-04	4E-09	3E-03	3E-03
09RCRA699	6E-07	1E-07	1E-02	2E-08	7E-04	3E-09	3E-03	3E-03
09RCRA701	2E-07	5E-08	5E-03	1E-08	3E-04	1E-09	1E-03	1E-03
09RCRA703	2E-06	4E-07	4E-02	9E-08	3E-03	1E-08	9E-03	9E-03
09RCRA705	1E-06	2E-07	2E-02	5E-08	1E-03	7E-09	5E-03	5E-03
09RCRA707	9E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
09RCRA709	2E-06	3E-07	3E-02	6E-08	2E-03	9E-09	7E-03	7E-03
09RCRA711	4E-05	7E-06	7E-01	2E-06	5E-02	2E-07	2E-01	2E-01
09RCRA731	6E-07	1E-07	1E-02	2E-08	7E-04	3E-09	3E-03	3E-03
RE16-12-17672	6E-07	1E-07	1E-02	2E-08	7E-04	3E-09	3E-03	3E-03
RE16-12-17673	3E-06	6E-07	6E-02	1E-07	4E-03	2E-08	1E-02	1E-02
RE16-12-17674	5E-07	1E-07	9E-03	2E-08	6E-04	3E-09	2E-03	2E-03
RE16-12-17676	1E-06	3E-07	3E-02	6E-08	2E-03	8E-09	6E-03	6E-03
RE16-12-17677	9E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
RE16-12-17678	4E-07	7E-08	7E-03	2E-08	4E-04	2E-09	2E-03	2E-03
RE16-12-17679	4E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
RE16-12-17680	6E-05	1E-05	1E+00	3E-06	8E-02	4E-07	3E-01	3E-01
RE16-12-17681	**3E-04**	**6E-05**	**6E+00**	**1E-05**	**4E-01**	**2E-06**	**1E+00**	**1E+00**
WST16-13-29794	4E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
WST16-13-29795	3E-04	6E-05	5E+00	1E-05	3E-01	2E-06	1E+00	1E+00
WST16-13-29796	5E-05	9E-06	9E-01	2E-06	6E-02	3E-07	2E-01	2E-01
WST16-13-29797	2E-04	5E-05	5E+00	1E-05	3E-01	1E-06	1E+00	1E+00
WST16-13-29798	4E-05	8E-06	7E-01	2E-06	5E-02	2E-07	2E-01	2E-01
WST16-19-181353	3E-06	7E-07	7E-02	1E-07	4E-03	2E-08	1E-02	1E-02
WST16-19-181354	2E-06	5E-07	4E-02	1E-07	3E-03	1E-08	1E-02	1E-02
WST16-19-181355	3E-07	5E-08	5E-03	1E-08	3E-04	2E-09	1E-03	1E-03
WST16-19-181358	2E-06	3E-07	3E-02	7E-08	2E-03	1E-08	8E-03	8E-03
WST16-19-181359	4E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
WST16-19-181361	9E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
WST16-19-181362	9E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
WST16-19-181363	9E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
WST16-19-181364	7E-06	1E-06	1E-01	3E-07	9E-03	4E-08	3E-02	3E-02
WST16-19-181365	5E-07	1E-07	1E-02	2E-08	6E-04	3E-09	2E-03	2E-03
WST16-19-181366	2E-07	4E-08	4E-03	9E-09	3E-04	1E-09	9E-04	9E-04
WST16-19-181367	6E-05	1E-05	1E+00	2E-06	7E-02	3E-07	3E-01	3E-01
WST16-19-181368	1E-07	3E-08	3E-03	6E-09	2E-04	8E-10	6E-04	6E-04

Notes:
Highlighted cells show values above targets
Bold indicates the maximum detected TEQ
CW – Construction worker
HQ – Hazard quotient
SL-SSL, DAF – Migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-8. Refined Exposure Point Concentrations

Category	**Name**	**Refined EPC (mg/kg)**	**Number of Detected Values**	**Distribution**	**Recommended UCL Type**
Inorganic	Antimony	0.481	6	Normal	95% KM (t) UCL
	Barium	3369	37	Lognormal	95% Chebyshev(Mean, Sd) UCL
	Cadmium	0.231	10	Normal	95% KM (t) UCL
	Calcium	4866	27	NDD	95% Chebyshev (Mean, Sd) UCL
	Copper	32.03	25	NDD	95% KM (Chebyshev) UCL
	Lead	45.22	37	NDD	95% Chebyshev (Mean, Sd) UCL
	Nitrate	3.04	11	Gamma	95% Adjusted Gamma UCL
	Perchlorate	0.000679	7	Approx. Gamma	95% KM Adjusted Gamma UCL
	Selenium	0.968	13	Normal	95% KM (t) UCL
	Silver	1.848	33	Lognormal	KM H-UCL
	Zinc	58.43	27	Gamma	95% Adjusted Gamma UCL
Organic	2,3,7,8-TCDD TEQ	0.000106	37	NDD	97.5% Chebyshev (Mean, Sd) UCL
	3,5-Dinitroaniline	1.33	1	NA	Maximum Detected Value
	Amino-2,6-dinitrotoluene[4-]	0.573	7	Gamma	95% Gamma Adjusted KM-UCL (use when n<50)
	Amino-4,6-dinitrotoluene[2-]	0.382	7	Approx. Normal	95% Gamma Adjusted KM-UCL (use when n<50)
	Anthracene	0.262	2	NA	Median of Detected Values
	Benzoic Acid	0.487	2	NA	Median of Detected Values
	Bis(2-ethylhexyl)phthalate	16.35	9	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)
	Dinitrotoluene[2,4-]	0.17	1	NA	Maximum Detected Value
	HMX	25.57	14	Lognormal	95% KM (Chebyshev) UCL
	Isopropyltoluene[4-]	0.000737	2	NA	Median of Detected Values
	Methylene Chloride	0.00473	1	NA	Maximum Detected Value
	Methylnaphthalene[2-]	0.0131	1	NA	Maximum Detected Value
	PETN	38.80	1	NA	Maximum Detected Value
	RDX	14.98	15	Gamma	95% Gamma Adjusted KM-UCL (use when n<50)
	TATB	10.51	19	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)
	Total Petroleum Hydrocarbons Diesel Range Organics	27.33	13	Gamma	95% Adjusted Gamma UCL
	Trinitrobenzene[1,3,5-]	0.429	2	NA	Median of Detected Values
	Trinitrotoluene[2,4,6-]	2.064	6	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

Notes:
Per NMED (2019), UCLs not calculated unless there were >5 detected values and 8 total samples
EPCs represent all detected analytes and for inorganics, all detected analytes with maxima greater than the BTV
Data represent the higher of the duplicate pairs.
KM – Kaplan- Meier
NDD – No discernable distribution
Sd – Standard deviation
UCL – Upper Confidence Limit

Table 2-9. Human Health Risk Assessment with Refined EPCs

Category	Name	Refined EPC (mg/kg)	Residential Cancer Risk	Residential HQ	Industrial Worker Cancer Risk	Industrial Worker HQ	Construction Worker Cancer Risk	Construction Worker HQ	SL-SSL DAF 20 Ratio
Inorganic	Antimony	0.481	-	2E-02	-	9E-04	-	3E-03	7E-02
	Barium	3369	-	2E-01	-	1E-02	-	8E-01	1E+00
	Cadmium	0.231	3E-11	3E-03	6E-12	2E-04	6E-10	3E-03	2E-02
	Calcium	4866	-	4E-04	-	1E-04	-	5E-04	-
	Copper	32.03	-	1E-02	-	6E-04	-	2E-03	4E-02
	Nitrate	3.04	-	2E-05	-	1E-06	-	5E-06	7E-03
	Perchlorate	0.000679	-	1E-05	-	7E-07	-	3E-06	6E-03
	Selenium	0.968	-	2E-03	-	1E-04	-	6E-04	9E-02
	Silver	1.848	-	5E-03	-	3E-04	-	1E-03	1E-01
	Zinc	58.43	-	2E-03	-	2E-04	-	6E-04	8E-03
Organic	3,5-Dinitroaniline	1.33	-	2E-01	-	1E-02	-	1E-02	-
	Amino-2,6-dinitrotoluene[4-]	0.573	-	7E-02	-	5E-03	-	5E-03	-
	Amino-4,6-dinitrotoluene[2-]	0.382	-	5E-02	-	3E-03	-	3E-03	-
	Anthracene	0.262	-	2E-05	-	1E-06	-	3E-06	3E-04
	Benzoic Acid	0.487	-	2E-06	-	1E-07	-	1E-07	-
	Bis(2-ethylhexyl)phthalate	16.35	4E-07	1E-02	9E-08	9E-04	1E-08	3E-03	8E-02
	Dinitrotoluene[2,4-]	0.17	1E-07	1E-03	2E-08	9E-05	3E-09	3E-04	3E+00
	HMX	25.57	-	7E-03	-	4E-04	-	1E-03	1E+00
	Isopropyltoluene[4-]	0.000737	-	1E-07	-	1E-08	-	5E-08	6E-05
	Methylene Chloride	0.00473	6E-11	1E-05	3E-12	9E-07	5E-13	4E-06	1E-02
	Methylnaphthalene[2-]	0.0131	-	6E-05	-	4E-06	-	1E-05	5E-03
	PETN	38.80	3E-07	3E-01	7E-08	2E-02	7E-08	2E-02	-
	RDX	14.98	2E-06	5E-02	4E-07	3E-03	5E-08	1E-02	3E+02
	TATB	10.51	-	5E-03	-	3E-04	-	3E-04	-
	2,3,7,8-TCDD TEQ	0.000106	2E-05	2E+00	4E-06	1E-01	6E-07	5E-01	5E-01
	TPH DRO	27.33	-	1E-02	-	9E-03	-	-	5E-03
	Trinitrobenzene[1,3,5-]	0.429	-	2E-04	-	1E-05	-	1E-05	-
	Trinitrotoluene[2,4,6-]	2.064	1E-07	6E-02	2E-08	4E-03	3E-09	1E-02	2E+00
CCR or Hazard Index			2E-05	3E+00	5E-06	2E-01	8E-07	1E+00	NA

Notes:
"-" – Indicates there was no SL for the analyte
CCR – Cumulative cancer risk
EPC – Exposure point concentration
HQ – Hazard quotient
SL – Screening level
TPH DRO - Total Petroleum Hydrocarbons Diesel Range Organics
SL-SSL DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-10. Comparison of MDLs to NMSSLs for Nondetected Analytes.

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
2,4-Diamino-6-nitrotoluene	5.08E-01	2E-07	7E-03	3E-08	5E-04	3E-08	5E-04
2,6-Diamino-4-nitrotoluene	6.70E-01	2E-07	1E-02	4E-08	6E-04	4E-08	6E-04
Acenaphthene	3.05E-01	NA	9E-05	NA	6E-06	NA	2E-05
Acenaphthylene	3.05E-01	NA	9E-05	NA	6E-06	NA	2E-05
Acetone	2.04E-03	NA	3E-08	NA	2E-09	NA	8E-09
Aniline	3.05E+00	3E-08	7E-03	8E-09	5E-04	8E-09	5E-04
Azobenzene	3.05E+00	5E-07	NA	1E-07	NA	1E-07	NA
Benzene	4.07E-04	2E-10	4E-06	5E-11	6E-07	1E-11	3E-06
Benzo(a)anthracene	3.05E-01	2E-06	NA	9E-08	NA	1E-08	NA
Benzo(a)pyrene	3.05E-01	3E-06	2E-02	1E-07	1E-03	2E-08	2E-02
Benzo(b)fluoranthene	3.05E-01	2E-06	NA	9E-08	NA	1E-08	NA
Benzo(g,h,i)perylene	3.05E-01	3E-06	2E-02	1E-07	1E-03	2E-08	2E-02
Benzo(k)fluoranthene	3.05E-01	2E-07	NA	9E-09	NA	1E-09	NA
Benzyl Alcohol	3.05E+00	NA	5E-04	NA	4E-05	NA	4E-05
Bis(2-chloroethoxy)methane	3.05E+00	NA	2E-02	NA	1E-03	NA	1E-03
Bis(2-chloroethyl)ether	3.05E+00	1E-05	NA	2E-06	NA	2E-05	NA
Bromobenzene	4.07E-04	NA	1E-06	NA	2E-07	NA	2E-07
Bromochloromethane	4.07E-04	NA	3E-06	NA	6E-07	NA	6E-07
Bromodichloromethane	4.07E-04	7E-10	3E-07	1E-10	2E-08	3E-11	6E-08
Bromoform	4.07E-04	6E-12	3E-07	2E-12	2E-08	2E-13	8E-08
Bromomethane	4.07E-04	NA	2E-05	NA	4E-06	NA	2E-05
Bromophenyl-phenylether[4-]	3.05E+00	NA	2E-02	NA	1E-03	NA	1E-03
Butanone[2-]	2.04E-03	NA	5E-08	NA	5E-09	NA	2E-08
Butylbenzene[n-]	4.07E-04	NA	1E-07	NA	7E-09	NA	7E-09
Butylbenzene[sec-]	4.07E-04	NA	5E-08	NA	3E-09	NA	3E-09
Butylbenzene[tert-]	4.07E-04	NA	5E-08	NA	3E-09	NA	3E-09
Butylbenzylphthalate	3.05E-01	1E-09	2E-05	3E-10	2E-06	3E-10	2E-06
Carbon Disulfide	2.04E-03	NA	1E-06	NA	2E-07	NA	1E-06
Carbon Tetrachloride	4.07E-04	4E-10	3E-06	8E-11	4E-07	2E-11	2E-06
Chloro-3-methylphenol[4-]	4.07E+00	NA	6E-04	NA	5E-05	NA	5E-05
Chloroaniline[4-]	3.05E+00	1E-06	1E-02	3E-07	9E-04	3E-07	9E-04
Chlorobenzene	4.07E-04	NA	1E-06	NA	2E-07	NA	1E-06
Chlorodibromomethane	4.07E-04	3E-10	3E-07	6E-11	2E-08	1E-11	8E-08
Chloroethane	4.07E-04	NA	2E-08	NA	5E-09	NA	2E-08
Chloroform	4.07E-04	7E-10	1E-06	1E-10	2E-07	3E-11	1E-06
Chloromethane	4.07E-04	1E-10	2E-06	2E-11	3E-07	4E-12	2E-06
Chloronaphthalene[2-]	3.05E-01	NA	5E-05	NA	3E-06	NA	1E-05
Chlorophenol[2-]	3.05E+00	NA	8E-03	NA	5E-04	NA	2E-03
Chlorophenyl-phenyl[4-] Ether	3.05E+00	NA	NA	NA	NA	NA	NA
Chlorotoluene[2-]	4.07E-04	NA	3E-07	NA	2E-08	NA	6E-08
Chlorotoluene[4-]	4.07E-04	NA	3E-07	NA	2E-08	NA	6E-08

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
Chrysene	3.05E-01	2E-08	NA	9E-10	NA	1E-10	NA
Dibenz(a,h)anthracene	3.05E-01	2E-05	NA	9E-07	NA	1E-07	NA
Dibenzofuran	3.05E+00	NA	4E-02	NA	3E-03	NA	3E-03
Dibromo-3-Chloropropane[1,2-]	6.10E-04	7E-08	1E-04	5E-09	1E-05	1E-09	7E-05
Dibromoethane[1,2-]	4.07E-04	6E-09	3E-06	1E-09	6E-07	2E-10	3E-06
Dibromomethane	4.07E-04	NA	7E-06	NA	1E-06	NA	8E-06
Dichlorobenzene[1,2-]	3.05E+00	NA	1E-03	NA	2E-04	NA	1E-03
Dichlorobenzene[1,3-]	3.05E+00	2E-08	6E-04	5E-09	3E-05	7E-10	1E-04
Dichlorobenzene[1,4-]	3.05E+00	2E-08	6E-04	5E-09	3E-05	7E-10	1E-04
Dichlorobenzidine[3,3'-]	3.05E+00	3E-06	NA	5E-07	NA	7E-08	NA
Dichlorodifluoromethane	4.07E-04	NA	2E-06	NA	5E-07	NA	3E-06
Dichloroethane[1,1-]	4.07E-04	5E-11	3E-08	1E-11	2E-09	2E-12	6E-09
Dichloroethane[1,2-]	4.07E-04	5E-10	7E-06	1E-10	1E-06	2E-11	8E-06
Dichloroethene[1,1-]	4.07E-04	NA	9E-07	NA	2E-07	NA	1E-06
Dichloroethene[cis-1,2-]	4.07E-04	NA	3E-06	NA	2E-07	NA	6E-07
Dichloroethene[trans-1,2-]	4.07E-04	NA	1E-06	NA	3E-07	NA	1E-06
Dichlorophenol[2,4-]	3.05E+00	NA	2E-02	NA	1E-03	NA	4E-03
Dichloropropane[1,2-]	4.07E-04	2E-10	1E-05	5E-11	3E-06	1E-11	2E-05
Dichloropropane[1,3-]	4.07E-04	2E-10	1E-05	5E-11	3E-06	1E-11	2E-05
Dichloropropane[2,2-]	4.07E-04	2E-10	1E-05	5E-11	3E-06	1E-11	2E-05
Dichloropropene[1,1-]	4.07E-04	1E-10	3E-06	3E-11	6E-07	5E-12	3E-06
Dichloropropene[cis-1,3-]	4.07E-04	1E-10	3E-06	3E-11	6E-07	5E-12	3E-06
Dichloropropene[trans-1,3-]	4.07E-04	1E-10	3E-06	3E-11	6E-07	5E-12	3E-06
Diethylphthalate	3.05E-01	NA	6E-06	NA	4E-07	NA	1E-06
Dimethyl Phthalate	3.05E-01	NA	6E-06	NA	4E-07	NA	1E-06
Dimethylphenol[2,4-]	3.05E+00	NA	2E-03	NA	2E-04	NA	6E-04
Di-n-butylphthalate	3.05E-01	NA	5E-05	NA	3E-06	NA	1E-05
Dinitro-2-methylphenol[4,6-]	3.05E+00	NA	6E-01	NA	4E-02	NA	1E-01
Dinitrobenzene[1,3-]	1.52E-01	NA	NA	NA	2E-03	NA	2E-03
Dinitrophenol[2,4-]	3.05E+00	NA	2E-02	NA	2E-03	NA	6E-03
Dinitrotoluene[2,6-]	3.05E+00	9E-06	2E-01	2E-06	1E-02	2E-07	4E-02
Di-n-octylphthalate	3.05E-01	NA	5E-04	NA	4E-05	NA	4E-05
Diphenylamine	3.05E+00	NA	5E-04	NA	4E-05	NA	4E-05
Ethylbenzene	4.07E-04	5E-11	1E-07	1E-11	1E-08	2E-12	7E-08
Fluoranthene	3.05E-01	NA	1E-04	NA	9E-06	NA	3E-05
Fluorene	3.05E-01	NA	1E-04	NA	9E-06	NA	3E-05
Hexachlorobenzene	3.05E+00	9E-06	6E-02	2E-06	4E-03	3E-07	1E-02
Hexachlorobutadiene	3.05E+00	4E-07	5E-02	6E-07	3E-03	1E-08	1E-02
Hexachlorocyclopentadiene	3.05E+00	NA	1E+00	NA	6E-04	NA	4E-03
Hexachloroethane	3.05E+00	2E-07	7E-02	5E-08	5E-03	7E-09	2E-02
Hexanone[2-]	2.04E-03	NA	1E-05	NA	2E-06	NA	2E-06
Indeno(1,2,3-cd)pyrene	3.05E-01	2E-06	NA	9E-08	NA	1E-08	NA
Iodomethane	2.04E-03	NA	NA	NA	NA	NA	NA

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
Isophorone	3.05E+00	5E-09	2E-04	1E-09	2E-05	2E-10	6E-05
Isopropylbenzene	4.07E-04	NA	2E-07	NA	3E-08	NA	1E-07
Methyl-2-pentanone[4-]	2.04E-03	NA	4E-07	NA	2E-08	NA	1E-07
Methylphenol[2-]	3.05E+00	NA	1E-03	NA	7E-05	NA	7E-05
Methylphenol[3-,4-]	3.05E+00	NA	1E-03	NA	7E-05	NA	7E-05
Methylphenol[4-]	1.08E-01	NA	2E-05	NA	1E-06	NA	1E-06
Naphthalene	3.05E-01	6E-08	2E-03	1E-08	4E-04	3E-09	2E-03
Nitroaniline[2-]	3.36E+00	NA	5E-03	NA	4E-04	NA	4E-04
Nitroaniline[3-]	3.05E+00	1E-07	1E-02	3E-08	9E-04	3E-08	9E-04
Nitroaniline[4-]	3.05E+00	1E-07	1E-02	3E-08	9E-04	3E-08	9E-04
Nitrobenzene	3.05E+00	5E-07	2E-02	1E-07	2E-03	2E-08	9E-03
Nitrophenol[2-]	3.05E+00	NA	2E-04	NA	1E-05	NA	4E-05
Nitrophenol[4-]	3.05E+00	NA	2E-04	NA	1E-05	NA	4E-05
Nitrosodimethylamine[N-]	3.05E+00	1E-03	6E+00	6E-05	4E-01	8E-06	1E+00
Nitroso-di-n-propylamine[N-]	3.05E+00	4E-05	NA	9E-06	NA	9E-06	NA
Nitrotoluene[2-]	1.52E-01	5E-08	2E-03	9E-09	1E-04	1E-09	5E-04
Nitrotoluene[3-]	1.52E-01	NA	2E-02	NA	2E-03	NA	6E-03
Nitrotoluene[4-]	1.52E-01	5E-09	6E-04	9E-10	4E-05	1E-10	1E-04
Oxybis(1-chloropropane)[2,2'-]	3.05E+00	3E-07	NA	6E-08	NA	9E-09	NA
Pentachlorophenol	3.05E+00	3E-06	1E-02	7E-07	1E-03	9E-08	3E-03
Phenanthrene	3.05E-01	NA	2E-04	NA	1E-05	NA	4E-05
Phenol	3.05E+00	NA	2E-04	NA	1E-05	NA	4E-05
Propylbenzene[1-]	4.07E-04	NA	1E-07	NA	2E-08	NA	2E-08
Pyrene	3.05E-01	NA	2E-04	NA	1E-05	NA	4E-05
Pyridine	3.05E+00	NA	4E-02	NA	3E-03	NA	3E-03
Styrene	4.07E-04	NA	6E-08	NA	8E-09	NA	4E-08
Tetrachloroethane[1,1,1,2-]	4.07E-04	1E-10	2E-07	3E-11	1E-08	6E-12	4E-08
Tetrachloroethane[1,1,2,2-]	4.07E-04	5E-10	3E-07	1E-10	2E-08	2E-11	6E-08
Tetrachloroethene	4.07E-04	1E-11	4E-06	2E-12	6E-07	5E-13	3E-06
Tetryl	1.52E-01	NA	1E-03	NA	6E-05	NA	2E-04
Toluene	4.07E-04	NA	8E-08	NA	7E-09	NA	3E-08
Total Petroleum Hydrocarbons Gasoline Range Org.	2.31E-02	NA	2E-04	NA	5E-05	NA	NA
Trichloro-1,2,2-trifluoroethane [1,1,2-]	2.04E-03	NA	4E-08	NA	8E-09	NA	5E-08
Trichlorobenzene[1,2,4-]	3.05E+00	1E-07	4E-02	2E-08	7E-03	4E-09	4E-02
Trichloroethane[1,1,1-]	4.07E-04	NA	3E-08	NA	6E-09	NA	3E-08
Trichloroethane[1,1,2-]	4.07E-04	2E-10	2E-04	4E-11	3E-05	9E-13	2E-04
Trichloroethene	4.07E-04	3E-10	6E-05	4E-11	1E-05	8E-13	6E-05
Trichlorofluoromethane	4.07E-04	NA	3E-07	NA	7E-08	NA	4E-07
Trichlorophenol[2,4,5-]	3.05E+00	NA	5E-04	NA	3E-05	NA	1E-04
Trichlorophenol[2,4,6-]	3.05E+00	6E-08	5E-02	1E-08	3E-03	2E-09	1E-02
Trichloropropane[1,2,3-]	4.07E-04	8E-08	6E-05	3E-09	1E-05	5E-10	6E-05

Parameter name	Maximum MDL (mg/kg)	Maximum Residential CR	Maximum Residential HQ	Maximum Industrial CR	Maximum Industrial HQ	Maximum Construction Worker CR	Maximum Construction Worker HQ
Trimethylbenzene[1,2,4-]	4.07E-04	NA	1E-06	NA	2E-07	NA	2E-07
Trimethylbenzene[1,3,5-]	4.07E-04	NA	2E-06	NA	3E-07	NA	3E-07
Tris (o-cresyl) phosphate	3.05E-01	2E-09	5E-05	4E-10	4E-06	4E-10	4E-06
Vinyl Chloride	4.07E-04	5E-09	4E-06	1E-10	5E-07	3E-11	3E-06
Xylene[1,2-]	4.07E-04	NA	5E-07	NA	1E-07	NA	6E-07
Xylene[1,3-]+Xylene[1,4-]	8.14E-04	NA	9E-07	NA	2E-07	NA	1E-06

Notes:
CR – Cancer risk
HQ = Hazard Quotient
mgkg –milligram per kilogram
SL-SSL,DAF20 – Migration to groundwater screening level with a dilution attenuation factor of 20

Table 2-11. Summary Statistics for the Risk Assessment Soil Data from within the SWMU Boundary Only

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Inorganics							
Aluminum	7429-90-5	19	1.45E+03	1.25E+04	6.23E+00	8.08E+00	19
Antimony	7440-36-0	19	4.18E-01	1.22E+00	3.02E-01	3.92E-01	6
Arsenic	7440-38-2	21	6.56E-01	3.67E+00	1.79E-01	3.89E-01	21
Barium	7440-39-3	21	6.99E+01	1.26E+04	9.16E-02	1.20E+01	21
Beryllium	7440-41-7	19	1.43E-01	1.13E+00	1.79E-02	2.30E-02	19
Cadmium	7440-43-9	21	4.25E-01	4.53E-01	2.10E-02	1.19E-01	2
Calcium	Ca	19	9.63E+02	1.61E+04	7.33E+00	9.59E+00	19
Chromium	16065-83-1	21	4.38E+00	9.01E+00	1.37E-01	2.40E-01	21
Cobalt	7440-48-4	19	1.02E+00	3.40E+00	1.37E-01	1.62E+00	10
Copper	7440-50-8	19	6.35E+00	1.13E+02	2.75E-01	3.56E-01	18
Iron	7439-89-6	19	3.06E+03	1.70E+04	7.33E+00	9.59E+00	19
Lead	7439-92-1	21	5.19E+00	2.28E+02	1.10E-01	3.92E-01	21
Magnesium	Mg	19	7.60E+02	2.24E+03	7.78E+00	1.01E+01	19
Manganese	7439-96-5	19	6.36E+01	5.38E+02	1.83E-01	2.40E-01	19
Mercury	7487-94-7	21	3.86E-03	4.00E-02	3.64E-03	4.60E-03	16
Nickel	7440-02-0	19	3.30E+00	1.07E+01	8.95E-02	1.15E-01	19
Nitrate	14797-55-8	10	5.14E-01	4.02E+00	3.14E-01	3.67E-01	10
Perchlorate	14797-73-0	19	5.94E-04	8.39E-04	5.02E-04	6.10E-04	4
Potassium	K	19	2.47E+02	1.80E+03	5.86E+00	7.60E+00	19
Selenium	7782-49-2	21	1.07E+00	3.05E+00	2.95E-01	5.90E-01	11
Silver	7440-22-4	21	3.00E-01	7.95E+00	9.16E-02	1.20E-01	19
Sodium	Na	19	5.85E+01	1.54E+02	6.41E+00	8.31E+00	19
Thallium	7440-28-0	19	7.72E-02	4.55E-01	5.37E-02	1.61E-01	11
Vanadium	7440-62-2	19	8.02E+00	1.90E+01	9.16E-02	1.19E-01	19
Zinc	7440-66-6	19	2.64E+01	1.15E+02	3.66E-01	4.75E-01	19
Organics							
2,3,7,8-TCDD TEQ	1746-01-6	21	8.62E-08	6.27E-05	9.12E-08	3.18E-07	21
2,4-Diamino-6-nitrotoluene	6629-29-4	29	-	-	4.78E-01	5.08E-01	0
2,6-Diamino-4-nitrotoluene	59229-75-3	29	-	-	6.32E-01	6.70E-01	0
3,5-Dinitroaniline	618-87-1	29	1.33E+00	1.33E+00	2.87E-01	3.05E-01	1
Acenaphthene	83-32-9	19	-	-	1.01E-02	3.05E-01	0
Acenaphthylene	208-96-8	19	-	-	1.01E-02	3.05E-01	0
Acetone	67-64-1	19	-	-	1.53E-03	2.04E-03	0
Amino-2,6-dinitrotoluene[4-]	19406-51-0	29	2.10E-01	3.24E+00	1.44E-01	1.52E-01	8
Amino-4,6-dinitrotoluene[2-]	35572-78-2	29	2.77E-01	1.49E+00	1.44E-01	1.52E-01	8

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Aniline	62-53-3	19	-	-	1.01E-01	3.05E+00	0
Anthracene	120-12-7	19	1.42E-02	5.09E-01	1.01E-02	3.05E-01	3
Azobenzene	103-33-3	19	-	-	1.01E-01	3.05E+00	0
Benzene	71-43-2	19	-	-	3.05E-04	4.07E-04	0
Benzo(a)anthracene	56-55-3	19	-	-	1.01E-02	3.05E-01	0
Benzo(a)pyrene	50-32-8	19	-	-	1.01E-02	3.05E-01	0
Benzo(b)fluoranthene	205-99-2	19	-	-	1.01E-02	3.05E-01	0
Benzo(g,h,i)perylene	191-24-2	19	-	-	1.01E-02	3.05E-01	0
Benzo(k)fluoranthene	207-08-9	19	-	-	1.01E-02	3.05E-01	0
Benzoic Acid	65-85-0	19	-	-	1.69E-01	5.09E+00	0
Benzyl Alcohol	100-51-6	19	-	-	1.01E-01	3.05E+00	0
Bis(2-chloroethoxy)methane	111-91-1	19	-	-	1.01E-01	3.05E+00	0
Bis(2-chloroethyl)ether	111-44-4	19	-	-	1.01E-01	3.05E+00	0
Bis(2-ethylhexyl)phthalate	117-81-7	19	1.11E-02	5.66E+01	1.01E-02	3.05E-01	9
Bromobenzene	108-86-1	19	-	-	3.05E-04	4.07E-04	0
Bromochloromethane	74-97-5	19	-	-	3.05E-04	4.07E-04	0
Bromodichloromethane	75-27-4	19	-	-	3.05E-04	4.07E-04	0
Bromoform	75-25-2	19	-	-	3.05E-04	4.07E-04	0
Bromomethane	74-83-9	19	-	-	3.05E-04	4.07E-04	0
Bromophenyl-phenylether[4-]	101-55-3	19	-	-	1.01E-01	3.05E+00	0
Butanone[2-]	78-93-3	19	-	-	1.53E-03	2.04E-03	0
Butylbenzene[n-]	104-51-8	19	-	-	3.05E-04	4.07E-04	0
Butylbenzene[sec-]	135-98-8	19	-	-	3.05E-04	4.07E-04	0
Butylbenzene[tert-]	98-06-6	19	-	-	3.05E-04	4.07E-04	0
Butylbenzylphthalate	85-68-7	19	-	-	1.01E-02	3.05E-01	0
Carbon Disulfide	75-15-0	19	-	-	1.53E-03	2.04E-03	0
Carbon Tetrachloride	56-23-5	19	-	-	3.05E-04	4.07E-04	0
Chloro-3-methylphenol[4-]	59-50-7	19	-	-	1.35E-01	4.07E+00	0
Chloroaniline[4-]	106-47-8	19	-	-	1.01E-01	3.05E+00	0
Chlorobenzene	108-90-7	19	-	-	3.05E-04	4.07E-04	0
Chlorodibromomethane	124-48-1	19	-	-	3.05E-04	4.07E-04	0
Chloroethane	75-00-3	19	-	-	3.05E-04	4.07E-04	0
Chloroform	67-66-3	19	-	-	3.05E-04	4.07E-04	0
Chloromethane	74-87-3	19	-	-	3.05E-04	4.07E-04	0
Chloronaphthalene[2-]	91-58-7	19	-	-	1.01E-02	3.05E-01	0
Chlorophenol[2-]	95-57-8	19	-	-	1.01E-01	3.05E+00	0
Chlorophenyl-phenyl[4-] Ether	7005-72-3	19	-	-	1.01E-01	3.05E+00	0
Chlorotoluene[2-]	95-49-8	19	-	-	3.05E-04	4.07E-04	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Chlorotoluene[4-]	106-43-4	19	-	-	3.05E-04	4.07E-04	0
Chrysene	218-01-9	19	-	-	1.01E-02	3.05E-01	0
Dibenz(a,h)anthracene	53-70-3	19	-	-	1.01E-02	3.05E-01	0
Dibenzofuran	132-64-9	19	-	-	1.01E-01	3.05E+00	0
Dibromo-3-Chloropropane[1,2-]	96-12-8	19	-	-	5.07E-04	6.10E-04	0
Dibromoethane[1,2-]	106-93-4	19	-	-	3.05E-04	4.07E-04	0
Dibromomethane	74-95-3	19	-	-	3.05E-04	4.07E-04	0
Dichlorobenzene[1,2-]	95-50-1	38	-	-	3.05E-04	3.05E+00	0
Dichlorobenzene[1,3-]	541-73-1	38	-	-	3.05E-04	3.05E+00	0
Dichlorobenzene[1,4-]	106-46-7	38	-	-	3.05E-04	3.05E+00	0
Dichlorobenzidine[3,3'-]	91-94-1	19	-	-	1.01E-01	3.05E+00	0
Dichlorodifluoromethane	75-71-8	19	-	-	3.05E-04	4.07E-04	0
Dichloroethane[1,1-]	75-34-3	19	-	-	3.05E-04	4.07E-04	0
Dichloroethane[1,2-]	107-06-2	19	-	-	3.05E-04	4.07E-04	0
Dichloroethene[1,1-]	75-35-4	19	-	-	3.05E-04	4.07E-04	0
Dichloroethene[cis-1,2-]	156-59-2	19	-	-	3.05E-04	4.07E-04	0
Dichloroethene[trans-1,2-]	156-60-5	19	-	-	3.05E-04	4.07E-04	0
Dichlorophenol[2,4-]	120-83-2	19	-	-	1.01E-01	3.05E+00	0
Dichloropropane[1,2-]	78-87-5	19	-	-	3.05E-04	4.07E-04	0
Dichloropropane[1,3-]	142-28-9	19	-	-	3.05E-04	4.07E-04	0
Dichloropropane[2,2-]	594-20-7	19	-	-	3.05E-04	4.07E-04	0
Dichloropropene[1,1-]	563-58-6	19	-	-	3.05E-04	4.07E-04	0
Dichloropropene[cis-1,3-]	10061-01-5	19	-	-	3.05E-04	4.07E-04	0
Dichloropropene[trans-1,3-]	10061-02-6	19	-	-	3.05E-04	4.07E-04	0
Diethylphthalate	84-66-2	19	-	-	1.01E-02	3.05E-01	0
Dimethyl Phthalate	131-11-3	19	-	-	1.01E-02	3.05E-01	0
Dimethylphenol[2,4-]	105-67-9	19	-	-	1.01E-01	3.05E+00	0
Di-n-butylphthalate	84-74-2	19	-	-	1.01E-02	3.05E-01	0
Dinitro-2-methylphenol[4,6-]	534-52-1	19	-	-	1.01E-01	3.05E+00	0
Dinitrobenzene[1,3-]	99-65-0	29	-	-	1.44E-01	1.52E-01	0
Dinitrophenol[2,4-]	51-28-5	19	-	-	1.01E-01	3.05E+00	0
Dinitrotoluene[2,4-]	121-14-2	48	1.72E-01	1.72E-01	1.01E-01	3.05E+00	1
Dinitrotoluene[2,6-]	606-20-2	48	-	-	1.01E-01	3.05E+00	0
Di-n-octylphthalate	117-84-0	19	-	-	1.01E-02	3.05E-01	0
Diphenylamine	122-39-4	19	-	-	1.01E-01	3.05E+00	0
Ethylbenzene	100-41-4	19	-	-	3.05E-04	4.07E-04	0
Fluoranthene	206-44-0	19	-	-	1.01E-02	3.05E-01	0
Fluorene	86-73-7	19	-	-	1.01E-02	3.05E-01	0

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Hexachlorobenzene	118-74-1	19	-	-	1.01E-01	3.05E+00	0
Hexachlorobutadiene	87-68-3	19	-	-	1.01E-01	3.05E+00	0
Hexachlorocyclopentadiene	77-47-4	19	-	-	1.01E-01	3.05E+00	0
Hexachloroethane	67-72-1	19	-	-	1.01E-01	3.05E+00	0
Hexanone[2-]	591-78-6	19	-	-	1.53E-03	2.04E-03	0
HMX	2691-41-0	29	1.82E-01	1.60E+02	1.44E-01	3.73E+01	17
Indeno(1,2,3-cd)pyrene	193-39-5	19	-	-	1.01E-02	3.05E-01	0
Iodomethane	74-88-4	19	-	-	1.53E-03	2.04E-03	0
Isophorone	78-59-1	19	-	-	1.01E-01	3.05E+00	0
Isopropylbenzene	98-82-8	19	-	-	3.05E-04	4.07E-04	0
Isopropyltoluene[4-]	99-87-6	19	4.24E-04	4.24E-04	3.05E-04	4.07E-04	1
Methyl-2-pentanone[4-]	108-10-1	19	-	-	1.53E-03	2.04E-03	0
Methylene Chloride	75-09-2	19	2.62E-03	4.73E-03	1.69E-03	2.16E-03	2
Methylnaphthalene[2-]	91-57-6	19	-	-	1.01E-02	3.05E-01	0
Methylphenol[2-]	95-48-7	19	-	-	1.01E-01	3.05E+00	0
Methylphenol[3-,4-]	65794-96-9	11	-	-	1.01E-01	3.05E+00	0
Methylphenol[4-]	106-44-5	8	-	-	1.01E-01	1.08E-01	0
Naphthalene	91-20-3	19	-	-	1.01E-02	3.05E-01	0
Nitroaniline[2-]	88-74-4	19	-	-	1.11E-01	3.36E+00	0
Nitroaniline[3-]	99-09-2	19	-	-	1.01E-01	3.05E+00	0
Nitroaniline[4-]	100-01-6	19	-	-	1.01E-01	3.05E+00	0
Nitrobenzene	98-95-3	48	-	-	1.01E-01	3.05E+00	0
Nitrophenol[2-]	88-75-5	19	-	-	1.01E-01	3.05E+00	0
Nitrophenol[4-]	100-02-7	19	-	-	1.01E-01	3.05E+00	0
Nitrosodimethylamine[N-]	62-75-9	19	-	-	1.01E-01	3.05E+00	0
Nitroso-di-n-propylamine[N-]	621-64-7	19	-	-	1.01E-01	3.05E+00	0
Nitrotoluene[2-]	88-72-2	29	-	-	1.44E-01	1.52E-01	0
Nitrotoluene[3-]	99-08-1	29	-	-	1.44E-01	1.52E-01	0
Nitrotoluene[4-]	99-99-0	29	-	-	1.44E-01	1.52E-01	0
Oxybis(1-chloropropane)[2,2'-]	108-60-1	19	-	-	1.01E-01	3.05E+00	0
Pentachlorophenol	87-86-5	19	-	-	1.01E-01	3.05E+00	0
PETN	78-11-5	29	3.88E+01	3.88E+01	2.39E-01	6.25E+00	1
Phenanthrene	85-01-8	19	-	-	1.01E-02	3.05E-01	0
Phenol	108-95-2	19	-	-	1.01E-01	3.05E+00	0
Propylbenzene[1-]	103-65-1	19	-	-	3.05E-04	4.07E-04	0
Pyrene	129-00-0	19	-	-	1.01E-02	3.05E-01	0
Pyridine	110-86-1	19	-	-	1.01E-01	3.05E+00	0
RDX	121-82-4	29	1.56E-01	7.24E+01	1.46E-01	3.75E+00	17

Name	CAS	Sample Size (n)	Minimum Detected Value (mg/kg)	Maximum Detected Value (mg/kg)	Minimum MDL (mg/kg)	Maximum MDL (mg/kg)	Number of Detected Values
Styrene	100-42-5	19	-	-	3.05E-04	4.07E-04	0
TATB	3058-38-6	28	3.65E-01	4.32E+01	2.87E-01	3.00E+00	19
Tetrachloroethane[1,1,1,2-]	630-20-6	19	-	-	3.05E-04	4.07E-04	0
Tetrachloroethane[1,1,2,2-]	79-34-5	19	-	-	3.05E-04	4.07E-04	0
Tetrachloroethene	127-18-4	19	-	-	3.05E-04	4.07E-04	0
Tetryl	479-45-8	18	-	-	1.44E-01	1.52E-01	0
Toluene	108-88-3	19	-	-	3.05E-04	4.07E-04	0
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	11	3.54E+00	7.91E+01	2.19E+00	2.64E+00	11
Total Petroleum Hydrocarbons Gasoline Range Org.	TPH-GRO	11	-	-	1.41E-02	2.31E-02	0
Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	19	-	-	1.53E-03	2.04E-03	0
Trichlorobenzene[1,2,4-]	120-82-1	19	-	-	1.01E-01	3.05E+00	0
Trichloroethane[1,1,1-]	71-55-6	19	-	-	3.05E-04	4.07E-04	0
Trichloroethane[1,1,2-]	79-00-5	19	-	-	3.05E-04	4.07E-04	0
Trichloroethene	79-01-6	19	-	-	3.05E-04	4.07E-04	0
Trichlorofluoromethane	75-69-4	19	-	-	3.05E-04	4.07E-04	0
Trichlorophenol[2,4,5-]	95-95-4	19	-	-	1.01E-01	3.05E+00	0
Trichlorophenol[2,4,6-]	88-06-2	19	-	-	1.01E-01	3.05E+00	0
Trichloropropane[1,2,3-]	96-18-4	19	-	-	3.05E-04	4.07E-04	0
Trimethylbenzene[1,2,4-]	95-63-6	19	-	-	3.05E-04	4.07E-04	0
Trimethylbenzene[1,3,5-]	108-67-8	19	-	-	3.05E-04	4.07E-04	0
Trinitrobenzene[1,3,5-]	99-35-4	29	3.97E-01	4.60E-01	1.44E-01	1.52E-01	3
Trinitrotoluene[2,4,6-]	118-96-7	29	2.42E-01	1.27E+01	1.44E-01	1.49E+00	7
Tris (o-cresyl) phosphate	78-30-8	29	-	-	2.87E-01	3.05E-01	0
Vinyl Chloride	75-01-4	19	-	-	3.05E-04	4.07E-04	0
Xylene[1,2-]	95-47-6	19	-	-	3.05E-04	4.07E-04	0
Xylene[1,3-]+Xylene[1,4-]	Xylene[m+p]	19	-	-	3.05E-04	8.14E-04	0

Note: Data are for soils depths from 0 to 12” from samples collected within the SWMU boundary.

Data as shown contain duplicates.

2,3,7,8-TCDD – See Table 2-6 for raw dioxin data. At least one dioxin/furan isomer detected in each sample. The minimum and maximum TEQs are presented above, with the minimum and maximum MDLs for 2,3,7,8-TCDD. Only detected data are used in the TEQ calculation.

ND – Not detected

Table 2-12. Comparison of Maximum Detected Values to Background for Samples from Within the SWMU Boundary

Parameter Category	Parameter Name	CAS No.	Sample Size (n)	Maximum Detected Value (mg/kg)	Number of Detected Values	BV (mg/kg)	Maximum BV Ratio
Inorganic	Aluminum	7429-90-5	19	1.25E+04	19	2.92E+04	4.28E-01
-	Antimony	7440-36-0	19	1.22E+00	6	8.30E-01	1.47E+00
-	Arsenic	7440-38-2	21	3.67E+00	21	8.17E+00	4.49E-01
-	Barium	7440-39-3	21	1.26E+04	21	2.95E+02	4.27E+01
-	Beryllium	7440-41-7	19	1.13E+00	19	1.83E+00	6.17E-01
-	Cadmium	7440-43-9	21	4.53E-01	2	4.00E-01	1.13E+00
-	Calcium	Ca	19	1.61E+04	19	6.12E+03	2.63E+00
-	Chromium	16065-83-1	21	9.01E+00	21	1.93E+01	4.67E-01
-	Cobalt	7440-48-4	19	3.40E+00	10	8.64E+00	3.94E-01
-	Copper	7440-50-8	19	1.13E+02	18	1.47E+01	7.69E+00
	Iron	7439-89-6	19	1.70E+04	19	2.15E+04	7.91E-01
	Lead	7439-92-1	21	2.28E+02	21	2.23E+01	1.02E+01
	Magnesium	Mg	19	2.24E+03	19	4.61E+03	4.86E-01
	Manganese	7439-96-5	19	5.38E+02	19	6.71E+02	8.02E-01
	Mercury	7487-94-7	21	4.00E-02	16	1.00E-01	4.00E-01
	Nickel	7440-02-0	19	1.07E+01	19	1.54E+01	6.95E-01
	Nitrate	14797-55-8	10	4.02E+00	10	NA	NA
	Perchlorate	14797-73-0	19	8.39E-04	4	NA	NA
	Potassium	K	19	1.80E+03	19	3.46E+03	5.20E-01
	Selenium	7782-49-2	21	3.05E+00	11	1.52E+00	2.01E+00
	Silver	7440-22-4	21	7.95E+00	19	1.00E+00	7.95E+00
	Sodium	Na	19	1.54E+02	19	9.15E+02	1.68E-01
	Thallium	7440-28-0	19	4.55E-01	11	7.30E-01	6.23E-01
	Vanadium	7440-62-2	19	1.90E+01	19	3.96E+01	4.80E-01
	Zinc	7440-66-6	19	1.15E+02	19	4.88E+01	2.36E+00

Notes: Shaded cells indicate maximum exceeds background
Analytes indicated as NA are carried forward

BV – Background value
mg/kg – Milligram per kilogram
NA – Not applicable
NV – No value

Table 2-13. Human Health Screening Results for Maximum Detected Exposure Point Concentrations Greater than Background for Samples from Within the SWMU Boundary

Parameter Category	**Name**	**Maximum Detected Value (mg/kg)**	**Resident Cancer Risk**	**Resident HQ**	**Industrial Worker Cancer Risk**	**Industrial Worker HQ**	**CW Cancer Risk**	**CW HQ**	**SL-SSL, DAF 20 Ratio**
Inorganic	Antimony	1.22E+00	NA	4E-02	NA	2E-03	NA	9E-03	2E-01
	Barium	1.26E+04	NA	8E-01	NA	5E-02	NA	3E+00	5E+00
	Cadmium	4.53E-01	5E-11	6E-03	1E-06	4E-04	1E-09	6E-03	5E-02
	Calcium	1.61E+04	NA	1E-03	NA	5E-04	NA	2E-03	NA
	Copper	1.13E+02	NA	4E-02	NA	2E-03	NA	8E-03	1E-01
	Nitrate	4.02E+00	NA	3E-05	NA	2E-06	NA	7E-06	9E-03
	Perchlorate	8.39E-04	NA	2E-05	NA	9E-07	NA	3E-06	7E-03
	Selenium	3.05E+00	NA	8E-03	NA	5E-04	NA	2E-03	3E-01
	Silver	7.95E+00	NA	2E-02	NA	1E-03	NA	4E-03	6E-01
	Zinc	1.15E+02	NA	5E-03	NA	3E-04	NA	1E-03	2E-02
Organic	2,3,7,8 TCDD TEQ	6.27E-05	1E-05	1E+00	3E-06	8E-02	4E-07	3E-01	3E-01
	3,5-Dinitroaniline	1.33E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Amino-2,6-dinitrotoluene[4-]	3.24E+00	NA	4E-01	NA	3E-02	NA	3E-02	NA
	Amino-4,6-dinitrotoluene[2-]	1.49E+00	NA	2E-01	NA	1E-02	NA	1E-02	NA
	Anthracene	5.09E-01	NA	3E-05	NA	2E-06	NA	7E-06	6E-04
	Bis(2-ethylhexyl)phthalate	5.66E+01	1E-06	5E-02	3E-02	3E-03	4E-08	1E-02	3E-01
	Dinitrotoluene[2,4-]	1.72E-01	1E-07	1E-03	2E-03	9E-05	3E-09	3E-04	3E+00
	HMX	1.60E+02	NA	4E-02	NA	3E-03	NA	9E-03	8E+00
	Isopropyltoluene[4-]	4.24E-04	NA	8E-08	NA	7E-09	NA	3E-08	3E-05
	Methylene Chloride	4.73E-03	6E-11	1E-05	3E-07	9E-07	5E-13	4E-06	1E-02
	PETN	3.88E+01	3E-07	3E-01	7E-03	2E-02	7E-08	2E-02	NA
	RDX	7.24E+01	9E-06	2E-01	2E-01	1E-02	2E-07	5E-02	1E+03
	TATB	4.32E+01	NA	2E-02	NA	1E-03	NA	1E-03	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	7.91E+01	NA	4E-02	NA	3E-02	NA	NA	1E-02
	Trinitrobenzene[1,3,5-]	4.60E-01	NA	2E-04	NA	1E-05	NA	1E-05	NA
	Trinitrotoluene[2,4,6-]	1.27E+01	6E-07	4E-01	1E-02	2E-02	2E-08	8E-02	1E+01
Cumulative Cancer Risk (CCR)			1E-05	_	2E-06	_	4E-07	_	NA
Hazard Index (HI)			_	4E+00	_	3E-01	_	3E+00	NA

Notes: The maximum detected value and the ratios of the maximum detected value to the NMSSLs (Table 2-1) are shown in this table. Shaded cells indicate cancer risk (CR) or noncancer hazard (HQ) exceeds target levels of 1E-05 or 1, respectively.

CW – Construction worker
HQ – Noncancer hazard quotient
mg/kg – milligram per kilogram
NA – Not applicable
SL-SSL, DAF 20 – Ratio of the maximum to the NMED migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-14. Dioxin and Furan Soil Data and TEQ Calculations for Samples from Within the SWMU Boundary

		09RCRA709		09RCRA711		RE16-12-17673		RE16-12-17674		RE16-12-17675		RE16-12-17676		RE16-12-17677		RE16-12-17678		RE16-12-17679		RE16-12-17680	
Parameter name	**CAS NO.**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
1,2,3,4,5,6,7,8-OCDD	3268-87-9	1.85E-04	1	4.80E-03	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1		
1,2,3,4,5,6,7,8-OCDF	39001-02-0	2.19E-05	1	6.57E-04	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-05	1	9.00E-04	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-06	1	2.88E-04	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-07	1	1.92E-05	1	1.39E-06	1	0.00E+00	0	8.79E-07	1	1.17E-06	1	0.00E+00	0	0.00E+00	0	1.50E-06	1	3.30E-05	1
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-07	1	1.79E-05	1	1.20E-06	1	0.00E+00	0	7.40E-07	1	8.66E-07	1	0.00E+00	0	0.00E+00	0	1.61E-06	1	3.08E-05	1
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-07	1	1.21E-05	1	1.75E-06	1	0.00E+00	0	7.33E-07	1	8.23E-07	1	0.00E+00	0	0.00E+00	0	9.85E-07	1	1.69E-05	1
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-06	1	3.33E-05	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	0.00E+00	0	7.55E-07	1	3.69E-06	1	7.18E-05	1
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-07	1	1.44E-05	1	1.10E-06	1	0.00E+00	0	7.05E-07	1	7.81E-07	1	0.00E+00	0	0.00E+00	0	1.32E-06	1	2.23E-05	1
1,2,3,7,8,9-HxCDD	19408-74-3			4.07E-05	1	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	0.00E+00	0	6.99E-07	1	4.34E-06	1	8.71E-05	1
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00	0	2.02E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.88E-06	1
1,2,3,7,8-PeCDD	40321-76-4			6.99E-06	1	7.45E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.39E-07	1	1.11E-05	1
1,2,3,7,8-PeCDF	57117-41-6	4.76E-07	1	1.65E-06	1	1.61E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.50E-07	1	1.77E-06	1
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-07	1	1.78E-05	1	1.49E-06	1	0.00E+00	0	9.09E-07	1	7.41E-07	1	0.00E+00	0	0.00E+00	0	1.57E-06	1	2.66E-05	1
2,3,4,7,8-PeCDF	57117-31-4			1.97E-06	1	8.97E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.00E-06	1
2,3,7,8-TCDD	1746-01-6	5.49E-07	1	1.34E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.17E-07	1	1.49E-06	1
2,3,7,8-TCDF	51207-31-9	5.95E-07	1	1.51E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	5.55E-08		1.44E-06		1.14E-07		3.24E-08		7.20E-08		9.96E-08		1.13E-08		3.27E-08		1.44E-07		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	39001-02-0	6.57E-09		1.97E-07		1.36E-08		3.54E-09		8.46E-09		1.09E-08		1.07E-09		3.03E-09		1.48E-08		3.84E-07	
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-07		9.00E-06		5.27E-07		1.81E-07		3.48E-07		4.21E-07		5.33E-08		1.49E-07		8.02E-07		1.70E-05	
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-08		2.88E-06		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06	
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-09		1.92E-07		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07	
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-08		1.79E-06		1.20E-07		0.00E+00		7.40E-08		8.66E-08		0.00E+00		0.00E+00		1.61E-07		3.08E-06	
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-08		1.21E-06		1.75E-07		0.00E+00		7.33E-08		8.23E-08		0.00E+00		0.00E+00		9.85E-08		1.69E-06	
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-07		3.33E-06		2.52E-07		1.04E-07		1.58E-07		1.75E-07		0.00E+00		7.55E-08		3.69E-07		7.18E-06	
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-08		1.44E-06		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06	
1,2,3,7,8,9-HxCDD	19408-74-3	0.00E+00		4.07E-06		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06	
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00		2.02E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07	
1,2,3,7,8-PeCDD	40321-76-4	0.00E+00		6.99E-06		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05	
1,2,3,7,8-PeCDF	57117-41-6	1.43E-08		4.95E-08		4.83E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.95E-08		5.31E-08	
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-08		1.78E-06		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06	
2,3,4,7,8-PeCDF	57117-31-4	0.00E+00		5.91E-07		2.69E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.00E-07	
2,3,7,8-TCDD	1746-01-6	5.49E-07		1.34E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06	
2,3,7,8-TCDF	51207-31-9	5.95E-08		1.51E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ		**1.54E-06**		**3.67E-05**		**2.97E-06**		**4.76E-07**		**1.21E-06**		**1.38E-06**		**8.62E-08**		**3.60E-07**		**3.86E-06**		**6.27E-05**	

Table 2-14. Dioxin and Furan Soil Data and TEQ Calculations by Sample, cont.

	WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358		WST16-19-181359		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366	
Parameter name	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
1,2,3,4,5,6,7,8-OCDD	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1	6.50E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1
1,2,3,4,5,6,7,8-OCDF	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1	8.35E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1
1,2,3,4,6,7,8-HpCDD	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1	1.05E-04	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1
1,2,3,4,6,7,8-HpCDF	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1	3.47E-05	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1
1,2,3,4,7,8,9-HpCDF	1.89E-06	1	9.85E-07	1	0.00E+00	0	7.85E-07	1	1.07E-06	1	2.20E-06	1	0.00E+00	0	0.00E+00	0	3.26E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDD	9.07E-07	1	1.14E-06	1	0.00E+00	0	6.78E-07	1	8.31E-07	1	1.95E-06	1	5.72E-07	1	0.00E+00	0	4.13E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDF	2.44E-06	1	8.29E-07	1	0.00E+00	0	7.14E-07	1	1.42E-06	1	1.64E-06	1	8.57E-07	1	0.00E+00	0	2.06E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,6,7,8-HxCDD	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1	4.06E-06	1	8.53E-07	1	0.00E+00	0	7.10E-06	1	7.06E-07	1	0.00E+00	0
1,2,3,6,7,8-HxCDF	1.71E-06	1	9.81E-07	1	0.00E+00	0	6.89E-07	1	1.04E-06	1	1.56E-06	1	0.00E+00	0	0.00E+00	0	2.57E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8,9-HxCDD	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1	4.20E-06	1	7.43E-07	1	0.00E+00	0	8.50E-06	1	1.13E-06	1	5.09E-07	1
1,2,3,7,8,9-HxCDF	4.96E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDD	4.88E-07	1	5.71E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.70E-07	1	0.00E+00	0	0.00E+00	0	1.53E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDF	2.03E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.99E-07	1	5.68E-07	1	8.34E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,4,6,7,8-HxCDF	2.45E-06	1	1.14E-06	1	0.00E+00	0	8.59E-07	1	1.55E-06	1	1.91E-06	1	0.00E+00	0	0.00E+00	0	3.56E-06	1	0.00E+00	0	0.00E+00	0
2,3,4,7,8-PeCDF	1.43E-06	1	0.00E+00	0	0.00E+00	0	4.69E-07	1	1.06E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDD	2.15E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.03E-07	1	2.10E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDF	1.66E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																						
1,2,3,4,5,6,7,8-OCDD	9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08		1.95E-07		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08	
1,2,3,4,5,6,7,8-OCDF	1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09		2.51E-08		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09	
1,2,3,4,6,7,8-HpCDD	4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07		1.05E-06		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07	
1,2,3,4,6,7,8-HpCDF	1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07		3.47E-07		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08	
1,2,3,4,7,8,9-HpCDF	1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08		2.20E-08		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDD	9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08		1.95E-07		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDF	2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07		1.64E-07		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00	
1,2,3,6,7,8-HxCDD	1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07		4.06E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00	
1,2,3,6,7,8-HxCDF	1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07		1.56E-07		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00	
1,2,3,7,8,9-HxCDD	1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07		4.20E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08	
1,2,3,7,8,9-HxCDF	4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00		6.70E-07		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08		1.70E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,4,6,7,8-HxCDF	2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07		1.91E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDD	2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.03E-07		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**		**4.06E-06**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**	

Notes: The TECi are summed in each column to obtain the TEQ
Detect Code (DC) = 1 is detected, 0 is not detected
Shaded cells indicate a duplicate pair

Table 2-15. Dioxin Furan Cancer Risk and Hazard Quotients by Receptor for Samples within the SWMU Boundary

Sample ID	**TCDD TEQ (mg/kg)**	**Resident Cancer Risk**	**Resident HQ**	**Industrial Worker Cancer Risk**	**Industrial Worker HQ**	**CW Cancer Risk**	**CW HQ**	**SL-SSL, DAF 20 Ratio**
09RCRA709	1.54E-06	3E-07	3E-02	6E-08	2E-03	9E-09	7E-03	7E-03
09RCRA711	3.67E-05	7E-06	7E-01	2E-06	5E-02	2E-07	2E-01	2E-01
RE16-12-17673	2.97E-06	6E-07	6E-02	1E-07	4E-03	2E-08	1E-02	1E-02
RE16-12-17674	4.76E-07	1E-07	9E-03	2E-08	6E-04	3E-09	2E-03	2E-03
RE16-12-17676	1.38E-06	3E-07	3E-02	6E-08	2E-03	8E-09	6E-03	6E-03
RE16-12-17677	8.62E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
RE16-12-17678	3.60E-07	7E-08	7E-03	2E-08	4E-04	2E-09	2E-03	2E-03
RE16-12-17679	3.86E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
RE16-12-17680	**6.27E-05**	**1E-05**	**1E+00**	**3E-06**	**8E-02**	**4E-07**	**3E-01**	**3E-01**
WST16-19-181353	3.29E-06	7E-07	7E-02	1E-07	4E-03	2E-08	1E-02	1E-02
WST16-19-181354	2.27E-06	5E-07	4E-02	1E-07	3E-03	1E-08	1E-02	1E-02
WST16-19-181355	2.69E-07	5E-08	5E-03	1E-08	3E-04	2E-09	1E-03	1E-03
WST16-19-181358	1.70E-06	3E-07	3E-02	7E-08	2E-03	1E-08	8E-03	8E-03
WST16-19-181359	4.06E-06	8E-07	8E-02	2E-07	5E-03	2E-08	2E-02	2E-02
WST16-19-181362	8.89E-07	2E-07	2E-02	4E-08	1E-03	5E-09	4E-03	4E-03
WST16-19-181363	8.94E-08	2E-08	2E-03	4E-09	1E-04	5E-10	4E-04	4E-04
WST16-19-181364	7.31E-06	1E-06	1E-01	3E-07	9E-03	4E-08	3E-02	3E-02
WST16-19-181365	5.00E-07	1E-07	1E-02	2E-08	6E-04	3E-09	2E-03	2E-03
WST16-19-181366	2.07E-07	4E-08	4E-03	9E-09	3E-04	1E-09	9E-04	9E-04

Notes:
No samples exceeded target CR of 1E-05 or HQ of 1. Only maximum of each duplicate pair (Table 2-6) used for risk calculations.
Bold indicates the maximum detected TEQ
CW – Construction worker
HQ – Hazard quotient
SL-SSL, DAF – Migration to groundwater screening level at a dilution attenuation factor of 20

Table 2-16. Refined Exposure Point Concentrations for Samples from Within the SWMU Boundary

Category	**Name**	**Refined EPC (mg/kg)**	**Number of Detected Values**	**Distribution**	**Recommended UCL Type**
Inorganic	Antimony	0.56	5	Normal	95% KM (t) UCL
	Barium	4423	19	Lognormal	95% Adjusted Gamma UCL
	Cadmium	0.439	2	NA	Median of Detected Values
	Calcium	6628	17	NDD	95% Chebyshev (Mean, Sd) UCL
	Copper	45.41	16	NDD	95% KM (Chebyshev) UCL
	Lead	76.88	19	NDD	95% Chebyshev (Mean, Sd) UCL
	Nitrate	3.468	9	Gamma	95% Adjusted Gamma UCL
	Perchlorate	6.98E-04	4	NA	Median of Detected Values
	Selenium	1.403	10	Normal	95% KM (t) UCL
	Silver	3.136	17	Gamma	95% KM Adjusted Gamma UCL
	Zinc	66.99	17	Normal	95% Student's-t UCL
Organic	2,3,7,8-TCDD TEQ	0.000043	19	Lognormal	99% Chebyshev (Mean, Sd) UCL
	3,5-Dinitroaniline	1.33	1	NA	Maximum Detected Value
	Amino-2,6-dinitrotoluene[4-]	0.773	7	Gamma*	95% Gamma Adjusted KM-UCL (use when n<50)
	Amino-4,6-dinitrotoluene[2-]	0.487	7	Gamma*	95% Gamma Adjusted KM-UCL (use when n<50)
	Anthracene	0.262	2	NA	Median of Detected Values
	Bis(2-ethylhexyl)phthalate	29.44	8	Gamma	95% Adjusted Gamma UCL
	Dinitrotoluene[2,4-]	0.172	1	NA	Maximum Detected Value
	HMX	35.1	14	Lognormal	95% KM (Chebyshev) UCL
	Isopropyltoluene[4-]	0.000424	1	NA	Maximum Detected Value
	Methylene Chloride	0.00473	2	NA	Maximum Detected Value from One Duplicate Pair
	PETN	38.80	1	NA	Maximum Detected Value
	RDX	20.49	15	Gamma*	95% Gamma Adjusted KM-UCL (use when n<50)
	TATB	14.37	16	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)
	Total Petroleum Hydrocarbons Diesel Range Organics	34.47	10	Lognormal*	95% Chebyshev (MVUE) UCL
	Trinitrobenzene[1,3,5-]	0.429	2	NA	Median of Detected Values
	Trinitrotoluene[2,4,6-]	3.015	6	Gamma	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

Notes:
Per NMED (2019), UCLs not calculated unless there were >5 detected values and 8 total samples
EPCs represent all detected analytes and for inorganics, all detected analytes with maxima greater than the BTV
Data represent the higher of the duplicate pairs.
Recommended values from ProUCL used unless the distribution was identified by ProUCL as approximate
* Recommended distribution was approximate and met only one goodness of fit test. The UCL95 closest to the recommended value from a distribution meeting both goodness of fit tests was used. See Appendix A.
KM – Kaplan- Meier
NDD – No discernable distribution
Sd – Standard deviation
UCL – Upper Confidence Limit

Table 2-17. Human Health Risk Assessment with Refined EPCs for Samples from Within the SWMU Boundary

Category	**Name**	**Refined EPC (mg/kg)**	**Residential Cancer Risk**	**Residential HQ**	**Industrial Worker Cancer Risk**	**Industrial Worker HQ**	**Construction Worker Cancer Risk**	**Construction Worker HQ**	**SL-SSL DAF 20 Ratio**
Inorganic	Antimony	0.56	NO SL	2E-02	NO SL	1E-03	NO SL	4E-03	9E-02
	Barium	4423	NO SL	3E-01	NO SL	2E-02	NO SL	1E+00	2E+00
	Cadmium	0.439	5E-11	6E-03	1E-11	4E-04	1E-09	6E-03	5E-02
	Calcium	6628	NO SL	5E-04	NO SL	2E-04	NO SL	7E-04	NO SL
	Copper	45.41	NO SL	1E-02	NO SL	9E-04	NO SL	3E-03	5E-02
	Nitrate	3.468	NO SL	3E-05	NO SL	2E-06	NO SL	6E-06	8E-03
	Perchlorate	6.98E-04	NO SL	1E-05	NO SL	8E-07	NO SL	3E-06	6E-03
	Selenium	1.403	NO SL	4E-03	NO SL	2E-04	NO SL	8E-04	1E-01
	Silver	3.136	NO SL	8E-03	NO SL	5E-04	NO SL	2E-03	2E-01
	Zinc	66.99	NO SL	3E-03	NO SL	2E-04	NO SL	6E-04	9E-03
Organic	2,3,7,8-TCDD TEQ	0.000043	9E-06	8E-01	2E-06	5E-02	2E-07	2E-01	2E-01
	3,5-Dinitroaniline	1.33	NO SL	2E-01	NO SL	1E-02	NO SL	1E-02	NO SL
	Amino-2,6-dinitrotoluene[4-]	0.773	NO SL	1E-01	NO SL	7E-03	NO SL	7E-03	NO SL
	Amino-4,6-dinitrotoluene[2-]	0.487	NO SL	6E-02	NO SL	4E-03	NO SL	4E-03	NO SL
	Anthracene	0.262	NO SL	2E-05	NO SL	1E-06	NO SL	3E-06	3E-04
	Bis(2-ethylhexyl)phthalate	29.44	8E-07	2E-02	2E-07	2E-03	2E-08	5E-03	1E-01
	Dinitrotoluene[2,4-]	0.172	1E-07	1E-03	2E-08	9E-05	3E-09	3E-04	3E+00
	HMX	35.1	NO SL	9E-03	NO SL	6E-04	NO SL	2E-03	2E+00
	Isopropyltoluene[4-]	0.000424	NO SL	8E-08	NO SL	7E-09	NO SL	3E-08	3E-05
	Methylene Chloride	0.00473	6E-11	1E-05	3E-12	9E-07	5E-13	4E-06	1E-02
	PETN	38.80	3E-07	3E-01	7E-08	2E-02	7E-08	2E-02	NO SL
	RDX	20.49	2E-06	7E-02	5E-07	4E-03	7E-08	2E-02	3E+02
	TATB	14.37	NO SL	7E-03	NO SL	4E-04	NO SL	4E-04	NO SL
	Total Petroleum Hydrocarbons Diesel Range Organics	34.47	NO SL	2E-02	NO SL	1E-02	NO SL	NO SL	6E-03
	Trinitrobenzene[1,3,5-]	0.429	NO SL	2E-04	NO SL	1E-05	NO SL	1E-05	NO SL
	Trinitrotoluene[2,4,6-]	3.015	1E-07	8E-02	3E-08	5E-03	4E-09	2E-02	4E+00
CCR or Hazard Index			1E-05	2E+00	3E-06	2E-01	4E-07	1E+00	NA

Notes:
CCR – Cumulative cancer risk
EPC – Exposure point concentration
HQ – Hazard quotient
NA – Not applicable
SL – Screening level
TPH DRO - Total Petroleum Hydrocarbons Diesel Range Organics
SL-SSL DAF 20 – Migration to groundwater screening level at a dilution attenuation factor of 2

Table 3-1. LANL ESLs Used in the Ecological Risk Assessment

Analyte Group	**Analyte Name**	**No Effect ESL**										
		Am. Kestrel (TC)	**Am. Kestrel (IC)**	**Am. Robin (H)**	**Am. Robin (I)**	**Am. Robin (O)**	**Deer Mouse (O)**	**Earth-worm (Soil fauna)**	**Generic Plant**	**Gray Fox (C)**	**Montane Shrew (I)**	**Mountain Cottontail (H)**
Inorganic	Aluminum											
	Antimony	-	-	-	-	-	2.3	78	11	46	7.9	2.7
	Arsenic	740	100	34	15	21	32	6.8	18	820	19	110
	Barium	24000	7500	720	820	770	1800	330	110	41000	2100	2900
	Beryllium	-	-	-	-	-	56	40	2.5	420	35	89
	Cadmium	430	1.3	4.3	0.29	0.54	0.5	140	32	550	0.27	10
	Chromium (total)	860	170	51	23	32	110	-	-	1800	63	410
	Cobalt	2300	620	130	76	97	400	-	13	5400	240	1000
	Copper	1100	80	34	14	20	63	80	70	4000	42	260
	Fluoride	2200	910	170	120	140	1100	-	-	13000	870	2600
	Lead	540	83	18	11	14	120	1700	120	3700	93	310
	Manganese	60000	24000	1300	2200	1600	1400	450	220	40000	2800	2000
	Mercury (inorganic)	0.32	0.058	0.067	0.013	0.022	3	0.05	34	76	1.7	23
	Nickel	2000	110	120	20	35	20	280	38	1200	10	270
	Perchlorate	2	3.9	0.12	31	0.24	0.21	3.5	40	3.3	31	0.26
	Selenium	74	3.7	0.98	0.71	0.83	0.82	4.1	0.52	92	0.7	2.2
	Silver	600	13	10	2.6	4.1	24	-	560	4400	14	150
	Thallium	100	48	6.9	4.5	5.5	0.72	-	0.05	5	0.42	1.2
	Vanadium	110	56	6.8	4.7	5.5	470	-	60	3200	290	740
	Zinc	2600	220	330	47	83	170	120	160	9600	99	1800
Dioxin/ Furan	Tetrachlorodibenzodioxin[2,3,7,8-]	0.0000041	0.0000041	0.0000041	0.0000041	0.0000041	0.00000058	5		0.0001	0.00000029	0.00004
High Explosive	Amino-2,6-dinitrotoluene[4-]						23	18	33	6700	12	320
	Amino-4,6-dinitrotoluene[2-]						23	43	14	9700	16	110
	3,5-Dinitroaniline						23	18	33	6700	12	320
	Dinitrobenzene[1,3-]	120	9.3	0.079	1.6	0.15	0.072			82	0.95	0.091
	Dinitrotoluene[2,4-]						20	18	6	2000	14	74
	Dinitrotoluene[2,6-]	18000	680	52	130	74	4	30		1300	7.6	6.7
	HMX						290	16	2700	59000	1100	410
	Nitroglycerine						70	13	21	69000	1200	88
	Nitrotoluene[2-]						9.8			6000	22	15
	Nitrotoluene[3-]						12			7000	19	21
	Nitrotoluene[4-]						21			13000	41	36
	PETN						100			47000	1000	120
	RDX	780	11	2.3	2.4	2.3	16	8.4		7000	16	38
	TATB						110	10		10000	720	150
	Tetryl						1.5			960	60	1.8

Analyte Group	Analyte Name	No Effect ESL										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earth-worm (Soil fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
	Trinitrobenzene[1,3,5-]	-	-	-	-	-	110	10	-	10000	720	150
	Trinitrotoluene[2,4,6-]	3100	1300	7.5	120	14	95	32	62	26000	1900	110
Petroleum Hydrocarbons	Total Petroleum Hydrocarbon DRO	-	-	-	-	-	-	198	81.2	-	-	-
Polyaromatic Hydrocarbon	Acenaphthene	-	-	-	-	-	160	-	0.25	29000	130	530
	Acenaphthylene	-	-	-	-	-	160	-	-	28000	120	540
	Anthracene	-	-	-	-	-	300	-	6.8	38000	210	1200
	Benzo(a)anthracene	28	6.4	0.73	0.88	0.8	3.4	-	18	110	4	6.1
	Benzo(a)pyrene	-	-	-	-	-	84	-	-	3400	62	260
	Benzo(b)fluoranthene	-	-	-	-	-	51	-	18	2400	44	130
	Benzo(g,h,i)perylene	-	-	-	-	-	46	-	-	3600	25	470
	Benzo(k)fluoranthene	-	-	-	-	-	99	-	-	4300	71	330
	Chrysene	-	-	-	-	-	3.1	-	-	110	3.1	6.3
	Dibenzo(a,h)anthracene	-	-	-	-	-	22	-	-	850	14	84
	Fluoranthene	-	-	-	-	-	38	10	-	3900	22	270
	Fluorene	-	-	-	-	-	340	3.7	-	50000	250	1100
	Indeno(1,2,3-cd)pyrene	-	-	-	-	-	110	-	-	4600	71	510
	Methylnaphthalene[2-]	-	-	-	-	-	24	-	-	4900	16	110
	Naphthalene	2100	78	3.4	15	5.7	9.6	-	1	5800	28	14
	Phenanthrene	-	-	-	-	-	15	5.5	-	1900	11	62
	Pyrene	3000	160	68	33	44	31	10	-	3100	23	110
Semivolatile Organic compound	Benzoic Acid	-	-	-	-	-	1.3	-	-	2000	1	4.6
	Bis(2-ethylhexyl)phthalate	9.3	0.096	16	0.02	0.04	1.1	-	-	500	0.6	1900
	Butyl Benzyl Phthalate	-	-	-	-	-	160	-	-	23000	90	2400
	Carbazole	-	-	-	-	-	79	-	-	13000	110	140
	Chlorobenzene	-	-	-	-	-	53	2.4	-	25000	43	170
	Chlorophenol[2-]	310	14	0.39	2.6	0.68	0.54		-	340	2.3	0.74
	Dibenzofuran	-	-	-	-	-	-	-	6.1	-	-	-
	Diethyl Phthalate	-	-	-	-	-	3600	-	100	2500000	3600	8800
	Dimethyl Phthalate	-	-	-	-	-	38	10	-	48000	80	60
	Di-n-Butyl Phthalate	2	0.052	0.38	0.011	0.021	360	-	160	62000	180	17000
	Di-n-octylphthalate	-	-	-	-	-	1.8	-	-	1300	0.91	8400
	Methylphenol[2-]	-	-	-	-	-	580	-	0.67	160000	1500	880
	Methylphenol[3-]	-	-	-	-	-	-	-	0.69	-	-	-
	Nitroaniline[2-]	-	-	-	-	-	5.3	-	-	2200	6.5	11
	Nitrobenzene	-	-	-	-	-	4.8	2.2	-	4100	21	6.7
	Pentachloronitrobenzene	110	3.3	21	0.7	1.3	22	-	-	3500	11	930
	Pentachlorophenol	57	1.7	29	0.36	0.72	1.5	31	5	230	0.81	180
	Phenol	-	-	-	-	-	37	1.8	0.79	43000	640	47
	Acetone	66000	840	7.5	170	14	1.2	-	-	7800	15	1.6

Analyte Group	Analyte Name	No Effect ESL										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earth-worm (Soil fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Volatile Organic Compound	Benzene	-	-	-	-	-	24	-	-	18000	49	38
	Benzyl Alcohol	-	-	-	-	-	120	-	-	110000	270	190
	Butanone[2-]	-	-	-	-	-	350	-	-	1300000	2700	470
	Carbon Disulfide	-	-	-	-	-	0.81	-	-	190	1.2	1.4
	Chloroaniline[4-]	-	-	-	-	-	-	1.8	1	-	-	-
	Chloroform	-	-	-	-	-	8	-	-	8900	8.2	19
	Dichlorobenzene[1,2-]	-	-	-	-	-	1.5	-	-	480	0.92	12
	Dichlorobenzene[1,3-]	-	-	-	-	-	1.2	-	-	380	0.74	13
	Dichlorobenzene[1,4-]	-	-	-	-	-	1.5	1.2	-	470	0.89	12
	Dichloroethane[1,1-]	-	-	-	-	-	210	-	-	250000	290	410
	Dichloroethane[1,2-]	1300	22	0.85	4.5	1.4	27	-	-	36000	91	39
	Dichloroethene[1,1-]	-	-	-	-	-	14	-	-	14000	11	44
	Dichloroethene[cis/trans-1,2-]	-	-	-	-	-	25	-	-	25000	24	64
	Diphenylamine	3900	49	78	10	17	-	-	-	-	-	-
	Hexachlorobenzene	12	0.37	83	0.079	0.15	0.39	10	10	59	0.2	910
	Hexanone[2-]	290	1.7	0.47	0.36	0.41	6.1	-	-	5900	5.4	17
	Iodomethane	46	0.29	0.038	0.062	0.047	-	-	-	-	-	-
	Isopropyltoluene[4-]	-	-	-	-	-	25	-	200	12000	23	66
	Methyl-2-pentanone[4-]	-	-	-	-	-	9.7	-	-	18000	15	17
	Methylene Chloride	-	-	-	-	-	2.6	-	1600	4300	9.2	3.8
	Styrene	-	-	-	-	-	-	1.2	3.2	-	-	-
	Tetrachloroethene	-	-	-	-	-	0.35	-	10	120	0.18	9.5
	Toluene	-	-	-	-	-	25	-	200	12000	23	66
	Trichlorobenzene[1,2,4-]	-	-	-	-	-	0.51	1.2	-	110	0.27	12
	Trichloroethane[1,1,1-]	-	-	-	-	-	400	-	-	310000	260	2000
	Trichloroethene	-	-	-	-	-	54	-	-	42000	42	190
	Trichlorofluoromethane	-	-	-	-	-	97	-	-	62000	52	1800
	Vinyl Chloride	-	-	-	-	-	0.13	-	-	110	0.12	0.34
	Xylene (Total)	13000	190	89	41	56	1.9	-	100	750	1.4	7.6

Notes: Aluminum is only evaluated if soil pH<5.5; soils in area expected to be alkaline
ESLs are in units of milligram per kilogram (mg/kg)
C - Carnivore
TC – Top carnivore
IC – Insectivore/carnivore
H – Herbivore
I – Insectivore
O – Omnivore

Table 3-2. Ecological Screening Evaluation with Maximum Detected Soil Concentrations.~~Table 3-1. Ecological Screening Evaluation for the Combined Surface and Subsurface Detected Soil Data.~~

Parameter Category	Parameter name	Maximum Detected Value (mg/kg)	Am. Kestrel (TC) NE HQ	Am. Kestrel (IC) NE HQ	Am. Robin (H) NE HQ	Am. Robin (I) NE HQ	Am. Robin (O) NE HQ	Deer Mouse (O) NE HQ	Earthworm (Soil fauna) NE HQ	Generic Plant (producer) NE HQ	Gray Fox (TC) NE HQ	Montane Shrew (I) NE HQ	Mountain Cottontail (H) NE HQ
Inorganic	Antimony	1.22	NA	NA	NA	NA	NA	5E-01	2E-02	1E-01	3E-02	2E-01	5E-01
	Barium	12600	5E-01	2E+00	2E+01	2E+01	2E+01	7E+00	4E+01	1E+02	3E-01	6E+00	4E+00
	Cadmium	0.562	1E-03	4E-01	1E-01	2E+00	1E+00	1E+00	4E-03	2E-02	1E-03	2E+00	6E-02
	Calcium	16100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Copper	113	1E-01	1E+00	3E+00	8E+00	6E+00	2E+00	1E+00	2E+00	3E-02	3E+00	4E-01
	Lead	228	4E-01	3E+00	1E+01	2E+01	2E+01	2E+00	1E-01	2E+00	6E-02	2E+00	7E-01
	Nitrate	4.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Perchlorate	0.00173	9E-04	4E-04	1E-02	6E-05	7E-03	8E-03	5E-04	4E-05	5E-04	6E-05	7E-03
	Selenium	3.05	4E-02	8E-01	3E+00	4E+00	4E+00	4E+00	7E-01	6E+00	3E-02	4E+00	1E+00
	Silver	7.95	1E-02	6E-01	8E-01	3E+00	2E+00	3E-01	NA	1E-02	2E-03	6E-01	5E-02
	Zinc	115	4E-02	5E-01	3E-01	2E+00	1E+00	7E-01	1E+00	7E-01	1E-02	1E+00	6E-02
Organic	2,3,7,8 TCDD Mammal TEQ	6.27E-05	NA	NA	NA	NA	NA	1E+02	1E-05	NA	6E-01	2E+02	2E+00
	2,3,7,8 TCDD Avian TEQ	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	NA	NA	NA	NA	NA	NA
	3,5-Dinitroaniline	1.33	NA	NA	NA	NA	NA	6E-02	7E-02	4E-02	2E-04	1E-01	4E-03
	Amino-2,6-dinitrotoluene[4-]	3.24	NA	NA	NA	NA	NA	1E-01	2E-01	1E-01	5E-04	3E-01	1E-02
	Amino-4,6-dinitrotoluene[2-]	1.49	NA	NA	NA	NA	NA	6E-02	3E-02	1E-01	2E-04	9E-02	1E-02
	Anthracene	0.509	NA	NA	NA	NA	NA	2E-03	NA	7E-02	1E-05	2E-03	4E-04
	Benzoic Acid	0.49	NA	NA	NA	NA	NA	4E-01	NA	NA	2E-04	5E-01	1E-01
	Bis(2-ethylhexyl)phthalate	56.6	6E+00	6E+02	4E+00	3E+03	1E+03	5E+01	NA	NA	1E-01	9E+01	3E-02
	Dinitrotoluene[2,4-]	0.172	NA	NA	NA	NA	NA	9E-03	1E-02	3E-02	9E-05	1E-02	2E-03
	HMX	160	NA	NA	NA	NA	NA	6E-01	1E+01	6E-02	3E-03	1E-01	4E-01
	Isopropyltoluene[4-]	0.00105	NA	NA	NA	NA	NA	4E-05	NA	5E-06	9E-08	5E-05	2E-05
	Methylene Chloride	0.00473	NA	NA	NA	NA	NA	2E-03	NA	3E-06	1E-06	5E-04	1E-03
	Methylnaphthalene[2-]	0.0131	NA	NA	NA	NA	NA	5E-04	NA	NA	3E-06	8E-04	1E-04
	PETN	38.8	NA	NA	NA	NA	NA	4E-01	NA	NA	8E-04	4E-02	3E-01
	RDX	72.4	9E-02	7E+00	3E+01	3E+01	3E+01	5E+00	9E+00	NA	1E-02	5E+00	2E+00
	TATB	43.2	NA	NA	NA	NA	NA	4E-01	4E+00	NA	4E-03	6E-02	3E-01
	Total Petroleum Hydrocarbons Diesel Range Organics	79.1	NA	NA	NA	NA	NA	NA	4E-01	1E+00	NA	NA	NA
	Trinitrobenzene[1,3,5-]	0.46	NA	NA	NA	NA	NA	4E-03	5E-02	NA	5E-05	6E-04	3E-03
	Trinitrotoluene[2,4,6-]	12.7	4E-03	1E-02	2E+00	1E-01	9E-01	1E-01	4E-01	2E-01	5E-04	7E-03	1E-01
Hazard Index			2E+01	6E+02	9E+01	3E+03	2E+03	2E+02	7E+01	1E+02	1E+00	3E+02	1E+01

Notes: Analytes shown in this table are above background and have at least one detected value.
Shaded cells indicate the initial screening ratio > 0.1
Only detected data are screened; only inorganics above BV are carried forward as COPECs to this table
Abbreviations:

- BV – Background Value (see Table 2-3)
- ESL – Ecological Screening Value
- EPC – Maximum Exposure Point Concentration
- H – Herbivore
- HQ – Hazard Quotient
- I – Insectivore
- IC – Insectivore/carnivore
- mg/kg – milligram per kilogram
- O – Omnivore
- NA – Not available
- NE – No Effect
- TC – Top carnivore

Parameter Name	Maximum Reported Result (mg/kg)	Number of Detects	BV	Maximum/ BV Ratio	Minimum NE ESL	NE ESL Ratio	Minimum LE ESL	LE ESL Ratio
INORGANICS								
Aluminum	1.04E+04	16	29200	0.4	0.00E+00	NA	0.00E+00	NA
Antimony	1.22E+00	7	0.83	1.5	2.30E+00	5E-01	2.30E+01	5E-02
Arsenic	3.67E+00	16	8.17	0.4	6.80E+00	5E-01	3.10E+01	1E-01
Barium	1.26E+04	16	295	43	1.10E+02	1E+02	2.60E+02	5E+01
Beryllium	1.11E+00	16	1.83	0.6	2.50E+00	4E-01	2.50E+01	4E-02
Calcium	1.61E+04	16	6120	3	NA	NA	NA	NA
Chromium	1.05E+01	16	19.3	0.5	2.30E+01	5E-01	7.30E+01	1E-01
Cobalt	3.03E+00	11	8.64	0.4	1.30E+01	2E-01	1.30E+02	2E-02
Copper	3.04E+01	13	14.7	2	1.40E+01	2E+00	4.30E+01	7E-01
Iron	6.73E+03	16	21500	0.3	NA	NA	NA	NA
Lead	2.81E+01	16	22.3	1.3	1.10E+01	3E+00	2.30E+01	1E+00
Magnesium	1.84E+03	16	4610	0.4	NA	NA	NA	NA
Manganese	2.91E+02	16	671	0.4	2.20E+02	1E+00	1.10E+03	3E-01
Mercury	2.05E-02	14	0.1	0.2	1.30E-02	2E+00	1.30E-01	2E-01
Nickel	1.07E+01	16	15.4	0.7	1.00E+01	1E+00	2.10E+01	5E-01
Nitrate	4.02E+00	14	NA	NA	NA	NA	NA	NA
Potassium	1.78E+03	16	3460	0.5	NA	NA	NA	NA
Selenium	3.05E+00	16	1.52	2	5.20E-01	6E+00	1.00E+00	3E+00
Silver	1.23E+01	12	1	12	2.60E+00	5E+00	2.60E+01	5E-01
Sodium	1.89E+02	16	915	0.2	NA	NA	NA	NA
Thallium	2.44E-01	7	0.73	0.3	5.00E-02	5E+00	5.00E-01	5E-01
Vanadium	2.03E+01	16	39.6	0.5	4.70E+00	4E+00	9.50E+00	2E+00
Zinc	1.00E+02	16	48.8	2	4.70E+01	2E+00	1.20E+02	8E-01
ORGANICs								
3,5-Dinitroaniline	1.33E+00	1	NA	NA	NA	NA	NA	NA
Acetone	4.36E-03	1	NA	NA	1.20E+00	4E-03	6.30E+00	7E-04
Amino-2,6-dinitrotoluene[4-]	3.24E+00	7	NA	NA	1.20E+01	3E-01	1.20E+02	3E-02
Amino-4,6-dinitrotoluene[2-]	1.49E+00	7	NA	NA	1.40E+01	1E-01	1.40E+02	1E-02
Anthracene	5.09E-01	4	NA	NA	6.80E+00	7E-02	9.00E+00	6E-02
Benzo(b)fluoranthene	3.05E-01	1	NA	NA	1.80E+01	2E-02	1.80E+02	2E-03
Bis(2-ethylhexyl)phthalate	5.66E+01	11	NA	NA	2.00E-02	3E+03	2.00E-01	3E+02
Butylbenzylphthalate	3.05E-01	1	NA	NA	9.00E+01	3E-03	9.00E+02	3E-04
Chrysene	3.05E-01	1	NA	NA	3.10E+00	1E-01	3.10E+01	1E-02
Dibenz(a,h)anthracene	3.05E-01	1	NA	NA	1.40E+01	2E-02	1.40E+02	2E-03
Dinitrotoluene[2,4-]	3.05E+00	1	NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	3.05E-01	1	NA	NA	9.10E-01	3E-01	9.10E+00	3E-02
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	1.40E-03	15	NA	NA	NA	NA	NA	NA
Heptachlorodibenzodioxins (Total)	2.48E-03	15	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	4.66E-04	15	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	2.38E-05	9	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofurans (Total)	9.52E-04	15	NA	NA	NA	NA	NA	NA

Parameter Name	Maximum Reported Result (mg/kg)	Number of Detects	BV	Maximum/ BV Ratio	Minimum NE ESL	NE ESL Ratio	Minimum LE ESL	LE ESL Ratio
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	3.20E-05	9	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	6.02E-05	12	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	7.04E-05	12	NA	NA	NA	NA	NA	NA
Hexachlorodibenzodioxins (Total)	5.86E-04	15	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran[1,2,3,4,7,8-]	1.70E-05	11	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran[1,2,3,6,7,8-]	2.54E-05	9	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran[1,2,3,7,8,9-]	1.79E-06	2	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran[2,3,4,6,7,8-]	3.19E-05	9	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofurans (Total)	5.64E-04	15	NA	NA	NA	NA	NA	NA
HMX	1.60E+02	7	NA	NA	1.60E+01	1E+01	1.60E+02	1E+00
Isopropyltoluene[4-]	1.05E-03	1	NA	NA	NA	NA	NA	NA
Methylene Chloride	4.73E-03	2	NA	NA	2.60E+00	2E-03	2.20E+01	2E-04
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	6.97E-03	16	NA	NA	NA	NA	NA	NA
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	8.31E-04	15	NA	NA	NA	NA	NA	NA
Pentachlorodibenzodioxin[1,2,3,7,8-]	1.23E-05	5	NA	NA	NA	NA	NA	NA
Pentachlorodibenzodioxins (Total)	9.02E-05	10	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran[1,2,3,7,8-]	2.27E-06	8	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran[2,3,4,7,8-]	3.37E-06	5	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofurans (Totals)	1.32E-04	12	NA	NA	NA	NA	NA	NA
PETN	3.88E+01	1	NA	NA	1.00E+02	4E-01	1.00E+03	4E-02
RDX	6.07E+02	7	NA	NA	2.30E+00	3E+02	4.30E+00	1E+02
TATB	4.32E+01	10	NA	NA	*1.20E+00*	4E+01	*1.20E+01*	4E+00
Tetrachlorodibenzodioxin[2,3,7,8-]	7.57E-07	4	NA	NA	2.90E-07	3E+00	1.90E-06	4E-01
Tetrachlorodibenzodioxins (Total)	9.77E-06	5	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran[2,3,7,8-]	2.71E-06	4	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofurans (Totals)	2.47E-05	9	NA	NA	NA	NA	NA	NA
Total Petroleum Hydrocarbons Diesel Range Organics	7.91E+01	16	NA	NA	NA	NA	NA	NA
Trinitrobenzene[1,3,5-]	1.21E+00	3	NA	NA	1.00E+01	1E-01	2.80E+01	4E-02
Trinitrotoluene[2,4,6-]	1.27E+01	8	NA	NA	7.50E+00	2E+00	1.30E+01	1E+00
Hazard Index - Inorganics						**1E+02**		**6E+01**
Hazard Index - Organics						**3E+03**		**4E+02**

Notes:
Shaded cells indicate the initial screening ratio > 0.3
Italics – a surrogate is used. See Section 1.2.3.
Only detected data are screened; only inorganics above background are carried forward for comparison to ESLs

Abbreviations:
BV – Background Value
ESL – Ecological Screening Value
EPC – Maximum Exposure Point Concentration
mg/kg – milligram per kilogram
mg/kg – Milligram per Kilogram
LE – Low Effect
NA – Not available
NE – No Effect

Table 3-3. Ecological Risk Evaluation Low Effect ESLs for COPCs.~~Table 3-2. Ecological Risk Evaluation Using UCL95 EPCs for COPCs.~~

Category	**Name**	**Low Effect ESL**										
		Am. Kestrel (TC)	**Am. Kestrel (IC)**	**Am. Robin (H)**	**Am. Robin (I)**	**Am. Robin (O)**	**Deer Mouse (O)**	**Earth-worm (Soil fauna)**	**Generic Plant**	**Gray Fox (C)**	**Montane Shrew (I)**	**Mountain Cottontail (H)**
Inorganic	Antimony	-	-	-	-	-	23	780	58	460	79	27
	Barium	44000	13000	1200	1400	1300	8700	3200	260	190000	10000	14000
	Cadmium	2300	7.7	23	1.6	3	6.8	760	160	7400	3.6	140
	Calcium	-	-	-	-	-	-	-	-	-	-	-
	Copper	3500	240	100	43	60	100	530	490	6700	70	430
	Lead	1000	160	36	23	28	230	8400	570	7000	170	600
	Nitrate	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	4	8	0.24	64	0.49	1	35	80	16	150	1.3
	Selenium	140	7.5	1.9	1.4	1.6	1.2	41	3	130	1	3.4
	Silver	6000	130	100	26	41	240	-	2800	44000	140	1500
	Zinc	7000	590	120	120	220	1700	930	810	94000	980	18000
Organic	3,5-Dinitroaniline	-	-	-	-	-	230	180	330	67000	120	3200
	Amino-2,6-dinitrotoluene[4-]	-	-	-	-	-	230	180	330	67000	120	3200
	Amino-4,6-dinitrotoluene[2-]	-	-	-	-	-	230	430	140	97000	160	1100
	Anthracene	-	-	-	-	-	3000	-	9	380000	2100	12000
	Benzoic Acid	-	-	-	-	-	13	-	-	20000	10	46
	Bis(2-ethylhexyl)phthalate	93	0.96	160	0.2	0.4	11	-	-	5000	6	19000
	Dinitrotoluene[2,4-]	-	-	-	-	-	200	180	60	20000	140	740
	HMX	-	-	-	-	-	790	160	3500	150000	2900	1100
	Isopropyltoluene[4-]	-	-	-	-	-	250	-	2000	120000	230	660
	Methylene Chloride	-	-	-	-	-	22	-	16000	36000	79	32
	Methylnaphthalene[2-]	-	-	-	-	-	240	-	-	49000	160	1100
	PETN	-	-	-	-	-	1000	-	-	470000	10000	1200
	RDX	1400	22	4.3	4.5	4.4	51	15	-	22000	53	120
	TATB	-	-	-	-	-	1100	28	-	100000	7200	1500
	Tetrachlorodibenzodioxin[2,3,7,8-]	-	-	-	-	-	3.8E-06	10	-	0.00068	1.9E-06	0.00027
	Total Petroleum Hydrocarbon DRO	-	-	-	-	-	-	1977	419	-	-	-
	Trinitrobenzene[1,3,5-]	-	-	-	-	-	1100	28	-	100000	7200	1500
	Trinitrotoluene[2,4,6-]	5700	2400	13	220	26	440	58	120	120000	9100	540

Notes:
" - " – Indicates an ESL is not available
ESLs are in units of milligram per kilogram (mg/kg)
TC – Top carnivore
IC – Insectivore/carnivore
H – Herbivore
I – Insectivore
O – Omnivore

~~Parameter Name~~	~~UCL95 (mg/kg)~~	~~UCL Type~~	~~Distribution~~	~~Minimum NE ESL (mg/kg)~~	~~UCL/ NE ESL Ratio~~	~~Minimum LE ESL (mg/kg)~~	~~UCL/ LE ESL Ratio~~
~~Antimony~~	~~0.635~~	~~95% KM (t) UCL~~	~~Normal~~	~~2.30E+00~~	~~3E-01~~	~~2.30E+01~~	~~3E-02~~
~~Barium~~	~~6609~~	~~95% Adjusted Gamma UCL~~	~~Gamma~~	~~1.10E+02~~	~~6E+01~~	~~2.60E+02~~	~~3E+01~~
~~Copper~~	~~12.97~~	~~95% KM (t) UCL~~	~~Approximate Normal~~	~~1.40E+01~~	~~9E-01~~	~~4.30E+01~~	~~3E-01~~
~~Lead~~	~~13.84~~	~~95% Student's-t UCL~~	~~Approximate Normal~~	~~1.10E+01~~	~~1E+00~~	~~2.30E+01~~	~~6E-01~~
~~Selenium~~	~~1.776~~	~~95% Student's-t UCL~~	~~Normal~~	~~5.20E-01~~	~~3E+00~~	~~1.00E+00~~	~~2E+00~~
~~Silver~~	~~5.428~~	~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~Gamma~~	~~2.60E+00~~	~~2E+00~~	~~2.60E+01~~	~~2E-01~~
~~Zinc~~	~~62.01~~	~~95% Adjusted Gamma UCL~~	~~Gamma~~	~~4.70E+01~~	~~1E+00~~	~~1.20E+02~~	~~5E-01~~
~~Bis(2-ethylhexyl)phthalate~~	~~18.15~~	~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~Gamma~~	~~2.00E-02~~	~~9E+02~~	~~2.00E-01~~	~~9E+01~~
~~HMX~~	~~80.66~~	~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~Gamma~~	~~1.60E+01~~	~~5E+00~~	~~1.60E+02~~	~~5E-01~~
~~PETN~~	~~0.25~~	~~Median~~	~~NA - 1 detect~~	~~1.00E+02~~	~~3E-03~~	~~1.00E+03~~	~~3E-04~~
~~RDX~~	~~347~~	~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~Gamma~~	~~2.30E+00~~	~~2E+02~~	~~4.30E+00~~	~~8E+01~~
~~TATB~~	~~13.02~~	~~95% KM (t) UCL~~	~~Normal~~	~~1.20E+00~~	~~1E+01~~	~~1.20E+01~~	~~1E+00~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~2.8E-05~~	~~Mammalian TEQ~~		~~2.90E-07~~	~~1E+02~~	~~1.90E-06~~	~~1E+01~~
~~Trinitrotoluene[2,4,6-]~~	~~2.638~~	~~95% KM (t) UCL~~	~~Normal~~	~~7.50E+00~~	~~4E-01~~	~~1.30E+01~~	~~2E-01~~
~~Inorganic HI~~					~~7E+01~~		~~3E+01~~
~~Organic HI~~					~~1E+03~~		~~2E+02~~

~~Notes:~~
~~Shaded cells represent HQs>1~~
~~HI is the sum of all HQs > 1~~

~~Abbreviations:~~
~~BV – Background Value~~
~~Eco SL – Ecological Screening Level~~
~~HI – Hazard Index~~
~~LE – Low Effect~~
~~mg/kg – milligram per kilogram~~
~~NE – No Effect~~
~~UCL – Upper Confidence Limit~~

Table 3-4. Ecological Risk Evaluation Using Refined EPCs and LE ESLs.

Category	Name	Refined EPC (mg/kg)	Am. Kestrel (TC) LE HQ	Am. Kestrel (IC) LE HQ	Am. Robin (H) LE HQ	Am. Robin (I) LE HQ	Am. Robin (O) LE HQ	Deer Mouse (O) LE HQ	Earthworm (Soil Fauna) LE HQ	Generic Plant LE HQ	Gray Fox (C) LE HQ	Montane Shrew (I) LE HQ	Mountain Cottontail (H) LE HQ
Inorganic	Antimony	0.481	-	-	-	-	-	2E-02	6E-04	8E-03	1E-03	6E-03	2E-02
	Barium	3369	8E-02	3E-01	3E+00	2E+00	3E+00	4E-01	1E+00	1E+01	2E-02	3E-01	2E-01
	Cadmium	0.231	1E-04	3E-02	1E-02	1E-01	8E-02	3E-02	3E-04	1E-03	3E-05	6E-02	2E-03
	Calcium	4866	-	-	-	-	-	-	-	-	-	-	-
	Copper	32.03	9E-03	1E-01	3E-01	7E-01	5E-01	3E-01	6E-02	7E-02	5E-03	5E-01	7E-02
	Lead	45.22	5E-02	3E-01	1E+00	2E+00	2E+00	2E-01	5E-03	8E-02	6E-03	3E-01	8E-02
	Nitrate	3.04	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	0.000679	2E-04	8E-05	3E-03	1E-05	1E-03	7E-04	2E-05	8E-06	4E-05	5E-06	5E-04
	Selenium	0.968	7E-03	1E-01	5E-01	7E-01	6E-01	8E-01	2E-02	3E-01	7E-03	1E+00	3E-01
	Silver	1.848	3E-04	1E-02	2E-02	7E-02	5E-02	8E-03	-	7E-04	4E-05	1E-02	1E-03
	Zinc	58.43	8E-03	1E-01	5E-01	5E-01	3E-01	3E-02	6E-02	7E-02	6E-04	6E-02	3E-03
Organic	3,5-Dinitroaniline	1.33	-	-	-	-	-	6E-03	7E-03	4E-03	2E-05	1E-02	4E-04
	Amino-2,6-dinitrotoluene[4-]	0.573	-	-	-	-	-	2E-03	3E-03	2E-03	9E-06	5E-03	2E-04
	Amino-4,6-dinitrotoluene[2-]	0.382	-	-	-	-	-	2E-03	9E-04	3E-03	4E-06	2E-03	3E-04
	Anthracene	0.262	-	-	-	-	-	9E-05	-	3E-02	7E-07	1E-04	2E-05
	Benzoic Acid	0.487	-	-	-	-	-	4E-02	-	-	2E-05	5E-02	1E-02
	Bis(2-ethylhexyl)phthalate	16.35	2E-01	2E+01	1E-01	8E+01	4E+01	1E+00	-	-	3E-03	3E+00	9E-04
	Dinitrotoluene[2,4-]	0.17	-	-	-	-	-	9E-04	9E-04	3E-03	9E-06	1E-03	2E-04
	HMX	25.57	-	-	-	-	-	3E-02	2E-01	7E-03	2E-04	9E-03	2E-02
	Isopropyltoluene[4-]	0.000737	-	-	-	-	-	3E-06	-	4E-07	6E-09	3E-06	1E-06
	Methylene Chloride	0.00473	-	-	-	-	-	2E-04	-	3E-07	1E-07	6E-05	1E-04
	Methylnaphthalene[2-]	0.0131	-	-	-	-	-	5E-05	-	-	3E-07	8E-05	1E-05
	PETN	38.8	-	-	-	-	-	4E-02	-	-	8E-05	4E-03	3E-02
	RDX	14.98	1E-02	7E-01	3E+00	3E+00	3E+00	3E-01	1E+00	-	7E-04	3E-01	1E-01
	TATB	10.51	-	-	-	-	-	1E-02	4E-01	-	1E-04	1E-03	7E-03
	TCDD Mammal TEQ	1.06E-04	-	-	-	-	-	3E+01	1E-05	-	2E-01	6E+01	4E-01
	TCDD Avian TEQ	9.08E-05	-	-	-	-	-	NA	NA	NA	NA	NA	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	27.33	-	-	-	-	-	-	1E-02	7E-02	-	-	-
	Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	4E-04	2E-02	-	4E-06	6E-05	3E-04
	Trinitrotoluene[2,4,6-]	2.064	4E-04	9E-04	2E-01	9E-03	8E-02	5E-03	4E-02	2E-02	2E-05	2E-04	4E-03
Hazard Index			3E-01	2E+01	9E+00	9E+01	5E+01	3E+01	3E+00	1E+01	2E-01	6E+01	1E+00

Notes: Shaded cells represent HQs>0.1 or Hazard Index >1. " - " indicates an ESL was not available and an HQ cannot be calculated.
Hazard Index is the sum of all HQs
See Tables 3-5 to 3-8 for dioxin/furan calculations and Table 2-8 for information regarding the UCL95 values for other organics

EPC – Exposure Point Concentration
IC – Insectivore/carnivore
H – Herbivore
HQ – Hazard Quotient
I – Insectivore
O – Omnivore
LE – Low Effect
mg/kg – milligram per kilogram
NA – Not applicable
TC – Top carnivore
UCL95 – Upper 95th percent confidence limit

Table 3-5. Toxic Equivalency Factors (TEFs) Used for Calculating TCDD Equivalent Concentrations for Mammals and Birds~~Table 3-3. Toxic Equivalency Factors (TEFs) Used for Calculating TCDD Equivalent Concentrations~~

Name	CAS	Mammalian TEF[a]	Avian TEF[b]
Chlorinated dibenzo-p-dioxins			
2,3,7,8-TCDD	1746-01-6	1	1
1,2,3,7,8-PeCDD	40321-76-4	1	1
1,2,3,4,7,8-HxCDD	39227-28-6	0.1	0.05
1,2,3,6,7,8-HxCDD	57653-85-7	0.1	0.01
1,2,3,7,8,9-HxCDD	19408-74-3	0.1	0.1
1,2,3,4,6,7,8-HpCDD	35822-46-9	0.01	0.001
OCDD	3268-87-9	0.0003	0.0001
Chlorinated dibenzofurans			
2,3,7,8-TCDF	51207-31-9	0.1	1
1,2,3,7,8-PeCDF	57117-41-6	0.03	0.1
2,3,4,7,8-PeCDF	57117-31-4	0.3	0.1
1,2,3,4,7,8-HxCDF	70648-26-9	0.1	1
1,2,3,6,7,8-HxCDF	57117-44-9	0.1	0.1
1,2,3,7,8,9-HxCDF	72918-21-9	0.1	0.1
2,3,4,6,7,8-HxCDF	60851-34-5	0.1	0.1
1,2,3,4,6,7,8-HpCDF	67562-39-4	0.01	0.01
1,2,3,4,7,8,9-HpCDF	55673-89-7	0.01	0.01
OCDF	39001-02-0	0.0003	0.0001

Notes:
TEF – Toxicity Equivalency Factor

[a] EPA (2010b); WHO (2009)
[b] Van den Berg et al. (1998).

Table 3-6. Dioxin-Furan Concentrations, TECs, and TEQs for Mammals by Sample~~Table 3-4. Dioxin-Furan Concentrations, TEFs, TEQs, SLs, and Mammalian Risk Estimates by Sample~~

Parameter name	09RCRA695		09RCRA697		09RCRA699		09RCRA701		09RCRA703		09RCRA705		09RCRA707		09RCRA709		09RCRA711		09RCRA731	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	3.41E-05	1	8.61E-05	1	1.02E-04	1	5.06E-05	1	2.09E-04	1	2.08E-04	1	1.29E-04	1	1.85E-04	1	4.80E-03	1	3.18E-05	1
1,2,3,4,5,6,7,8-OCDF	3.98E-06	1	1.25E-05	1	1.27E-05	1	5.82E-06	1	2.93E-05	1	2.79E-05	1	1.95E-05	1	2.19E-05	1	6.57E-04	1	3.64E-06	1
1,2,3,4,6,7,8-HpCDD	4.50E-06	1	8.35E-06	1	1.31E-05	1	8.37E-06	1	3.67E-05	1	3.66E-05	1	2.01E-05	1	3.23E-05	1	9.00E-04	1	5.93E-06	1
1,2,3,4,6,7,8-HpCDF	2.33E-06	1	3.50E-06	1	4.30E-06	1	3.05E-06	1	1.27E-05	1	1.13E-05	1	7.27E-06	1	8.71E-06	1	2.88E-04	1	2.02E-06	1
1,2,3,4,7,8,9-HpCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	1.02E-06	1	9.20E-07	1	7.30E-07	1	7.41E-07	1	1.92E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	7.33E-07	1	7.41E-07	1	4.44E-07	0	7.71E-07	1	1.79E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDF	6.73E-07	1	5.88E-07	1	5.83E-07	1	4.66E-07	0	9.55E-07	1	7.64E-07	1	7.87E-07	1	7.66E-07	1	1.21E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDD	4.36E-07	0	4.67E-07	1	5.61E-07	1	4.66E-07	0	1.58E-06	1	1.40E-06	1	7.53E-07	1	1.28E-06	1	3.33E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDF	4.36E-07	0	4.53E-07	1	4.82E-07	1	4.66E-07	0	8.90E-07	1	0.00E+00	1	7.41E-07	1	7.37E-07	1	1.44E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDD	4.36E-07	0	0.00E+00	1	0.00E+00	1	4.66E-07	0	1.65E-06	1	1.49E-06	1	8.03E-07	1	0.00E+00	1	4.07E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	4.44E-07	0	2.02E-06	1	4.42E-07	0
1,2,3,7,8-PeCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	0.00E+00	1	6.99E-06	1	4.42E-07	0
1,2,3,7,8-PeCDF	1.59E-06	1	4.83E-07	1	8.30E-07	1	4.66E-07	0	4.64E-07	0	4.60E-07	0	5.72E-07	1	4.76E-07	1	1.65E-06	1	4.42E-07	0
2,3,4,6,7,8-HxCDF	4.36E-07	0	6.30E-07	1	5.67E-07	1	4.66E-07	0	1.13E-06	1	9.33E-07	1	0.00E+00	1	8.63E-07	1	1.78E-05	1	4.42E-07	0
2,3,4,7,8-PeCDF	4.36E-07	0	5.13E-07	1	4.48E-07	0	4.66E-07	0	4.66E-07	1	4.60E-07	0	6.77E-07	1	0.00E+00	1	1.97E-06	1	4.42E-07	0
2,3,7,8-TCDD	9.11E-08	0	1.03E-07	1	1.33E-07	1	9.37E-08	0	6.18E-07	1	1.11E-07	0	0.00E+00	1	5.49E-07	1	1.34E-06	1	4.61E-07	1
2,3,7,8-TCDF	3.14E-06	1	6.59E-07	1	0.00E+00	1	1.14E-06	1	1.82E-07	0	5.45E-07	1	0.00E+00	1	5.95E-07	1	1.51E-06	2	2.45E-07	1
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.02E-08		2.58E-08		3.06E-08		1.52E-08		6.27E-08		6.24E-08		3.87E-08		5.55E-08		1.44E-06		9.54E-09	
1,2,3,4,5,6,7,8-OCDF	1.19E-09		3.75E-09		3.81E-09		1.75E-09		8.79E-09		8.37E-09		5.85E-09		6.57E-09		1.97E-07		1.09E-09	
1,2,3,4,6,7,8-HpCDD	4.50E-08		8.35E-08		1.31E-07		8.37E-08		3.67E-07		3.66E-07		2.01E-07		3.23E-07		9.00E-06		5.93E-08	
1,2,3,4,6,7,8-HpCDF	2.33E-08		3.50E-08		4.30E-08		3.05E-08		1.27E-07		1.13E-07		7.27E-08		8.71E-08		2.88E-06		2.02E-08	
1,2,3,4,7,8,9-HpCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.02E-08		9.20E-09		7.30E-09		7.41E-09		1.92E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.33E-08		7.41E-08		0.00E+00		7.71E-08		1.79E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	6.73E-08		5.88E-08		5.83E-08		0.00E+00		9.55E-08		7.64E-08		7.87E-08		7.66E-08		1.21E-06		0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00		4.67E-08		5.61E-08		0.00E+00		1.58E-07		1.40E-07		7.53E-08		1.28E-07		3.33E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00		4.53E-08		4.82E-08		0.00E+00		8.90E-08		0.00E+00		7.41E-08		7.37E-08		1.44E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.65E-07		1.49E-07		8.03E-08		0.00E+00		4.07E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.02E-07		0.00E+00	
1,2,3,7,8-PeCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.99E-06		0.00E+00	
1,2,3,7,8-PeCDF	4.77E-08		1.45E-08		2.49E-08		0.00E+00		0.00E+00		0.00E+00		1.72E-08		1.43E-08		4.95E-08		0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00		6.30E-08		5.67E-08		0.00E+00		1.13E-07		9.33E-08		0.00E+00		8.63E-08		1.78E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		1.54E-07		0.00E+00		0.00E+00		1.40E-07		0.00E+00		2.03E-07		0.00E+00		5.91E-07		0.00E+00	
2,3,7,8-TCDD	0.00E+00		1.03E-07		1.33E-07		0.00E+00		6.18E-07		0.00E+00		0.00E+00		5.49E-07		1.34E-06		4.61E-07	
2,3,7,8-TCDF	3.14E-07		6.59E-08		0.00E+00		1.14E-07		0.00E+00		5.45E-08		0.00E+00		5.95E-08		1.51E-07		2.45E-08	
TEQ	**5.09E-07**		**6.99E-07**		**5.86E-07**		**2.45E-07**		**2.03E-06**		**1.15E-06**		**8.54E-07**		**1.54E-06**		**3.67E-05**		**5.76E-07**	

Parameter name	WST16-13-29794		WST16-13-29795		WST16-13-29796		WST16-13-29797		WST16-13-29798		WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	5.63E-04	1	5.51E-02	1	6.70E-03	1	5.06E-02	1	6.65E-03	1	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1
1,2,3,4,5,6,7,8-OCDF	6.17E-05	1	7.03E-03	1	7.40E-04	1	7.63E-03	1	8.40E-04	1	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1
1,2,3,4,6,7,8-HpCDD	9.21E-05	1	7.44E-03	1	1.11E-03	1	6.81E-03	1	9.64E-04	1	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1
1,2,3,4,6,7,8-HpCDF	3.96E-05	1	2.51E-03	1	4.11E-04	1	2.22E-03	1	3.37E-04	1	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1
1,2,3,4,7,8,9-HpCDF	1.97E-06	1	1.49E-04	1	1.78E-05	1	1.44E-04	1	2.01E-05	1	1.89E-06	1	9.85E-07	1	1.55E-06	0	7.85E-07	1	1.07E-06	1
1,2,3,4,7,8-HxCDD	2.45E-06	1	1.41E-04	1	2.48E-05	1	1.24E-04	1	1.89E-05	1	9.07E-07	1	1.14E-06	1	1.55E-06	0	6.78E-07	1	8.31E-07	1
1,2,3,4,7,8-HxCDF	1.15E-06	1	8.96E-05	1	1.27E-05	1	7.31E-05	1	1.18E-05	1	2.44E-06	1	8.29E-07	1	1.55E-06	0	7.14E-07	1	1.42E-06	1
1,2,3,6,7,8-HxCDD	4.76E-06	1	3.02E-04	1	5.18E-05	1	2.74E-04	1	4.40E-05	1	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1
1,2,3,6,7,8-HxCDF	1.87E-06	1	9.84E-05	1	1.93E-05	1	8.49E-05	1	1.47E-05	1	1.71E-06	1	9.81E-07	1	1.55E-06	0	6.89E-07	1	1.04E-06	1
1,2,3,7,8,9-HxCDD	5.94E-06	1	3.23E-04	1	6.26E-05	1	2.82E-04	1	5.09E-05	1	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1
1,2,3,7,8,9-HxCDF	1.69E-06	0	1.68E-05	0	1.93E-06	1	1.67E-05	0	1.87E-06	1	4.96E-07	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDD	6.20E-07	1	3.83E-05	1	7.93E-06	1	3.22E-05	1	5.83E-06	1	4.88E-07	1	5.71E-07	1	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDF	1.69E-06	0	1.68E-05	0	1.18E-06	1	1.67E-05	0	8.73E-07	1	2.03E-06	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	5.99E-07	1
2,3,4,6,7,8-HxCDF	2.21E-06	1	1.37E-04	1	2.41E-05	1	1.10E-04	1	1.84E-05	1	2.45E-06	1	1.14E-06	1	1.55E-06	0	8.59E-07	1	1.55E-06	1
2,3,4,7,8-PeCDF	1.69E-06	0	1.05E-05	1	1.81E-06	1	7.67E-06	1	1.42E-06	1	1.43E-06	1	1.59E-06	0	1.55E-06	0	4.69E-07	1	1.06E-06	1
2,3,7,8-TCDD	3.38E-07	0	3.36E-06	0	3.44E-07	1	3.35E-06	0	3.34E-07	0	2.15E-07	1	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
2,3,7,8-TCDF	3.38E-07	0	3.36E-06	0	3.34E-07	0	3.35E-06	0	3.34E-07	0	1.66E-06	2	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	1.69E-07		1.65E-05		2.01E-06		1.52E-05		2.00E-06		9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08	
1,2,3,4,5,6,7,8-OCDF	1.85E-08		2.11E-06		2.22E-07		2.29E-06		2.52E-07		1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09	
1,2,3,4,6,7,8-HpCDD	9.21E-07		7.44E-05		1.11E-05		6.81E-05		9.64E-06		4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07	
1,2,3,4,6,7,8-HpCDF	3.96E-07		2.51E-05		4.11E-06		2.22E-05		3.37E-06		1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07	
1,2,3,4,7,8,9-HpCDF	1.97E-08		1.49E-06		1.78E-07		1.44E-06		2.01E-07		1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08	
1,2,3,4,7,8-HxCDD	2.45E-07		1.41E-05		2.48E-06		1.24E-05		1.89E-06		9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08	
1,2,3,4,7,8-HxCDF	1.15E-07		8.96E-06		1.27E-06		7.31E-06		1.18E-06		2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07	
1,2,3,6,7,8-HxCDD	4.76E-07		3.02E-05		5.18E-06		2.74E-05		4.40E-06		1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07	
1,2,3,6,7,8-HxCDF	1.87E-07		9.84E-06		1.93E-06		8.49E-06		1.47E-06		1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07	
1,2,3,7,8,9-HxCDD	5.94E-07		3.23E-05		6.26E-06		2.82E-05		5.09E-06		1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		1.93E-07		0.00E+00		1.87E-07		4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	6.20E-07		3.83E-05		7.93E-06		3.22E-05		5.83E-06		4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	0.00E+00		0.00E+00		3.54E-08		0.00E+00		2.62E-08		6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08	
2,3,4,6,7,8-HxCDF	2.21E-07		1.37E-05		2.41E-06		1.10E-05		1.84E-06		2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07	
2,3,4,7,8-PeCDF	0.00E+00		3.15E-06		5.43E-07		2.30E-06		4.26E-07		4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07	
2,3,7,8-TCDD	0.00E+00		0.00E+00		3.44E-07		0.00E+00		0.00E+00		2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.98E-06**		**2.70E-04**		**4.62E-05**		**2.39E-04**		**3.78E-05**		**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**	

Parameter name	WST16-19-181359		WST16-19-181361		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																		
1,2,3,4,5,6,7,8-OCDD	6.50E-04	1	1.26E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1			1.70E-05	1
1,2,3,4,5,6,7,8-OCDF	8.35E-05	1	1.45E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1	8.31E-04	1	3.31E-06	1
1,2,3,4,6,7,8-HpCDD	1.05E-04	1	2.15E-05	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1	1.40E-03	1	2.98E-06	1
1,2,3,4,6,7,8-HpCDF	3.47E-05	1	9.10E-06	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1	4.66E-04	1	2.60E-06	1
1,2,3,4,7,8,9-HpCDF	2.20E-06	1	5.71E-07	1	1.58E-06	0	1.57E-06	0	3.26E-06	1	1.62E-06	0	1.50E-06	0	2.38E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDD	1.95E-06	1	7.03E-07	1	5.72E-07	1	1.57E-06	0	4.13E-06	1	1.62E-06	0	1.50E-06	0	3.20E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDF	1.64E-06	1	8.72E-07	1	8.57E-07	1	1.57E-06	0	2.06E-06	1	1.62E-06	0	1.50E-06	0	1.70E-05	1	6.08E-07	1
1,2,3,6,7,8-HxCDD	4.06E-06	1	1.13E-06	1	8.53E-07	1	1.57E-06	0	7.10E-06	1	7.06E-07	1	1.50E-06	0	6.02E-05	1	1.61E-06	0
1,2,3,6,7,8-HxCDF	1.56E-06	1	7.59E-07	1	1.58E-06	0	1.57E-06	0	2.57E-06	1	1.62E-06	0	1.50E-06	0	2.54E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDD	4.20E-06	1	1.04E-06	1	7.43E-07	1	1.57E-06	0	8.50E-06	1	1.13E-06	1	5.09E-07	1	7.04E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	1.79E-06	1	1.61E-06	0
1,2,3,7,8-PeCDD	6.70E-07	1	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.53E-06	1	1.62E-06	0	1.50E-06	0	1.23E-05	1	1.61E-06	0
1,2,3,7,8-PeCDF	5.68E-07	1	6.81E-07	1	8.34E-07	1	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	2.27E-06	1	6.14E-07	1
2,3,4,6,7,8-HxCDF	1.91E-06	1	1.03E-06	1	1.58E-06	0	1.57E-06	0	3.56E-06	1	1.62E-06	0	1.50E-06	0	3.19E-05	1	1.61E-06	0
2,3,4,7,8-PeCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	3.11E-06	1	1.61E-06	0
2,3,7,8-TCDD	2.03E-07	1	3.10E-07	0	2.10E-07	1	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	7.57E-07	1	3.20E-07	0
2,3,7,8-TCDF	3.20E-07	0	3.10E-07	0	3.16E-07	0	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	3.24E-07	0	3.20E-07	0
TECs																		
1,2,3,4,5,6,7,8-OCDD	1.95E-07		3.78E-08		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08		0.00E+00		5.10E-09	
1,2,3,4,5,6,7,8-OCDF	2.51E-08		4.35E-09		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09		2.49E-07		9.93E-10	
1,2,3,4,6,7,8-HpCDD	1.05E-06		2.15E-07		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07		1.40E-05		2.98E-08	
1,2,3,4,6,7,8-HpCDF	3.47E-07		9.10E-08		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08		4.66E-06		2.60E-08	
1,2,3,4,7,8,9-HpCDF	2.20E-08		5.71E-09		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00		2.38E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	1.95E-07		7.03E-08		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00		3.20E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	1.64E-07		8.72E-08		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00		1.70E-06		6.08E-08	
1,2,3,6,7,8-HxCDD	4.06E-07		1.13E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00		6.02E-06		0.00E+00	
1,2,3,6,7,8-HxCDF	1.56E-07		7.59E-08		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00		2.54E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	4.20E-07		1.04E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08		7.04E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.79E-07		0.00E+00	
1,2,3,7,8-PeCDD	6.70E-07		0.00E+00		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00		1.23E-05		0.00E+00	
1,2,3,7,8-PeCDF	1.70E-08		2.04E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.81E-08		1.84E-08	
2,3,4,6,7,8-HxCDF	1.91E-07		1.03E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00		3.19E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.33E-07		0.00E+00	
2,3,7,8-TCDD	2.03E-07		0.00E+00		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.57E-07		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**4.06E-06**		**9.28E-07**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**		**5.71E-05**		**1.41E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.

Duplicate pairs are shaded

DC – Detect code (1=detect, 0=nondetect)

TEQ – Toxicity Equivalent Quotient, the sum of the TECs

TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF

TEF – Toxicity Equivalency Factor

~~Congener Name~~	~~WST16-19-181353~~		~~WST16-19-181354~~		~~WST16-19-181355~~		~~WST16-19-181356~~		~~WST16-19-181357~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~4.52E-05~~	~~1~~	~~5.55E-05~~	~~1~~	~~1.0E-05~~	~~1~~	~~9.42E-06~~	~~1~~	~~2.24E-05~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.80E-05~~	~~1~~	~~1.82E-05~~	~~1~~	~~3.96E-06~~	~~1~~	~~6.41E-06~~	~~1~~	~~9.10E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.89E-06~~	~~1~~	~~9.85E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~5.75E-07~~	~~1~~	~~7.85E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~9.07E-07~~	~~1~~	~~1.14E-06~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~6.78E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.87E-06~~	~~1~~	~~2.08E-06~~	~~1~~	~~5.4E-07~~	~~1~~	~~5.22E-07~~	~~1~~	~~1.16E-06~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.90E-06~~	~~1~~	~~2.19E-06~~	~~1~~	~~5.75E-07~~	~~1~~	~~4.74E-07~~	~~0~~	~~1.12E-06~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~2.44E-06~~	~~1~~	~~8.29E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~2.48E-06~~	~~1~~	~~7.14E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.71E-06~~	~~1~~	~~9.81E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~1.02E-06~~	~~1~~	~~6.89E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.96E-07~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~4.44E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~2.45E-06~~	~~1~~	~~1.14E-06~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~1~~	~~8.59E-07~~	~~1~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~3.01E-04~~	~~1~~	~~3.50E-04~~	~~1~~	~~5.32E-05~~	~~1~~	~~1.70E-06~~	~~1~~	~~8.59E-07~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~4.39E-05~~	~~1~~	~~3.27E-05~~	~~1~~	~~5.67E-06~~	~~1~~	~~5.78E-05~~	~~1~~	~~1.48E-04~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.88E-07~~	~~1~~	~~5.71E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~4.44E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~2.03E-06~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~1.27E-06~~	~~1~~	~~4.44E-07~~	~~0~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~1.43E-06~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~3.37E-06~~	~~1~~	~~4.69E-07~~	~~1~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~2.15E-07~~	~~1~~	~~1.44E-07~~	~~0~~	~~1.53E-07~~	~~0~~	~~1.16E-07~~	~~0~~	~~1.52E-07~~	~~0~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~1.66E-06~~	~~1~~	~~4.05E-07~~	~~0~~	~~1.97E-07~~	~~0~~	~~2.71E-06~~	~~1~~	~~5.5E-07~~	~~0~~

~~Congener Name~~	~~WST16-19-181353~~		~~WST16-19-181354~~		~~WST16-19-181355~~		~~WST16-19-181356~~		~~WST16-19-181357~~	
	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~ND~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~3.00E-02~~	~~0~~	~~3.00E-02~~	~~ND~~	~~3.00E-02~~	~~ND~~	~~3.00E-02~~	~~0~~	~~3.00E-02~~	~~ND~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~3.00E-01~~	~~0~~	~~3.00E-01~~	~~ND~~	~~3.00E-01~~	~~ND~~	~~3.00E-01~~	~~0~~	~~3.00E-01~~	~~0~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~
~~TEQ~~	- ~~3.29E-06~~		-	~~2.27E-06~~	-	~~2.69E-07~~	-	~~2.08E-06~~	-	~~1.04E-06~~
~~Mammalian No Effect SSL = 5.8E-07~~	~~Risk Ratio=~~	~~6~~	-	~~4~~	-	~~0.5~~	-	~~4~~	-	~~2~~
~~Mammalian Low Effect SSL = 3.8E-06~~	~~Risk Ratio=~~	~~1~~	-	~~1~~	-	~~0.1~~	-	~~1~~	-	~~0.3~~

~~Congener Name~~	~~WST16-19-181358~~		~~WST16-19-181359~~		~~WST16-19-181360~~		~~WST16-19-181361~~		~~WST16-19-181362~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~3.34E-05~~	~~1~~	~~1.05E-04~~	~~1~~	~~4.72E-07~~	~~0~~	~~2.15E-05~~	~~1~~	~~2.40E-05~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.30E-05~~	~~1~~	~~3.47E-05~~	~~1~~	~~4.72E-07~~	~~0~~	~~9.10E-06~~	~~1~~	~~5.40E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.07E-06~~	~~1~~	~~2.20E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~5.71E-07~~	~~1~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~8.31E-07~~	~~1~~	~~1.95E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~7.03E-07~~	~~1~~	~~5.72E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.58E-06~~	~~1~~	~~4.06E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.13E-06~~	~~1~~	~~8.53E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.72E-06~~	~~1~~	~~4.20E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.04E-06~~	~~1~~	~~7.43E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~1.42E-06~~	~~1~~	~~1.64E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~8.72E-07~~	~~1~~	~~8.57E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.04E-06~~	~~1~~	~~1.56E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~7.59E-07~~	~~1~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.56E-07~~	~~0~~	~~4.80E-07~~	~~0~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~1.55E-06~~	~~1~~	~~1.91E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.03E-06~~	~~1~~	~~4.74E-07~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~2.19E-04~~	~~1~~	~~6.50E-04~~	~~1~~	~~2.62E-06~~	~~1~~	~~1.26E-04~~	~~1~~	~~1.71E-04~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~2.88E-05~~	~~1~~	~~8.35E-05~~	~~1~~	~~9.45E-07~~	~~0~~	~~1.45E-05~~	~~1~~	~~1.93E-05~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.56E-07~~	~~0~~	~~6.70E-07~~	~~1~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~5.99E-07~~	~~1~~	~~5.68E-07~~	~~1~~	~~4.72E-07~~	~~0~~	~~6.81E-07~~	~~1~~	~~8.34E-07~~	~~1~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~1.06E-06~~	~~1~~	~~4.80E-07~~	~~0~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.84E-07~~	~~0~~	~~2.03E-07~~	~~1~~	~~9.45E-08~~	~~0~~	~~1.82E-07~~	~~0~~	~~2.10E-07~~	~~1~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~6.29E-07~~	~~0~~	~~5.64E-07~~	~~0~~	~~1.91E-07~~	~~0~~	~~5.04E-07~~	~~0~~	~~4.72E-07~~	~~0~~

~~Congener Name~~	~~WST16-19-181358~~		~~WST16-19-181359~~		~~WST16-19-181360~~		~~WST16-19-181361~~		~~WST16-19-181362~~	
	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~ND~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~ND~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~ND~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~ND~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~ND~~	~~3.00E-04~~	~~0~~	~~3.00E-04~~	~~0~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~3.00E-02~~	~~0~~	~~3.00E-02~~	~~0~~	~~3.00E-02~~	~~ND~~	~~3.00E-02~~	~~0~~	~~3.00E-02~~	~~0~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~3.00E-01~~	~~0~~	~~3.00E-01~~	~~ND~~	~~3.00E-01~~	~~ND~~	~~3.00E-01~~	~~ND~~	~~3.00E-01~~	~~ND~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~0~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~
~~TEQ~~	-	~~1.70E-06~~	-	~~4.06E-06~~	-	~~7.86E-10~~	-	~~9.28E-07~~	-	~~8.89E-07~~
~~Mammalian No Effect SSL = 5.8E-07~~	**~~Risk Ratio=~~**	~~3~~	-	~~7~~	-	~~0.001~~	-	~~2~~	-	~~2~~
~~Mammalian Low Effect SSL = 3.8E-06~~	**~~Risk Ratio=~~**	~~0.4~~	-	~~1~~	-	~~0.0002~~	-	~~0.2~~	-	~~0.2~~

~~Congener Name~~	~~WST16-19-181363~~		~~WST16-19-181364~~		~~WST16-19-181365~~		~~WST16-19-181366~~		~~WST16-19-181367~~		~~WST16-19-181368~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~6.19E-06~~	~~1~~	~~1.99E-04~~	~~1~~	~~2.10E-05~~	~~1~~	~~1.01E-05~~	~~1~~	~~1.40E-03~~	~~1~~	~~2.98E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.22E-06~~	~~1~~	~~5.96E-05~~	~~1~~	~~6.41E-06~~	~~1~~	~~3.30E-06~~	~~1~~	~~4.66E-04~~	~~1~~	~~2.60E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~4.69E-07~~	~~0~~	~~3.26E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~2.38E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~4.69E-07~~	~~0~~	~~4.13E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~3.20E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~4.69E-07~~	~~0~~	~~7.10E-06~~	~~1~~	~~7.06E-07~~	~~1~~	~~4.50E-07~~	~~0~~	~~6.02E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~4.69E-07~~	~~0~~	~~8.50E-06~~	~~1~~	~~1.13E-06~~	~~1~~	~~5.09E-07~~	~~1~~	~~7.04E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~4.69E-07~~	~~0~~	~~2.06E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~1.70E-05~~	~~1~~	~~6.08E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~4.69E-07~~	~~0~~	~~2.57E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~2.54E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.69E-07~~	~~0~~	~~4.87E-07~~	~~0~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~1.79E-06~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~4.69E-07~~	~~0~~	~~3.56E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~3.19E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~4.61E-05~~	~~1~~	~~1.13E-03~~	~~1~~	~~1.28E-04~~	~~1~~	~~6.72E-05~~	~~1~~	~~-~~	~~-~~	~~1.70E-05~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~4.89E-06~~	~~1~~	~~1.17E-04~~	~~1~~	~~1.28E-05~~	~~1~~	~~7.18E-06~~	~~1~~	~~8.31E-04~~	~~1~~	~~3.31E-06~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.69E-07~~	~~0~~	~~1.53E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~1.23E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~4.69E-07~~	~~0~~	~~4.87E-07~~	~~0~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~2.27E-06~~	~~1~~	~~6.14E-07~~	~~1~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~4.69E-07~~	~~0~~	~~4.87E-07~~	~~0~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~3.11E-06~~	~~1~~	~~4.81E-07~~	~~0~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.97E-07~~	~~0~~	~~1.62E-07~~	~~0~~	~~1.57E-07~~	~~0~~	~~9.12E-08~~	~~0~~	~~7.57E-07~~	~~1~~	~~1.40E-07~~	~~0~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~3.36E-07~~	~~0~~	~~2.59E-07~~	~~0~~	~~2.05E-07~~	~~0~~	~~2.57E-07~~	~~0~~	~~5.55E-07~~	~~0~~	~~3.62E-07~~	~~0~~

Congener Name	WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	1.00E-02	ND	1.00E-02	0	1.00E-02	ND	1.00E-02	ND	1.00E-02	0	1.00E-02	ND
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	0	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	1.00E-01	ND	1.00E-01	0	1.00E-01	0	1.00E-01	0	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzofuran[1,2,3,4,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	0
Hexachlorodibenzofuran[1,2,3,6,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzofuran[1,2,3,7,8,9-]	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzofuran[2,3,4,6,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	3.00E-04	0	3.00E-04	0	3.00E-04	0	3.00E-04	0	3.00E-04	ND	3.00E-04	0
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	3.00E-04	0	3.00E-04	0	3.00E-04	0	3.00E-04	0	3.00E-04	0	3.00E-04	0
Pentachlorodibenzodioxin[1,2,3,7,8-]	1.00E+00	ND	1.00E+00	0	1.00E+00	ND	1.00E+00	ND	1.00E+00	0	1.00E+00	ND
Pentachlorodibenzofuran[1,2,3,7,8-]	3.00E-02	ND	3.00E-02	ND	3.00E-02	ND	3.00E-02	ND	3.00E-02	0	3.00E-02	0
Pentachlorodibenzofuran[2,3,4,7,8-]	3.00E-01	ND	3.00E-01	ND	3.00E-01	ND	3.00E-01	ND	3.00E-01	0	3.00E-01	ND
Tetrachlorodibenzodioxin[2,3,7,8-]	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	0	1.00E+00	ND
Tetrachlorodibenzofuran[2,3,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	0	1.00E-01	0	1.00E-01	0	1.00E-01	0
TEQ		8.94E-08		7.34E-06		5.20E-07		2.33E-07		5.71E-05		1.77E-07
Mammalian No Effect SSL = 5.8E-07	Risk Ratio=	0.2		13		1		0.4		98		0.3
Mammalian Low Effect SSL = 3.8E-06	Risk Ratio=	0.02		2		0.1		0.1		15		0.05

Notes: The TECi are summed in each column to obtain the TEQ. The TEQ is divided by the residential or the industrial SSLs for TCDD to obtain a risk ratio, shown directly under the TEQ. None of the TEQs exceeded the SLs.

The deer mouse ESLs are used in lieu of shrew ESLs as this area is not preferred shrew habitat

All data in mg/kg

Detect Code = 1 is detected, 0 is not detected

RR - Ratio of TEQ to NMED SSL

Shaded cells indicate the ratio of the TEQ/SSL exceeds 1

Abbreviations:Ci – Measured Sample Concentration of Congener i; TECi – Toxicity Equivalent Concentration for Congener i; TEF – Toxicity Equivalency Factor; TEQ – Toxicity Equivalent Quotient

Table 3-7. Dioxin-Furan Concentrations, TECs, and TEQs for Birds by Sample

Parameter name	09RCRA695		09RCRA697		09RCRA699		09RCRA701		09RCRA703		09RCRA705		09RCRA707		09RCRA709		09RCRA711		09RCRA731	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	3.41E-05	1	8.61E-05	1	1.02E-04	1	5.06E-05	1	2.09E-04	1	2.08E-04	1	1.29E-04	1	1.85E-04	1	4.80E-03	1	3.18E-05	1
1,2,3,4,5,6,7,8-OCDF	3.98E-06	1	1.25E-05	1	1.27E-05	1	5.82E-06	1	2.93E-05	1	2.79E-05	1	1.95E-05	1	2.19E-05	1	6.57E-04	1	3.64E-06	1
1,2,3,4,6,7,8-HpCDD	4.50E-06	1	8.35E-06	1	1.31E-05	1	8.37E-06	1	3.67E-05	1	3.66E-05	1	2.01E-05	1	3.23E-05	1	9.00E-04	1	5.93E-06	1
1,2,3,4,6,7,8-HpCDF	2.33E-06	1	3.50E-06	1	4.30E-06	1	3.05E-06	1	1.27E-05	1	1.13E-05	1	7.27E-06	1	8.71E-06	1	2.88E-04	1	2.02E-06	1
1,2,3,4,7,8,9-HpCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	1.02E-06	1	9.20E-07	1	7.30E-07	1	7.41E-07	1	1.92E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	7.33E-07	1	7.41E-07	1	4.44E-07	0	7.71E-07	1	1.79E-05	1	4.42E-07	0
1,2,3,4,7,8-HxCDF	6.73E-07	1	5.88E-07	1	5.83E-07	1	4.66E-07	0	9.55E-07	1	7.64E-07	1	7.87E-07	1	7.66E-07	1	1.21E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDD	4.36E-07	0	4.67E-07	1	5.61E-07	1	4.66E-07	0	1.58E-06	1	1.40E-06	1	7.53E-07	1	1.28E-06	1	3.33E-05	1	4.42E-07	0
1,2,3,6,7,8-HxCDF	4.36E-07	0	4.53E-07	1	4.82E-07	1	4.66E-07	0	8.90E-07	1	0.00E+00	1	7.41E-07	1	7.37E-07	1	1.44E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDD	4.36E-07	0	0.00E+00	1	0.00E+00	1	4.66E-07	0	1.65E-06	1	1.49E-06	1	8.03E-07	1	0.00E+00	1	4.07E-05	1	4.42E-07	0
1,2,3,7,8,9-HxCDF	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	4.44E-07	0	2.02E-06	1	4.42E-07	0
1,2,3,7,8-PeCDD	4.36E-07	0	4.44E-07	0	4.48E-07	0	4.66E-07	0	4.64E-07	0	4.60E-07	0	4.44E-07	0	0.00E+00	1	6.99E-06	1	4.42E-07	0
1,2,3,7,8-PeCDF	1.59E-06	1	4.83E-07	1	8.30E-07	1	4.66E-07	0	4.64E-07	0	4.60E-07	0	5.72E-07	1	4.76E-07	1	1.65E-06	1	4.42E-07	0
2,3,4,6,7,8-HxCDF	4.36E-07	0	6.30E-07	1	5.67E-07	1	4.66E-07	0	1.13E-06	1	9.33E-07	1	0.00E+00	1	8.63E-07	1	1.78E-05	1	4.42E-07	0
2,3,4,7,8-PeCDF	4.36E-07	0	5.13E-07	1	4.48E-07	0	4.66E-07	0	4.66E-07	1	4.60E-07	0	6.77E-07	1	0.00E+00	1	1.97E-06	1	4.42E-07	0
2,3,7,8-TCDD	9.11E-08	0	1.03E-07	1	1.33E-07	1	9.37E-08	0	6.18E-07	1	1.11E-07	0	0.00E+00	1	5.49E-07	1	1.34E-06	1	4.61E-07	1
2,3,7,8-TCDF	3.14E-06	1	6.59E-07	1	0.00E+00	1	1.14E-06	1	1.82E-07	0	5.45E-07	1	0.00E+00	1	5.95E-07	1	1.51E-06	2	2.45E-07	1
TECs																				
1,2,3,4,5,6,7,8-OCDD	3.41E-09		8.61E-09		1.02E-08		5.06E-09		2.09E-08		2.08E-08		1.29E-08		1.85E-08		4.80E-07		3.18E-09	
1,2,3,4,5,6,7,8-OCDF	3.98E-10		1.25E-09		1.27E-09		5.82E-10		2.93E-09		2.79E-09		1.95E-09		2.19E-09		6.57E-08		3.64E-10	
1,2,3,4,6,7,8-HpCDD	4.50E-09		8.35E-09		1.31E-08		8.37E-09		3.67E-08		3.66E-08		2.01E-08		3.23E-08		9.00E-07		5.93E-09	
1,2,3,4,6,7,8-HpCDF	2.33E-08		3.50E-08		4.30E-08		3.05E-08		1.27E-07		1.13E-07		7.27E-08		8.71E-08		2.88E-06		2.02E-08	
1,2,3,4,7,8,9-HpCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.02E-08		9.20E-09		7.30E-09		7.41E-09		1.92E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		3.67E-08		3.71E-08		0.00E+00		3.86E-08		8.95E-07		0.00E+00	
1,2,3,4,7,8-HxCDF	6.73E-07		5.88E-07		5.83E-07		0.00E+00		9.55E-07		7.64E-07		7.87E-07		7.66E-07		1.21E-05		0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00		4.67E-09		5.61E-09		0.00E+00		1.58E-08		1.40E-08		7.53E-09		1.28E-08		3.33E-07		0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00		4.53E-08		4.82E-08		0.00E+00		8.90E-08		0.00E+00		7.41E-08		7.37E-08		1.44E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.65E-07		1.49E-07		8.03E-08		0.00E+00		4.07E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.02E-07		0.00E+00	
1,2,3,7,8-PeCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.99E-06		0.00E+00	
1,2,3,7,8-PeCDF	1.59E-07		4.83E-08		8.30E-08		0.00E+00		0.00E+00		0.00E+00		5.72E-08		4.76E-08		1.65E-07		0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00		6.30E-08		5.67E-08		0.00E+00		1.13E-07		9.33E-08		0.00E+00		8.63E-08		1.78E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		5.13E-08		0.00E+00		0.00E+00		4.66E-08		0.00E+00		6.77E-08		0.00E+00		1.97E-07		0.00E+00	
2,3,7,8-TCDD	0.00E+00		1.03E-07		1.33E-07		0.00E+00		6.18E-07		0.00E+00		0.00E+00		5.49E-07		1.34E-06		4.61E-07	
2,3,7,8-TCDF	3.14E-06		6.59E-07		0.00E+00		1.14E-06		0.00E+00		5.45E-07		0.00E+00		5.95E-07		1.51E-06		2.45E-07	
TEQ	**4.00E-06**		**1.62E-06**		**9.77E-07**		**1.18E-06**		**2.24E-06**		**1.78E-06**		**1.19E-06**		**2.32E-06**		**3.55E-05**		**7.36E-07**	

Parameter name	RE16-12-17672		RE16-12-17673		RE16-12-17674		RE16-12-17675		RE16-12-17676		RE16-12-17677		RE16-12-17678		RE16-12-17679		RE16-12-17680		RE16-12-17681	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	6.68E-05	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1				
1,2,3,4,5,6,7,8-OCDF	8.05E-06	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1	6.32E-03	1
1,2,3,4,6,7,8-HpCDD	1.20E-05	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1	8.77E-03	1
1,2,3,4,6,7,8-HpCDF	5.75E-06	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1	2.35E-03	1
1,2,3,4,7,8,9-HpCDF	1.73E-06	0	1.39E-06	1	1.81E-06	0	8.79E-07	1	1.17E-06	1	1.74E-06	0	1.71E-06	0	1.50E-06	1	3.30E-05	1	1.59E-04	1
1,2,3,4,7,8-HxCDD	1.73E-06	0	1.20E-06	1	1.81E-06	0	7.40E-07	1	8.66E-07	1	1.74E-06	0	1.71E-06	0	1.61E-06	1	3.08E-05	1	1.52E-04	1
1,2,3,4,7,8-HxCDF	9.68E-07	1	1.75E-06	1	1.81E-06	0	7.33E-07	1	8.23E-07	1	1.74E-06	0	1.71E-06	0	9.85E-07	1	1.69E-05	1	8.36E-05	1
1,2,3,6,7,8-HxCDD	8.23E-07	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	1.74E-06	0	7.55E-07	1	3.69E-06	1	7.18E-05	1	3.33E-04	1
1,2,3,6,7,8-HxCDF	9.02E-07	1	1.10E-06	1	1.81E-06	0	7.05E-07	1	7.81E-07	1	1.74E-06	0	1.71E-06	0	1.32E-06	1	2.23E-05	1	1.07E-04	1
1,2,3,7,8,9-HxCDD	1.73E-06	0	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	1.74E-06	0	6.99E-07	1	4.34E-06	1	8.71E-05	1	3.71E-04	1
1,2,3,7,8,9-HxCDF	1.73E-06	0	1.67E-06	0	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	2.88E-06	1	1.41E-05	1
1,2,3,7,8-PeCDD	1.73E-06	0	7.45E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	8.39E-07	1	1.11E-05	1	5.63E-05	1
1,2,3,7,8-PeCDF	7.01E-07	1	1.61E-06	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	6.50E-07	1	1.77E-06	1	7.35E-06	1
2,3,4,6,7,8-HxCDF	7.80E-07	1	1.49E-06	1	1.81E-06	0	9.09E-07	1	7.41E-07	1	1.74E-06	0	1.71E-06	0	1.57E-06	1	2.66E-05	1	1.37E-04	1
2,3,4,7,8-PeCDF	1.73E-06	0	8.97E-07	1	1.81E-06	0	1.56E-06	0	1.60E-06	0	1.74E-06	0	1.71E-06	0	1.71E-06	0	3.00E-06	1	1.25E-05	1
2,3,7,8-TCDD	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	4.17E-07	1	1.49E-06	1	3.09E-06	1
2,3,7,8-TCDF	3.46E-07	0	3.34E-07	0	3.63E-07	0	3.12E-07	0	3.21E-07	0	3.49E-07	0	3.44E-07	0	3.43E-07	0	3.43E-07	0	3.45E-06	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	6.68E-09		3.81E-08		1.08E-08		2.40E-08		3.32E-08		3.77E-09		1.09E-08		4.81E-08		0.00E+00		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	8.05E-10		4.53E-09		1.18E-09		2.82E-09		3.63E-09		3.56E-10		1.01E-09		4.94E-09		1.28E-07		6.32E-07	
1,2,3,4,6,7,8-HpCDD	1.20E-08		5.27E-08		1.81E-08		3.48E-08		4.21E-08		5.33E-09		1.49E-08		8.02E-08		1.70E-06		8.77E-06	
1,2,3,4,6,7,8-HpCDF	5.75E-08		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06		2.35E-05	
1,2,3,4,7,8,9-HpCDF	0.00E+00		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07		1.59E-06	
1,2,3,4,7,8-HxCDD	0.00E+00		6.00E-08		0.00E+00		3.70E-08		4.33E-08		0.00E+00		0.00E+00		8.05E-08		1.54E-06		7.60E-06	
1,2,3,4,7,8-HxCDF	9.68E-07		1.75E-06		0.00E+00		7.33E-07		8.23E-07		0.00E+00		0.00E+00		9.85E-07		1.69E-05		8.36E-05	
1,2,3,6,7,8-HxCDD	8.23E-09		2.52E-08		1.04E-08		1.58E-08		1.75E-08		0.00E+00		7.55E-09		3.69E-08		7.18E-07		3.33E-06	
1,2,3,6,7,8-HxCDF	9.02E-08		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06		1.07E-05	
1,2,3,7,8,9-HxCDD	0.00E+00		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06		3.71E-05	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07		1.41E-06	
1,2,3,7,8-PeCDD	0.00E+00		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05		5.63E-05	
1,2,3,7,8-PeCDF	7.01E-08		1.61E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		6.50E-08		1.77E-07		7.35E-07	
2,3,4,6,7,8-HxCDF	7.80E-08		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06		1.37E-05	
2,3,4,7,8-PeCDF	0.00E+00		8.97E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		3.00E-07		1.25E-06	
2,3,7,8-TCDD	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06		3.09E-06	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**1.29E-06**		**3.63E-06**		**1.95E-07**		**1.32E-06**		**1.47E-06**		**3.00E-08**		**1.34E-07**		**3.55E-06**		**5.39E-05**		**2.53E-04**	

Parameter name	WST16-13-29794		WST16-13-29795		WST16-13-29796		WST16-13-29797		WST16-13-29798		WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358	
	Result (mg/kg)	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
Sample Data																				
1,2,3,4,5,6,7,8-OCDD	5.63E-04	1	5.51E-02	1	6.70E-03	1	5.06E-02	1	6.65E-03	1	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1
1,2,3,4,5,6,7,8-OCDF	6.17E-05	1	7.03E-03	1	7.40E-04	1	7.63E-03	1	8.40E-04	1	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1
1,2,3,4,6,7,8-HpCDD	9.21E-05	1	7.44E-03	1	1.11E-03	1	6.81E-03	1	9.64E-04	1	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1
1,2,3,4,6,7,8-HpCDF	3.96E-05	1	2.51E-03	1	4.11E-04	1	2.22E-03	1	3.37E-04	1	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1
1,2,3,4,7,8,9-HpCDF	1.97E-06	1	1.49E-04	1	1.78E-05	1	1.44E-04	1	2.01E-05	1	1.89E-06	1	9.85E-07	1	1.55E-06	0	7.85E-07	1	1.07E-06	1
1,2,3,4,7,8-HxCDD	2.45E-06	1	1.41E-04	1	2.48E-05	1	1.24E-04	1	1.89E-05	1	9.07E-07	1	1.14E-06	1	1.55E-06	0	6.78E-07	1	8.31E-07	1
1,2,3,4,7,8-HxCDF	1.15E-06	1	8.96E-05	1	1.27E-05	1	7.31E-05	1	1.18E-05	1	2.44E-06	1	8.29E-07	1	1.55E-06	0	7.14E-07	1	1.42E-06	1
1,2,3,6,7,8-HxCDD	4.76E-06	1	3.02E-04	1	5.18E-05	1	2.74E-04	1	4.40E-05	1	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1
1,2,3,6,7,8-HxCDF	1.87E-06	1	9.84E-05	1	1.93E-05	1	8.49E-05	1	1.47E-05	1	1.71E-06	1	9.81E-07	1	1.55E-06	0	6.89E-07	1	1.04E-06	1
1,2,3,7,8,9-HxCDD	5.94E-06	1	3.23E-04	1	6.26E-05	1	2.82E-04	1	5.09E-05	1	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1
1,2,3,7,8,9-HxCDF	1.69E-06	0	1.68E-05	0	1.93E-06	1	1.67E-05	0	1.87E-06	1	4.96E-07	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDD	6.20E-07	1	3.83E-05	1	7.93E-06	1	3.22E-05	1	5.83E-06	1	4.88E-07	1	5.71E-07	1	1.55E-06	0	1.48E-06	0	1.52E-06	0
1,2,3,7,8-PeCDF	1.69E-06	0	1.68E-05	0	1.18E-06	1	1.67E-05	0	8.73E-07	1	2.03E-06	1	1.59E-06	0	1.55E-06	0	1.48E-06	0	5.99E-07	1
2,3,4,6,7,8-HxCDF	2.21E-06	1	1.37E-04	1	2.41E-05	1	1.10E-04	1	1.84E-05	1	2.45E-06	1	1.14E-06	1	1.55E-06	0	8.59E-07	1	1.55E-06	1
2,3,4,7,8-PeCDF	1.69E-06	0	1.05E-05	1	1.81E-06	1	7.67E-06	1	1.42E-06	1	1.43E-06	1	1.59E-06	0	1.55E-06	0	4.69E-07	1	1.06E-06	1
2,3,7,8-TCDD	3.38E-07	0	3.36E-06	0	3.44E-07	1	3.35E-06	0	3.34E-07	0	2.15E-07	1	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
2,3,7,8-TCDF	3.38E-07	0	3.36E-06	0	3.34E-07	0	3.35E-06	0	3.34E-07	0	1.66E-06	2	3.17E-07	0	3.10E-07	0	2.96E-07	0	3.03E-07	0
TECs																				
1,2,3,4,5,6,7,8-OCDD	5.63E-08		5.51E-06		6.70E-07		5.06E-06		6.65E-07		3.01E-08		3.50E-08		5.32E-09		1.48E-08		2.19E-08	
1,2,3,4,5,6,7,8-OCDF	6.17E-09		7.03E-07		7.40E-08		7.63E-07		8.40E-08		4.39E-09		3.27E-09		5.67E-10		1.85E-09		2.88E-09	
1,2,3,4,6,7,8-HpCDD	9.21E-08		7.44E-06		1.11E-06		6.81E-06		9.64E-07		4.52E-08		5.55E-08		1.00E-08		2.24E-08		3.34E-08	
1,2,3,4,6,7,8-HpCDF	3.96E-07		2.51E-05		4.11E-06		2.22E-05		3.37E-06		1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07	
1,2,3,4,7,8,9-HpCDF	1.97E-08		1.49E-06		1.78E-07		1.44E-06		2.01E-07		1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08	
1,2,3,4,7,8-HxCDD	1.23E-07		7.05E-06		1.24E-06		6.20E-06		9.45E-07		4.54E-08		5.70E-08		0.00E+00		3.39E-08		4.16E-08	
1,2,3,4,7,8-HxCDF	1.15E-06		8.96E-05		1.27E-05		7.31E-05		1.18E-05		2.44E-06		8.29E-07		0.00E+00		7.14E-07		1.42E-06	
1,2,3,6,7,8-HxCDD	4.76E-08		3.02E-06		5.18E-07		2.74E-06		4.40E-07		1.87E-08		2.08E-08		5.40E-09		1.16E-08		1.58E-08	
1,2,3,6,7,8-HxCDF	1.87E-07		9.84E-06		1.93E-06		8.49E-06		1.47E-06		1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07	
1,2,3,7,8,9-HxCDD	5.94E-07		3.23E-05		6.26E-06		2.82E-05		5.09E-06		1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		1.93E-07		0.00E+00		1.87E-07		4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	6.20E-07		3.83E-05		7.93E-06		3.22E-05		5.83E-06		4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	0.00E+00		0.00E+00		1.18E-07		0.00E+00		8.73E-08		2.03E-07		0.00E+00		0.00E+00		0.00E+00		5.99E-08	
2,3,4,6,7,8-HxCDF	2.21E-07		1.37E-05		2.41E-06		1.10E-05		1.84E-06		2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07	
2,3,4,7,8-PeCDF	0.00E+00		1.05E-06		1.81E-07		7.67E-07		1.42E-07		1.43E-07		0.00E+00		0.00E+00		4.69E-08		1.06E-07	
2,3,7,8-TCDD	0.00E+00		0.00E+00		3.44E-07		0.00E+00		0.00E+00		2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.66E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.51E-06**		**2.35E-04**		**4.00E-05**		**1.99E-04**		**3.31E-05**		**6.15E-06**		**2.19E-06**		**1.18E-07**		**1.21E-06**		**2.27E-06**	

Parameter name	WST16-19-181359		WST16-19-181361		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
Sample Data																		
1,2,3,4,5,6,7,8-OCDD	6.50E-04	1	1.26E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1			1.70E-05	1
1,2,3,4,5,6,7,8-OCDF	8.35E-05	1	1.45E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1	8.31E-04	1	3.31E-06	1
1,2,3,4,6,7,8-HpCDD	1.05E-04	1	2.15E-05	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1	1.40E-03	1	2.98E-06	1
1,2,3,4,6,7,8-HpCDF	3.47E-05	1	9.10E-06	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1	4.66E-04	1	2.60E-06	1
1,2,3,4,7,8,9-HpCDF	2.20E-06	1	5.71E-07	1	1.58E-06	0	1.57E-06	0	3.26E-06	1	1.62E-06	0	1.50E-06	0	2.38E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDD	1.95E-06	1	7.03E-07	1	5.72E-07	1	1.57E-06	0	4.13E-06	1	1.62E-06	0	1.50E-06	0	3.20E-05	1	1.61E-06	0
1,2,3,4,7,8-HxCDF	1.64E-06	1	8.72E-07	1	8.57E-07	1	1.57E-06	0	2.06E-06	1	1.62E-06	0	1.50E-06	0	1.70E-05	1	6.08E-07	1
1,2,3,6,7,8-HxCDD	4.06E-06	1	1.13E-06	1	8.53E-07	1	1.57E-06	0	7.10E-06	1	7.06E-07	1	1.50E-06	0	6.02E-05	1	1.61E-06	0
1,2,3,6,7,8-HxCDF	1.56E-06	1	7.59E-07	1	1.58E-06	0	1.57E-06	0	2.57E-06	1	1.62E-06	0	1.50E-06	0	2.54E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDD	4.20E-06	1	1.04E-06	1	7.43E-07	1	1.57E-06	0	8.50E-06	1	1.13E-06	1	5.09E-07	1	7.04E-05	1	1.61E-06	0
1,2,3,7,8,9-HxCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	1.79E-06	1	1.61E-06	0
1,2,3,7,8-PeCDD	6.70E-07	1	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.53E-06	1	1.62E-06	0	1.50E-06	0	1.23E-05	1	1.61E-06	0
1,2,3,7,8-PeCDF	5.68E-07	1	6.81E-07	1	8.34E-07	1	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	2.27E-06	1	6.14E-07	1
2,3,4,6,7,8-HxCDF	1.91E-06	1	1.03E-06	1	1.58E-06	0	1.57E-06	0	3.56E-06	1	1.62E-06	0	1.50E-06	0	3.19E-05	1	1.61E-06	0
2,3,4,7,8-PeCDF	1.60E-06	0	1.55E-06	0	1.58E-06	0	1.57E-06	0	1.63E-06	0	1.62E-06	0	1.50E-06	0	3.11E-06	1	1.61E-06	0
2,3,7,8-TCDD	2.03E-07	1	3.10E-07	0	2.10E-07	1	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	7.57E-07	1	3.20E-07	0
2,3,7,8-TCDF	3.20E-07	0	3.10E-07	0	3.16E-07	0	3.12E-07	0	3.24E-07	0	3.22E-07	0	3.00E-07	0	3.24E-07	0	3.20E-07	0
TECs																		
1,2,3,4,5,6,7,8-OCDD	6.50E-08		1.26E-08		1.71E-08		4.61E-09		1.13E-07		1.28E-08		6.72E-09		0.00E+00		1.70E-09	
1,2,3,4,5,6,7,8-OCDF	8.35E-09		1.45E-09		1.93E-09		4.89E-10		1.17E-08		1.28E-09		7.18E-10		8.31E-08		3.31E-10	
1,2,3,4,6,7,8-HpCDD	1.05E-07		2.15E-08		2.40E-08		6.19E-09		1.99E-07		2.10E-08		1.01E-08		1.40E-06		2.98E-09	
1,2,3,4,6,7,8-HpCDF	3.47E-07		9.10E-08		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08		4.66E-06		2.60E-08	
1,2,3,4,7,8,9-HpCDF	2.20E-08		5.71E-09		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00		2.38E-07		0.00E+00	
1,2,3,4,7,8-HxCDD	9.75E-08		3.52E-08		2.86E-08		0.00E+00		2.07E-07		0.00E+00		0.00E+00		1.60E-06		0.00E+00	
1,2,3,4,7,8-HxCDF	1.64E-06		8.72E-07		8.57E-07		0.00E+00		2.06E-06		0.00E+00		0.00E+00		1.70E-05		6.08E-07	
1,2,3,6,7,8-HxCDD	4.06E-08		1.13E-08		8.53E-09		0.00E+00		7.10E-08		7.06E-09		0.00E+00		6.02E-07		0.00E+00	
1,2,3,6,7,8-HxCDF	1.56E-07		7.59E-08		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00		2.54E-06		0.00E+00	
1,2,3,7,8,9-HxCDD	4.20E-07		1.04E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08		7.04E-06		0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.79E-07		0.00E+00	
1,2,3,7,8-PeCDD	6.70E-07		0.00E+00		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00		1.23E-05		0.00E+00	
1,2,3,7,8-PeCDF	5.68E-08		6.81E-08		8.34E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.27E-07		6.14E-08	
2,3,4,6,7,8-HxCDF	1.91E-07		1.03E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00		3.19E-06		0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		3.11E-07		0.00E+00	
2,3,7,8-TCDD	2.03E-07		0.00E+00		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		7.57E-07		0.00E+00	
2,3,7,8-TCDF	0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**4.02E-06**		**1.40E-06**		**1.36E-06**		**2.35E-08**		**6.28E-06**		**2.19E-07**		**1.01E-07**		**5.21E-05**		**7.00E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.
Duplicate pairs are shaded
DC – Detect code (1=detect, 0=nondetect)
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

~~Table 3-5. Dioxin-Furan Concentrations, TEFs, TEQs, SLs, and Avian Risk Estimates by Sample~~

~~Congener Name~~	~~WST16-19-181353~~		~~WST16-19-181354~~		~~WST16-19-181355~~		~~WST16-19-181356~~		~~WST16-19-181357~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~4.52E-05~~	~~1~~	~~5.55E-05~~	~~1~~	~~1.0E-05~~	~~1~~	~~9.42E-06~~	~~1~~	~~2.24E-05~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.80E-05~~	~~1~~	~~1.82E-05~~	~~1~~	~~3.96E-06~~	~~1~~	~~6.41E-06~~	~~1~~	~~9.10E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.89E-06~~	~~1~~	~~9.85E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~5.75E-07~~	~~1~~	~~7.85E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~9.07E-07~~	~~1~~	~~1.14E-06~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~6.78E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.87E-06~~	~~1~~	~~2.08E-06~~	~~1~~	~~5.4E-07~~	~~1~~	~~5.22E-07~~	~~1~~	~~1.16E-06~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.90E-06~~	~~1~~	~~2.19E-06~~	~~1~~	~~5.75E-07~~	~~1~~	~~4.74E-07~~	~~0~~	~~1.12E-06~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~2.44E-06~~	~~1~~	~~8.29E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~2.48E-06~~	~~1~~	~~7.14E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.71E-06~~	~~1~~	~~9.81E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~1.02E-06~~	~~1~~	~~6.89E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.96E-07~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~4.44E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~2.45E-06~~	~~1~~	~~1.14E-06~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~1~~	~~8.59E-07~~	~~1~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~3.01E-04~~	~~1~~	~~3.50E-04~~	~~1~~	~~5.32E-05~~	~~1~~	~~1.70E-06~~	~~1~~	~~8.59E-07~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~4.39E-05~~	~~1~~	~~3.27E-05~~	~~1~~	~~5.67E-06~~	~~1~~	~~5.78E-05~~	~~1~~	~~1.48E-04~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.88E-07~~	~~1~~	~~5.71E-07~~	~~1~~	~~4.66E-07~~	~~0~~	~~4.74E-07~~	~~0~~	~~4.44E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~2.03E-06~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~1.27E-06~~	~~1~~	~~4.44E-07~~	~~0~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~1.43E-06~~	~~1~~	~~4.75E-07~~	~~0~~	~~4.66E-07~~	~~0~~	~~3.37E-06~~	~~1~~	~~4.69E-07~~	~~1~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~2.15E-07~~	~~1~~	~~1.44E-07~~	~~0~~	~~1.53E-07~~	~~0~~	~~1.16E-07~~	~~0~~	~~1.52E-07~~	~~0~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~1.66E-06~~	~~1~~	~~4.05E-07~~	~~0~~	~~1.97E-07~~	~~0~~	~~2.71E-06~~	~~1~~	~~5.5E-07~~	~~0~~

~~Congener Name~~	~~WST16-19-181353~~		~~WST16-19-181354~~		~~WST16-19-181355~~		~~WST16-19-181356~~		~~WST16-19-181357~~	
	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~	~~TEF~~	~~TECi~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~1.00E-03~~	~~0~~	~~1.00E-03~~	~~0~~	~~1.00E-03~~	~~0~~	~~1.00E-03~~	~~0~~	~~1.00E-03~~	~~0~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~ND~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~5.00E-02~~	~~0~~	~~5.00E-02~~	~~0~~	~~5.00E-02~~	~~ND~~	~~5.00E-02~~	~~ND~~	~~5.00E-02~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~	~~1.00E-02~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~	~~1.00E-04~~	~~0~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~ND~~	~~1.00E-01~~	~~0~~	~~1.00E-01~~	~~0~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~ND~~	~~1.00E+00~~	~~0~~	~~1.00E+00~~	~~ND~~
~~TEQ~~		**~~6.15E-06~~**		**~~2.19E-06~~**		**~~1.18E-07~~**		**~~6.02E-06~~**		**~~1.21E-06~~**
~~Avian No Effect SSL = 4.1 E-06~~	~~Risk Ratio=~~	~~1~~	-	~~1~~	-	~~0.03~~	-	~~1~~	-	~~0.3~~
~~Avian Low Effect SSL~~	~~Risk Ratio=~~	-	-	-	-	-	-	-	-	-

~~Congener Name~~	~~WST16-19-181358~~		~~WST16-19-181359~~		~~WST16-19-181360~~		~~WST16-19-181361~~		~~WST16-19-181362~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~3.34E-05~~	~~1~~	~~1.05E-04~~	~~1~~	~~4.72E-07~~	~~0~~	~~2.15E-05~~	~~1~~	~~2.40E-05~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.30E-05~~	~~1~~	~~3.47E-05~~	~~1~~	~~4.72E-07~~	~~0~~	~~9.10E-06~~	~~1~~	~~5.40E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~1.07E-06~~	~~1~~	~~2.20E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~5.71E-07~~	~~1~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~8.31E-07~~	~~1~~	~~1.95E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~7.03E-07~~	~~1~~	~~5.72E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~1.58E-06~~	~~1~~	~~4.06E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.13E-06~~	~~1~~	~~8.53E-07~~	~~1~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~1.72E-06~~	~~1~~	~~4.20E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.04E-06~~	~~1~~	~~7.43E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~1.42E-06~~	~~1~~	~~1.64E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~8.72E-07~~	~~1~~	~~8.57E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~1.04E-06~~	~~1~~	~~1.56E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~7.59E-07~~	~~1~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.56E-07~~	~~0~~	~~4.80E-07~~	~~0~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~1.55E-06~~	~~1~~	~~1.91E-06~~	~~1~~	~~4.72E-07~~	~~0~~	~~1.03E-06~~	~~1~~	~~4.74E-07~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~2.19E-04~~	~~1~~	~~6.50E-04~~	~~1~~	~~2.62E-06~~	~~1~~	~~1.26E-04~~	~~1~~	~~1.71E-04~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~2.88E-05~~	~~1~~	~~8.35E-05~~	~~1~~	~~9.45E-07~~	~~0~~	~~1.45E-05~~	~~1~~	~~1.93E-05~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.56E-07~~	~~0~~	~~6.70E-07~~	~~1~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~5.99E-07~~	~~1~~	~~5.68E-07~~	~~1~~	~~4.72E-07~~	~~0~~	~~6.81E-07~~	~~1~~	~~8.34E-07~~	~~1~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~1.06E-06~~	~~1~~	~~4.80E-07~~	~~0~~	~~4.72E-07~~	~~0~~	~~4.65E-07~~	~~0~~	~~4.74E-07~~	~~0~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.84E-07~~	~~0~~	~~2.03E-07~~	~~1~~	~~9.45E-08~~	~~0~~	~~1.82E-07~~	~~0~~	~~2.10E-07~~	~~1~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~6.29E-07~~	~~0~~	~~5.64E-07~~	~~0~~	~~1.91E-07~~	~~0~~	~~5.04E-07~~	~~0~~	~~4.72E-07~~	~~0~~

Congener Name	WST16-19-181358		WST16-19-181359		WST16-19-181360		WST16-19-181361		WST16-19-181362	
	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	1.00E-03	0	1.00E-03	0	1.00E-03	ND	1.00E-03	0	1.00E-03	0
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	1.00E-02	0	1.00E-02	0	1.00E-02	ND	1.00E-02	0	1.00E-02	0
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	1.00E-02	0	1.00E-02	0	1.00E-02	ND	1.00E-02	0	1.00E-02	ND
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	5.00E-02	0	5.00E-02	0	5.00E-02	ND	5.00E-02	0	5.00E-02	0
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	1.00E-02	0	1.00E-02	0	1.00E-02	ND	1.00E-02	0	1.00E-02	0
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	1.00E-01	0	1.00E-01	0	1.00E-01	ND	1.00E-01	0	1.00E-01	0
Hexachlorodibenzofuran[1,2,3,4,7,8-]	1.00E+00	0	1.00E+00	0	1.00E+00	ND	1.00E+00	0	1.00E+00	0
Hexachlorodibenzofuran[1,2,3,6,7,8-]	1.00E-01	0	1.00E-01	0	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzofuran[1,2,3,7,8,9-]	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND
Hexachlorodibenzofuran[2,3,4,6,7,8-]	1.00E-01	0	1.00E-01	0	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	1.00E-04	0	1.00E-04	0	1.00E-04	0	1.00E-04	0	1.00E-04	0
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	1.00E-04	0	1.00E-04	0	1.00E-04	ND	1.00E-04	0	1.00E-04	0
Pentachlorodibenzodioxin[1,2,3,7,8-]	1.00E+00	ND	1.00E+00	0	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND
Pentachlorodibenzofuran[1,2,3,7,8-]	1.00E-01	0	1.00E-01	0	1.00E-01	ND	1.00E-01	0	1.00E-01	0
Pentachlorodibenzofuran[2,3,4,7,8-]	1.00E-01	0	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND
Tetrachlorodibenzodioxin[2,3,7,8-]	1.00E+00	ND	1.00E+00	0	1.00E+00	ND	1.00E+00	ND	1.00E+00	0
Tetrachlorodibenzofuran[2,3,7,8-]	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND
TEQ	-	**2.27E-06**	-	**4.02E-06**	-	**2.62E-10**	-	**1.40E-06**	-	**1.36E-06**
Avian No Effect SSL = 4.1 E-06	-	1	-	1	-	0.0001	-	0.3	-	0.3
Avian Low Effect SSL	-	-	-	-	-	-	-	-	-	-

~~Congener Name~~	~~WST16-19-181363~~		~~WST16-19-181364~~		~~WST16-19-181365~~		~~WST16-19-181366~~		~~WST16-19-181367~~		~~WST16-19-181368~~	
	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~	~~Result~~	~~Detect~~
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	~~6.19E-06~~	~~1~~	~~1.99E-04~~	~~1~~	~~2.10E-05~~	~~1~~	~~1.01E-05~~	~~1~~	~~1.40E-03~~	~~1~~	~~2.98E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	~~1.22E-06~~	~~1~~	~~5.96E-05~~	~~1~~	~~6.41E-06~~	~~1~~	~~3.30E-06~~	~~1~~	~~4.66E-04~~	~~1~~	~~2.60E-06~~	~~1~~
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~4.69E-07~~	~~0~~	~~3.26E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~2.38E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~	~~4.69E-07~~	~~0~~	~~4.13E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~3.20E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~4.69E-07~~	~~0~~	~~7.10E-06~~	~~1~~	~~7.06E-07~~	~~1~~	~~4.50E-07~~	~~0~~	~~6.02E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	~~4.69E-07~~	~~0~~	~~8.50E-06~~	~~1~~	~~1.13E-06~~	~~1~~	~~5.09E-07~~	~~1~~	~~7.04E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	~~4.69E-07~~	~~0~~	~~2.06E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~1.70E-05~~	~~1~~	~~6.08E-07~~	~~1~~
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	~~4.69E-07~~	~~0~~	~~2.57E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~2.54E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~4.69E-07~~	~~0~~	~~4.87E-07~~	~~0~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~1.79E-06~~	~~1~~	~~4.81E-07~~	~~0~~
~~Hexachlorodibenzofuran[2,3,4,6,7,8-]~~	~~4.69E-07~~	~~0~~	~~3.56E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~3.19E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]~~	~~4.61E-05~~	~~1~~	~~1.13E-03~~	~~1~~	~~1.28E-04~~	~~1~~	~~6.72E-05~~	~~1~~	-	-	~~1.70E-05~~	~~1~~
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	~~4.89E-06~~	~~1~~	~~1.17E-04~~	~~1~~	~~1.28E-05~~	~~1~~	~~7.18E-06~~	~~1~~	~~8.31E-04~~	~~1~~	~~3.31E-06~~	~~1~~
~~Pentachlorodibenzodioxin[1,2,3,7,8-]~~	~~4.69E-07~~	~~0~~	~~1.53E-06~~	~~1~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~1.23E-05~~	~~1~~	~~4.81E-07~~	~~0~~
~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	~~4.69E-07~~	~~0~~	~~4.87E-07~~	~~0~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~2.27E-06~~	~~1~~	~~6.14E-07~~	~~1~~
~~Pentachlorodibenzofuran[2,3,4,7,8-]~~	~~4.69E-07~~	~~0~~	~~4.87E-07~~	~~0~~	~~4.84E-07~~	~~0~~	~~4.50E-07~~	~~0~~	~~3.11E-06~~	~~1~~	~~4.81E-07~~	~~0~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1.97E-07~~	~~0~~	~~1.62E-07~~	~~0~~	~~1.57E-07~~	~~0~~	~~9.12E-08~~	~~0~~	~~7.57E-07~~	~~1~~	~~1.40E-07~~	~~0~~
~~Tetrachlorodibenzofuran[2,3,7,8-]~~	~~3.36E-07~~	~~0~~	~~2.59E-07~~	~~0~~	~~2.05E-07~~	~~0~~	~~2.57E-07~~	~~0~~	~~5.55E-07~~	~~0~~	~~3.62E-07~~	~~0~~

Congener Name	WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366		WST16-19-181367		WST16-19-181368	
	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi	TEF	TECi
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	1.00E-03	0	1.00E-03	0	1.00E-03	0	1.00E-03	0	1.00E-03	0	1.00E-03	0
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0	1.00E-02	0
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	1.00E-02	ND	1.00E-02	0	1.00E-02	ND	1.00E-02	ND	1.00E-02	0	1.00E-02	ND
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	5.00E-02	ND	5.00E-02	0	5.00E-02	ND	5.00E-02	ND	5.00E-02	0	5.00E-02	ND
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	1.00E-02	ND	1.00E-02	0	1.00E-02	0	1.00E-02	ND	1.00E-02	0	1.00E-02	ND
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	1.00E-01	ND	1.00E-01	0	1.00E-01	0	1.00E-01	0	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzofuran[1,2,3,4,7,8-]	1.00E+00	ND	1.00E+00	0	1.00E+00	ND	1.00E+00	ND	1.00E+00	0	1.00E+00	0
Hexachlorodibenzofuran[1,2,3,6,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzofuran[1,2,3,7,8,9-]	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Hexachlorodibenzofuran[2,3,4,6,7,8-]	1.00E-01	ND	1.00E-01	0	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	1.00E-04	0	1.00E-04	0	1.00E-04	0	1.00E-04	0	1.00E-04	ND	1.00E-04	0
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	1.00E-04	0	1.00E-04	0	1.00E-04	0	1.00E-04	0	1.00E-04	0	1.00E-04	0
Pentachlorodibenzodioxin[1,2,3,7,8-]	1.00E+00	ND	1.00E+00	0	1.00E+00	ND	1.00E+00	ND	1.00E+00	0	1.00E+00	ND
Pentachlorodibenzofuran[1,2,3,7,8-]	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	0
Pentachlorodibenzofuran[2,3,4,7,8-]	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	ND	1.00E-01	0	1.00E-01	ND
Tetrachlorodibenzodioxin[2,3,7,8-]	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	0	1.00E+00	ND
Tetrachlorodibenzofuran[2,3,7,8-]	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND	1.00E+00	ND
TEQ		**2.35E-08**		**6.28E-06**		**2.19E-07**		**1.01E-07**		**5.21E-05**		**7.00E-07**
Avian No Effect SSL=4.1E-06	Risk Ratio	0.006	-	2	-	0.05	-	0.02	-	13	-	0.2
Avian Low Effect SSL	-	-	-	-	-	-	-	-	-	-	-	-

Table 3-8. Calculation of Maximum Dioxin/Furan Hazard Quotients for All Ecological Receptors

Sample ID	Mammalian TEQ	Avian TEQ	Maximum Am. Kestrel (TC) NE HQ	Maximum Am. Kestrel (IC) NE HQ	Maximum Am. Robin (H) NE HQ	Maximum Am. Robin (I) NE HQ	Maximum Am. Robin (O) NE HQ	Maximum Deer Mouse (O) NE HQ	Maximum Earthworm (Soil Fauna) NE HQ	Maximum Generic Plant NE HQ	Maximum Gray Fox (C) NE HQ	Maximum Montane Shrew (I) NE HQ	Maximum Mountain Cottontail (H) NE HQ
09RCRA695	5.09E-07	4.00E-06	1E+00	1E+00	1E+00	1E+00	1E+00	9E-01	1E-07	No ESL	5E-03	2E+00	1E-02
09RCRA697	6.99E-07	1.62E-06	4E-01	4E-01	4E-01	4E-01	4E-01	1E+00	1E-07	No ESL	7E-03	2E+00	2E-02
09RCRA699	5.86E-07	9.77E-07	2E-01	2E-01	2E-01	2E-01	2E-01	1E+00	1E-07	No ESL	6E-03	2E+00	1E-02
09RCRA701	2.45E-07	1.18E-06	3E-01	3E-01	3E-01	3E-01	3E-01	4E-01	5E-08	No ESL	2E-03	8E-01	6E-03
09RCRA703	2.03E-06	2.24E-06	5E-01	5E-01	5E-01	5E-01	5E-01	3E+00	4E-07	No ESL	2E-02	7E+00	5E-02
09RCRA705	1.15E-06	1.78E-06	4E-01	4E-01	4E-01	4E-01	4E-01	2E+00	2E-07	No ESL	1E-02	4E+00	3E-02
09RCRA707	8.54E-07	1.19E-06	3E-01	3E-01	3E-01	3E-01	3E-01	1E+00	2E-07	No ESL	9E-03	3E+00	2E-02
09RCRA709	1.54E-06	2.32E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	5E+00	4E-02
09RCRA711	3.67E-05	3.55E-05	9E+00	9E+00	9E+00	9E+00	9E+00	6E+01	7E-06	No ESL	4E-01	1E+02	9E-01
09RCRA731	5.76E-07	7.36E-07	2E-01	2E-01	2E-01	2E-01	2E-01	1E+00	1E-07	No ESL	6E-03	2E+00	1E-02
RE16-12-17672	5.68E-07	1.29E-06	3E-01	3E-01	3E-01	3E-01	3E-01	1E+00	1E-07	No ESL	6E-03	2E+00	1E-02
RE16-12-17673	2.97E-06	3.63E-06	9E-01	9E-01	9E-01	9E-01	9E-01	5E+00	6E-07	No ESL	3E-02	1E+01	7E-02
RE16-12-17674	4.76E-07	1.95E-07	5E-02	5E-02	5E-02	5E-02	5E-02	8E-01	1E-07	No ESL	5E-03	2E+00	1E-02
RE16-12-17675			0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	No ESL	0E+00	0E+00	0E+00
RE16-12-17676	1.38E-06	1.47E-06	4E-01	4E-01	4E-01	4E-01	4E-01	2E+00	3E-07	No ESL	1E-02	5E+00	3E-02
RE16-12-17677	8.62E-08	3.00E-08	7E-03	7E-03	7E-03	7E-03	7E-03	1E-01	2E-08	No ESL	9E-04	3E-01	2E-03
RE16-12-17678	3.60E-07	1.34E-07	3E-02	3E-02	3E-02	3E-02	3E-02	6E-01	7E-08	No ESL	4E-03	1E+00	9E-03
RE16-12-17679	3.86E-06	3.55E-06	9E-01	9E-01	9E-01	9E-01	9E-01	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
RE16-12-17680	6.27E-05	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	1E+02	1E-05	No ESL	6E-01	2E+02	2E+00
RE16-12-17681	2.98E-04	2.53E-04	6E+01	6E+01	6E+01	6E+01	6E+01	5E+02	6E-05	No ESL	3E+00	1E+03	7E+00
WST16-13-29794	3.98E-06	3.51E-06	9E-01	9E-01	9E-01	9E-01	9E-01	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
WST16-13-29795	2.70E-04	2.35E-04	6E+01	6E+01	6E+01	6E+01	6E+01	5E+02	5E-05	No ESL	3E+00	9E+02	7E+00
WST16-13-29796	4.62E-05	4.00E-05	1E+01	1E+01	1E+01	1E+01	1E+01	8E+01	9E-06	No ESL	5E-01	2E+02	1E+00
WST16-13-29797	2.39E-04	1.99E-04	5E+01	5E+01	5E+01	5E+01	5E+01	4E+02	5E-05	No ESL	2E+00	8E+02	6E+00
WST16-13-29798	3.78E-05	3.31E-05	8E+00	8E+00	8E+00	8E+00	8E+00	7E+01	8E-06	No ESL	4E-01	1E+02	9E-01
WST16-19-181353	3.29E-06	6.15E-06	1E+00	1E+00	1E+00	1E+00	1E+00	6E+00	7E-07	No ESL	3E-02	1E+01	8E-02
WST16-19-181354	2.27E-06	2.19E-06	5E-01	5E-01	5E-01	5E-01	5E-01	4E+00	5E-07	No ESL	2E-02	8E+00	6E-02
WST16-19-181355	2.69E-07	1.18E-07	3E-02	3E-02	3E-02	3E-02	3E-02	5E-01	5E-08	No ESL	3E-03	9E-01	7E-03
WST16-19-181357			0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	No ESL	0E+00	0E+00	0E+00
WST16-19-181358	1.70E-06	2.27E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	6E+00	4E-02
WST16-19-181359	4.06E-06	4.02E-06	1E+00	1E+00	1E+00	1E+00	1E+00	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
WST16-19-181361	9.28E-07	1.40E-06	3E-01	3E-01	3E-01	3E-01	3E-01	2E+00	2E-07	No ESL	9E-03	3E+00	2E-02
WST16-19-181362	8.89E-07	1.36E-06	3E-01	3E-01	3E-01	3E-01	3E-01	2E+00	2E-07	No ESL	9E-03	3E+00	2E-02
WST16-19-181363	8.94E-08	2.35E-08	6E-03	6E-03	6E-03	6E-03	6E-03	2E-01	2E-08	No ESL	9E-04	3E-01	2E-03
WST16-19-181364	7.31E-06	6.28E-06	2E+00	2E+00	2E+00	2E+00	2E+00	1E+01	1E-06	No ESL	7E-02	3E+01	2E-01
WST16-19-181365	5.00E-07	2.19E-07	5E-02	5E-02	5E-02	5E-02	5E-02	9E-01	1E-07	No ESL	5E-03	2E+00	1E-02
WST16-19-181366	2.07E-07	1.01E-07	2E-02	2E-02	2E-02	2E-02	2E-02	4E-01	4E-08	No ESL	2E-03	7E-01	5E-03
WST16-19-181367	5.71E-05	5.21E-05	1E+01	1E+01	1E+01	1E+01	1E+01	1E+02	1E-05	No ESL	6E-01	2E+02	1E+00
WST16-19-181368	1.41E-07	7.00E-07	2E-01	2E-01	2E-01	2E-01	2E-01	2E-01	3E-08	No ESL	1E-03	5E-01	4E-03
Max TEQ	**2.98E-04**	**2.53E-04**	6E+01	6E+01	6E+01	6E+01	6E+01	5E+02	**6E-05**	**NA**	3E+00	1E+03	7E+00

Notes: Shaded cells indicate HQs exceed the target of 0.1
Minimum of duplicate pair removed

NE HQ – HQ based on No effect ESL
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

~~Table 3-6. UCL Calculations for Dioxin/Furans~~

Congener Name	Parameter Code	UCL	Detect Code	UCL Type	Distribution
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	35822-46-9	1.04E-03	1	99% KM (Chebyshev) UCL	Lognormal
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	67562-39-4	1.76E-04	1	95% KM (Chebyshev) UCL	Lognormal
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	55673-89-7	1.1E-05	1	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	Aprrox gamma
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	39227-28-6	1.24E-05	1	95% KM (Chebyshev) UCL	Approx. Logmormal
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	57653-85-7	2.29E-05	1	95% KM (Chebyshev) UCL	Approx. Logmormal
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	19408-74-3	2.67E-05	1	95% KM (Chebyshev) UCL	Lognormal
Hexachlorodibenzofuran[1,2,3,4,7,8-]	70648-26-9	3.37E-06	1	KM H-UCL	Approx. Logmormal
Hexachlorodibenzofuran[1,2,3,6,7,8-]	57117-44-9	9.92E-06	1	95% KM (Chebyshev) UCL	Approx. Logmormal
Hexachlorodibenzofuran[1,2,3,7,8,9-]	72918-21-9	1.14E-06	1	Median	Only 2 detects
Hexachlorodibenzofuran[2,3,4,6,7,8-]	60851-34-5	1.25E-05	1	95% KM (Chebyshev) UCL	Approx. Logmormal
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	3268-87-9	4.98E-04	1	95% Adjusted Gamma UCL	Gamma
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	39001-02-0	3.18E-04	1	95% KM (Chebyshev) UCL	Lognormal
Pentachlorodibenzodioxin[1,2,3,7,8-]	40321-76-4	5.57E-06	1	Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	Approx. Gamma
Pentachlorodibenzofuran[1,2,3,7,8-]	57117-41-6	1.07E-06	1	95% KM (t) UCL	Approx Normal
Pentachlorodibenzofuran[2,3,4,7,8-]	57117-31-4	2.27E-06	1	Median	Only 4 detects
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	2.13E-07	1	Median	Only 4 detects
Tetrachlorodibenzofuran[2,3,7,8-]	51207-31-9	2.19E-06	1	Median	Only 2 detects

Congener Name	CAS	TEF	TECi
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	35822-46-9	0.01	1.04E-05
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	67562-39-4	0.01	1.76E-06
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	55673-89-7	0.01	1.12E-07
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	39227-28-6	0.1	1.24E-06
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	57653-85-7	0.1	2.29E-06
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	19408-74-3	0.1	2.67E-06
Hexachlorodibenzofuran[1,2,3,4,7,8-]	70648-26-9	0.1	3.37E-07
Hexachlorodibenzofuran[1,2,3,6,7,8-]	57117-44-9	0.1	9.92E-07
Hexachlorodibenzofuran[1,2,3,7,8,9-]	72918-21-9	0.1	1.14E-07
Hexachlorodibenzofuran[2,3,4,6,7,8-]	60851-34-5	0.1	1.25E-06
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	3268-87-9	0.0003	1.49E-07
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	39001-02-0	0.0003	9.55E-08
Pentachlorodibenzodioxin[1,2,3,7,8-]	40321-76-4	1	5.57E-06
Pentachlorodibenzofuran[1,2,3,7,8-]	57117-41-6	0.03	3.22E-08
Pentachlorodibenzofuran[2,3,4,7,8-]	57117-31-4	0.3	6.81E-07
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	1	2.13E-07
Tetrachlorodibenzofuran[2,3,7,8-]	51207-31-9	0.1	2.19E-07
TEQ			**2.81E-05**
Mammalian No Effect SSL	**5.80E-07**	**Risk Ratio=**	48
Mammalian Low Effect SSL	**3.80E-06**	**Risk Ratio=**	7

Congener Name	CAS	TEF	TECi
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	35822-46-9	0.001	1.04E-06
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	67562-39-4	0.01	1.76E-06
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	55673-89-7	0.01	1.12E-07
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	39227-28-6	0.1	6.20E-07
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	57653-85-7	0.01	2.29E-07
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	19408-74-3	0.1	2.67E-06
Hexachlorodibenzofuran[1,2,3,4,7,8-]	70648-26-9	1	3.37E-06
Hexachlorodibenzofuran[1,2,3,6,7,8-]	57117-44-9	0.1	9.92E-07
Hexachlorodibenzofuran[1,2,3,7,8,9-]	72918-21-9	0.1	1.14E-07
Hexachlorodibenzofuran[2,3,4,6,7,8-]	60851-34-5	0.1	1.25E-06
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	3268-87-9	0.0001	4.98E-08
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	39001-02-0	0.0001	3.18E-08
Pentachlorodibenzodioxin[1,2,3,7,8-]	40321-76-4	1	5.57E-06
Pentachlorodibenzofuran[1,2,3,7,8-]	57117-41-6	0.1	1.07E-07
Pentachlorodibenzofuran[2,3,4,7,8-]	57117-31-4	0.1	2.27E-07
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	1	2.13E-07
Tetrachlorodibenzofuran[2,3,7,8-]	51207-31-9	1	2.19E-06
TEQ			**2.05E-05**
Avian No Effect SSL	**4.10E-06**	**Risk Ratio=**	5E+00
Avian Low Effect SSL		**Risk Ratio=**	

Notes:

Detect Code - 0=Nondetect, 1=Detect

Risk Ratio = TEQ/SSL

Avian No Effect SSL is ESL from ECORISK Database, Version 2.0 (LANL 2003a) as used in Attachment H Technical Area 16 Burn Ground Human Health and Ecological Risk-Screening Assessments LA-UR-13-24177, Class 3 Permit Modification Request for Addition of an Open Burning Unit at Technical Area (TA) 16 to the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit, EPA ID No. NM0890010515. September 30, 2013. Refer To: WM-D0-13-0064

~~*Table 3-7. No Effect Hazard Index Analysis by Receptor for Exposure Adjusted with Area Use Factors*~~

COPC Name	CAS	No Effect Ecological Screening Levels (ESLs) for Terrestrial Receptors (mg/kg)									
		Kestrel (carnivore/insectivore)	Robin (herbivore)	Robin (insectivore)	Robin (omnivore)	Deer mouse	Desert cottontail	Earthworm	Plant	Montane shrew	Gray fox
Barium	Ba	7500	720	820	770	1800	2900	330	110	2100	41000
Selenium	Se	3.7	0.98	0.71	0.83	0.82	2.2	4.1	0.52	0.7	92
Silver	Ag	13	10	2.6	4.1	24	150	0	560	14	4400
Bis(2-ethylhexyl)phthalate	117-81-7	0.096	16	0.02	0.04	1.1	1900	0	0	0.6	500
HMX	2691-41-0	0	0	0	0	290	410	16	2700	1100	59000
RDX	121-82-4	11	2.3	2.4	2.3	16	38	8.4	0	16	7000
TATB		0	0	0	0	110	150	10	0	720	10000
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	4.10E-06	4.10E-06	4.10E-06	4.10E-06	5.80E-07	4.00E-05	5.00E+00	0.00E+00	2.90E-07	1.00E-04

Note: The TATB toxicity values are based on 1,3,5-trinitrobenzene as a surrogate

	Kestrel (carnivore/insectivore)	Robin (herbivore)	Robin (insectivore)	Robin (omnivore)	Deer mouse	Desert cottontail	Earthworm	Plant	Montane shrew	Gray fox
HR (ha)[a]	106	0.42	0.42	0.42	0.077	3.1	NA	NA	0.39	1038
Population Area[b]	4240	16.8	16.8	16.8	3.08	124	NA	NA	15.6	41520
PAUF[c]	0.00002	0.005	0.005	0.005	0.03	0.001	NA	NA	0.005	0.000002
AUF[d]	0.0008	0.19	0.19	0.19	1.00	0.03	NA	NA	0.21	0.0001

COPC Name	UCL95 EPC (mg/kg)	Population Area Use Adjusted NE ESL Hazard Quotients									
		Kestrel (carnivore/insectivore)	Robin (herbivore)	Robin (insectivore)	Robin (omnivore)	Deer mouse	Desert cottontail	Earthworm	Plant	Montane shrew	Red fox
Inorganics											
Barium	6609.00	2E-05	4E-02	4E-02	4E-02	1E-01	1E-03	2E+01	6E+01	2E-02	3E-07
Selenium	1.78	9E-06	9E-03	1E-02	1E-02	6E-02	5E-04	4E-01	3E+00	1E-02	4E-08
Silver	5.43	8E-06	3E-03	1E-02	6E-03	6E-03	2E-05	NA, No ESL	1E-02	2E-03	2E-09
Organics											
Bis(2-ethylhexyl)phthalate	18.15	4E-03	5E-03	4E+00	2E+00	4E-01	6E-06	NA, No ESL	NA, No ESL	2E-01	7E-08
HMX	80.66	NA, No ESL	NA, No ESL	NA, No ESL	NA, No ESL	7E-03	1E-04	5E+00	3E-02	4E-04	3E-09
RDX	347.00	6E-04	7E-01	7E-01	7E-01	6E-01	6E-03	4E+01	NA, No ESL	1E-01	1E-07
TATB	13.02	NA, No ESL	NA, No ESL	NA, No ESL	NA, No ESL	3E-03	6E-05	1E+00	NA, No ESL	9E-05	3E-09
Tetrachlorodibenzodioxin[2,3,7,8-]	Varies	9E-05	2E-02	2E-02	2E-02	1E+00	5E-04	4E-08	NA, No ESL	5E-01	5E-07

Notes:
Area of Site (ha): 0.08

NA - Not applicable
ESLs - Ecological screening level
PAUF - Population area use factor
AUF - Area use factor
HR - Home range

a - Values from USEPA (1993)
b - Derived as 40*HR
c - PAUF is the area of site divided by the Population Area
d - AUF is the area of the site divided by the HR; AUF cannot exceed 1 and value is set to 1 if calculation results in a higher value

TCDD UCL95s (mg/kg)	
Invertebrates (TCDD)	2.13E-07
Mammals	2.81E-05
Birds	2.05E-05

Table 3-9. Low Effect Hazard Index Analysis by Receptor for Exposure Adjusted with Population Area Use Factors ~~Table 3-8. Low Effect Hazard Index Analysis by Receptor for Exposure Adjusted with Area Use Factors~~

Name	CAS	Low Effect Ecological Screening Levels (ESLs) for Terrestrial Receptors (mg/kg)										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Antimony	7440-36-0	-	-	-	-	-	23	780	58	460	79	27
Barium	7440-39-3	44000	13000	1200	1400	1300	8700	3200	260	190000	10000	14000
Cadmium	7440-43-9	2300	7.7	23	1.6	3	6.8	760	160	7400	3.6	140
Calcium	Ca	-	-	-	-	-	-	-	-	-	-	-
Copper	7440-50-8	3500	240	100	43	60	100	530	490	6700	70	430
Lead	7439-92-1	1000	160	36	23	28	230	8400	570	7000	170	600
Nitrate	14797-55-8	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	14797-73-0	4	8	0.24	64	0.49	1	35	80	16	150	1.3
Selenium	7782-49-2	140	7.5	1.9	1.4	1.6	1.2	41	3	130	1	3.4
Silver	7440-22-4	6000	130	100	26	41	240	-	2800	44000	140	1500
Zinc	7440-66-6	7000	590	120	120	220	1700	930	810	94000	980	18000
3,5-Dinitroaniline	618-87-1	-	-	-	-	-	230	180	330	67000	120	3200
Amino-2,6-dinitrotoluene[4-]	19406-51-0	-	-	-	-	-	230	180	330	67000	120	3200
Amino-4,6-dinitrotoluene[2-]	35572-78-2	-	-	-	-	-	230	430	140	97000	160	1100
Anthracene	120-12-7	-	-	-	-	-	3000	-	9	380000	2100	12000
Benzoic Acid	65-85-0	-	-	-	-	-	13	-	-	20000	10	46
Bis(2-ethylhexyl)phthalate	117-81-7	93	0.96	160	0.2	0.4	11	-	-	5000	6	19000
Dinitrotoluene[2,4-]	121-14-2	-	-	-	-	-	200	180	60	20000	140	740
HMX	2691-41-0	-	-	-	-	-	790	160	3500	150000	2900	1100
Isopropyltoluene[4-]	99-87-6	-	-	-	-	-	250	-	2000	120000	230	660
Methylene Chloride	75-09-2	-	-	-	-	-	22	-	16000	36000	79	32
Methylnaphthalene[2-]	91-57-6	-	-	-	-	-	240	-	-	49000	160	1100
PETN	78-11-5	-	-	-	-	-	1000	-	-	470000	10000	1200
RDX	121-82-4	1400	22	4.3	4.5	4.4	51	15	-	22000	53	120
TATB	3058-38-6	-	-	-	-	-	1100	28	-	100000	7200	1500
TCDD, 2,3,6,8	1746-01-6	-	-	-	-	-	3.8E-06	10	-	0.00068	1.9E-06	0.00027
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	-	-	-	-	-	-	1977	419	-	-	-
Trinitrobenzene[1,3,5-]	99-35-4	-	-	-	-	-	1100	28	-	100000	7200	1500
Trinitrotoluene[2,4,6-]	118-96-7	5700	2400	13	220	26	440	58	120	120000	9100	540

HR (ha)a	106	106	0.42	0.42	0.42	0.077	NA	NA	1038	0.39	3.1
Population Areab	4240	4240	16.8	16.8	16.8	3.08	NA	NA	41520	15.6	124
PAUFc	0.00019	0.00019	0.048	0.048	0.048	0.263	NA	NA	0.000019	0.052	0.007
AUFd	0.0076	0.0076	1.0000	1.0000	1.0000	1.0000	NA	NA	0.0008	1.0000	0.2611

COPC Name	Refined EPC (mg/kg)	Population Area Use Adjusted LE ESL Hazard Quotients										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Inorganics												
Antimony	0.481	-	-	-	-	-	5E-03	6E-04	8E-03	2E-08	3E-04	1E-04
Barium	3369	1E-05	5E-05	1E-01	1E-01	1E-01	1E-01	1E+00	1E+01	3E-07	2E-02	2E-03
Cadmium	0.231	2E-08	6E-06	5E-04	7E-03	4E-03	9E-03	3E-04	1E-03	6E-10	3E-03	1E-05
Calcium	4866	-	-	-	-	-	-	-	-	-	-	-
Copper	32.03	2E-06	3E-05	2E-02	4E-02	3E-02	8E-02	6E-02	7E-02	9E-08	2E-02	5E-04
Lead	45.22	9E-06	5E-05	6E-02	9E-02	8E-02	5E-02	5E-03	8E-02	1E-07	1E-02	5E-04
Nitrate	3.04	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	0.000679	3E-08	2E-08	1E-04	5E-07	7E-05	2E-04	2E-05	8E-06	8E-10	2E-07	3E-06
Selenium	0.968	1E-06	2E-05	2E-02	3E-02	3E-02	2E-01	2E-02	3E-01	1E-07	5E-02	2E-03
Silver	1.848	6E-08	3E-06	9E-04	3E-03	2E-03	2E-03	-	7E-04	8E-10	7E-04	8E-06
Zinc	58.43	2E-06	2E-05	2E-02	2E-02	1E-02	9E-03	6E-02	7E-02	1E-08	3E-03	2E-05
Organics												
3,5-Dinitroaniline	1.33	-	-	-	-	-	2E-03	7E-03	4E-03	4E-10	6E-04	3E-06
Amino-2,6-dinitrotoluene[4-]	0.573	-	-	-	-	-	7E-04	3E-03	2E-03	2E-10	2E-04	1E-06
Amino-4,6-dinitrotoluene[2-]	0.382	-	-	-	-	-	4E-04	9E-04	3E-03	8E-11	1E-04	2E-06
Anthracene	0.262	-	-	-	-	-	2E-05	-	3E-02	1E-11	6E-06	1E-07
Benzoic Acid	0.487	-	-	-	-	-	1E-02	-	-	5E-10	3E-03	7E-05
Bis(2-ethylhexyl)phthalate	16.35	3E-05	3E-03	5E-03	4E+00	2E+00	4E-01	-	-	6E-08	1E-01	6E-06
Dinitrotoluene[2,4-]	0.17	-	-	-	-	-	2E-04	9E-04	3E-03	2E-10	6E-05	1E-06
HMX	25.57	-	-	-	-	-	9E-03	2E-01	7E-03	3E-09	5E-04	2E-04
Isopropyltoluene[4-]	0.000737	-	-	-	-	-	8E-07	-	4E-07	1E-13	2E-07	7E-09
Methylene Chloride	0.00473	-	-	-	-	-	6E-05	-	3E-07	3E-12	3E-06	1E-06
Methylnaphthalene[2-]	0.0131	-	-	-	-	-	1E-05	-	-	5E-12	4E-06	8E-08
PETN	38.8	-	-	-	-	-	1E-02	-	-	2E-09	2E-04	2E-04
RDX	14.98	2E-06	1E-04	2E-01	2E-01	2E-01	8E-02	1E+00	-	1E-08	1E-02	8E-04
TATB	10.51	-	-	-	-	-	3E-03	4E-01	-	2E-09	8E-05	5E-05
TCDD Mammal TEQ	1.06E-04	-	-	-	-	-	7E+00	1E-05	-	3E-06	3E+00	3E-03
Total Petroleum Hydrocarbons Diesel Range Organics	27.33	-	-	-	-	-	-	1E-02	7E-02	-	-	-
Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	1E-04	2E-02	-	8E-11	3E-06	2E-06
Trinitrotoluene[2,4,6-]	2.064	7E-08	2E-07	8E-03	5E-04	4E-03	1E-03	4E-02	2E-02	3E-10	1E-05	2E-05
Hazard Index		6E-05	4E-03	4E-01	4E+00	2E+00	8E+00	3E+00	1E+01	4E-06	3E+00	8E-03

Notes: . " - " indicates an ESL was not available and an HQ cannot be calculated.
Area of Site (ha): 0.81
AUF - Area use factor NA - Not applicable
ESLs - Ecological screening level PAUF - Population area use factor
HR - Home range

a - Values from USEPA (1993)
b - Derived as 40*HR
c - PAUF is the area of site divided by the Population Area
d - AUF is the area of the site divided by the HR; AUF cannot exceed 1 and value is set to 1 if calculation results in a higher value

Table 3-10. Ecological Screening Evaluation with Maximum Detected Soil Concentrations for Samples From Within the SWMU Boundary.

Category	Parameter name	Maximum Detected Value (mg/kg)	Maximum Am. Kestrel (TC) NE HQ	Maximum Am. Kestrel (IC) NE HQ	Maximum Am. Robin (H) NE HQ	Maximum Am. Robin (I) NE HQ	Maximum Am. Robin (O) NE HQ	Maximum Deer Mouse (O) NE HQ	Maximum Earthworm (Soil Fauna) NE HQ	Maximum Generic Plant NE HQ	Maximum Gray Fox (C) NE HQ	Maximum Montane Shrew (I) NE HQ	Maximum Mountain Cottontail (H) NE HQ
Inorganic	Antimony	1.22	-	-	-	-	-	5E-01	2E-02	1E-01	3E-02	2E-01	5E-01
	Barium	12600	5E-01	2E+00	2E+01	2E+01	2E+01	7E+00	4E+01	1E+02	3E-01	6E+00	4E+00
	Cadmium	0.453	1E-03	3E-01	1E-01	2E+00	8E-01	9E-01	3E-03	1E-02	8E-04	2E+00	5E-02
	Calcium	16100	-	-	-	-	-	-	-	-	-	-	-
	Copper	113	1E-01	1E+00	3E+00	8E+00	6E+00	2E+00	1E+00	2E+00	3E-02	3E+00	4E-01
	Lead	228	4E-01	3E+00	1E+01	2E+01	2E+01	2E+00	1E-01	2E+00	6E-02	2E+00	7E-01
	Nitrate	4.02	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	0.000839	4E-04	2E-04	7E-03	3E-05	3E-03	4E-03	2E-04	2E-05	3E-04	3E-05	3E-03
	Selenium	3.05	4E-02	8E-01	3E+00	4E+00	4E+00	4E+00	7E-01	6E+00	3E-02	4E+00	1E+00
	Silver	7.95	1E-02	6E-01	8E-01	3E+00	2E+00	3E-01	-	1E-02	2E-03	6E-01	5E-02
	Zinc	115	4E-02	5E-01	3E-01	2E+00	1E+00	7E-01	1E+00	7E-01	1E-02	1E+00	6E-02
Organic	3,5-Dinitroaniline	1.33	-	-	-	-	-	6E-02	7E-02	4E-02	2E-04	1E-01	4E-03
	Amino-2,6-dinitrotoluene[4-]	3.24	-	-	-	-	-	1E-01	2E-01	1E-01	5E-04	3E-01	1E-02
	Amino-4,6-dinitrotoluene[2-]	1.49	-	-	-	-	-	6E-02	3E-02	1E-01	2E-04	9E-02	1E-02
	Anthracene	0.509	-	-	-	-	-	2E-03	-	7E-02	1E-05	2E-03	4E-04
	Bis(2-ethylhexyl)phthalate	56.6	6E+00	6E+02	4E+00	3E+03	1E+03	5E+01	-	-	1E-01	9E+01	3E-02
	Dinitrotoluene[2,4-]	0.172	-	-	-	-	-	9E-03	1E-02	3E-02	9E-05	1E-02	2E-03
	HMX	160	-	-	-	-	-	6E-01	1E+01	6E-02	3E-03	1E-01	4E-01
	Isopropyltoluene[4-]	0.000424	-	-	-	-	-	2E-05	-	2E-06	4E-08	2E-05	6E-06
	Methylene Chloride	0.00473	-	-	-	-	-	2E-03	-	3E-06	1E-06	5E-04	1E-03
	PETN	38.8	-	-	-	-	-	4E-01	-	-	8E-04	4E-02	3E-01
	RDX	72.4	9E-02	7E+00	3E+01	3E+01	3E+01	5E+00	9E+00	-	1E-02	5E+00	2E+00
	TATB	43.2	-	-	-	-	-	4E-01	4E+00	-	4E-03	6E-02	3E-01
	TCDD Mammal TEQ	6.27E-05	NA	NA	NA	NA	NA	1E+02	1E-05	-	6E-01	2E+02	2E+00
	TCDD Avian TEQ	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	NA	NA	NA	NA	NA	NA
	Total Petroleum Hydrocarbons Diesel	79.1	-	-	-	-	-	-	4E-01	1E+00	-	-	-
	Trinitrobenzene[1,3,5-]	0.46	-	-	-	-	-	4E-03	5E-02	-	5E-05	6E-04	3E-03
	Trinitrotoluene[2,4,6-]	12.7	4E-03	1E-02	2E+00	1E-01	9E-01	1E-01	4E-01	2E-01	5E-04	7E-03	1E-01
Hazard Index			2E+01	6E+02	9E+01	3E+03	2E+03	2E+02	7E+01	1E+02	1E+00	3E+02	1E+01

Notes: Analytes shown in this table are above background and have at least one detected value.
Shaded cells indicate the initial screening HQs > 0.1, and HI >1. HQs and HIs are unitless. " - " – Indicates that an HQ cannot be calculated because there is no ESL
Only detected data are evaluated; only inorganics above BV are carried forward to this table

Abbreviations:

BV – Background Value (see Table 2-3)
ESL – Ecological Screening Value
EPC – Maximum Exposure Point Concentration
H – Herbivore
HI – Hazard Index
HQ – Hazard Quotient
I – Insectivore
IC – Insectivore/carnivore
mg/kg – milligram per kilogram
O – Omnivore
NA – Not Applicable
NE – No Effect
TC – Top carnivore

Table 3-11. Ecological Risk Evaluation Using Refined EPCs and LE ESLs for Samples From Within the SWMU Boundary.

Category	Name	Refined EPC (mg/kg)	Am. Kestrel (TC) LE HQ	Am. Kestrel (IC) LE HQ	Am. Robin (H) LE HQ	Am. Robin (I) LE HQ	Am. Robin (O) LE HQ	Deer Mouse (O) LE HQ	Earthworm (Soil Fauna) LE HQ	Generic Plant LE HQ	Gray Fox (C) LE HQ	Montane Shrew (I) LE HQ	Mountain Cottontail (H) LE HQ
Inorganic	Antimony	0.56	-	-	-	-	-	2E-02	7E-04	1E-02	1E-03	7E-03	2E-02
	Barium	4423	1E-01	3E-01	4E+00	3E+00	3E+00	5E-01	1E+00	2E+01	2E-02	4E-01	3E-01
	Cadmium	0.439	2E-04	6E-02	2E-02	3E-01	1E-01	6E-02	6E-04	3E-03	6E-05	1E-01	3E-03
	Calcium	6628	-	-	-	-	-	-	-	-	-	-	-
	Copper	45.41	1E-02	2E-01	5E-01	1E+00	8E-01	5E-01	9E-02	9E-02	7E-03	6E-01	1E-01
	Lead	76.88	8E-02	5E-01	2E+00	3E+00	3E+00	3E-01	9E-03	1E-01	1E-02	5E-01	1E-01
	Nitrate	3.468	-	-	-	-	-	-	-	-	-	-	-
	Perchlorate	6.98E-04	2E-04	9E-05	3E-03	1E-05	1E-03	7E-04	2E-05	9E-06	4E-05	5E-06	5E-04
	Selenium	1.403	1E-02	2E-01	7E-01	1E+00	9E-01	1E+00	3E-02	5E-01	1E-02	1E+00	4E-01
	Silver	3.136	5E-04	2E-02	3E-02	1E-01	8E-02	1E-02	-	1E-03	7E-05	2E-02	2E-03
	Zinc	66.99	1E-02	1E-01	6E-01	6E-01	3E-01	4E-02	7E-02	8E-02	7E-04	7E-02	4E-03
Organic	3,5-Dinitroaniline	1.33	-	-	-	-	-	6E-03	7E-03	4E-03	2E-05	1E-02	4E-04
	Amino-2,6-dinitrotoluene[4-]	0.773	-	-	-	-	-	3E-03	4E-03	2E-03	1E-05	6E-03	2E-04
	Amino-4,6-dinitrotoluene[2-]	0.487	-	-	-	-	-	2E-03	1E-03	3E-03	5E-06	3E-03	4E-04
	Anthracene	0.262	-	-	-	-	-	9E-05	-	3E-02	7E-07	1E-04	2E-05
	Bis(2-ethylhexyl)phthalate	29.44	3E-01	3E+01	2E-01	1E+02	7E+01	3E+00	-	-	6E-03	5E+00	2E-03
	Dinitrotoluene[2,4-]	0.172	-	-	-	-	-	9E-04	1E-03	3E-03	9E-06	1E-03	2E-04
	HMX	35.1	-	-	-	-	-	4E-02	2E-01	1E-02	2E-04	1E-02	3E-02
	Isopropyltoluene[4-]	0.000424	-	-	-	-	-	2E-06	-	2E-07	4E-09	2E-06	6E-07
	Methylene Chloride	0.00473	-	-	-	-	-	2E-04	-	3E-07	1E-07	6E-05	1E-04
	PETN	38.80	-	-	-	-	-	4E-02	-	-	8E-05	4E-03	3E-02
	RDX	20.49	1E-02	9E-01	5E+00	5E+00	5E+00	4E-01	1E+00	-	9E-04	4E-01	2E-01
	TATB	14.37	-	-	-	-	-	1E-02	5E-01	-	1E-04	2E-03	1E-02
	TCDD Mammal TEQ	4.3E-05	NA	NA	NA	NA	NA	1E+01	4E-06	-	6E-02	2E+01	2E-01
	TCDD Avian TEQ	1.53E-05	-	-	-	-	-	NA	NA	NA	NA	NA	NA
	Total Petroleum Hydrocarbons Diesel Range Organics	34.47	-	-	-	-	-	-	2E-02	8E-02	-	-	-
	Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	4E-04	2E-02	-	4E-06	6E-05	3E-04
	Trinitrotoluene[2,4,6-]	3.015	5E-04	1E-03	2E-01	1E-02	1E-01	7E-03	5E-02	3E-02	3E-05	3E-04	6E-03
Hazard Index			5E-01	3E+01	1E+01	2E+02	9E+01	2E+01	4E+00	2E+01	1E-01	3E+01	1E+00

Notes: LE ESLs are shown in Table 3-3. HQ is the EPC/LE ESL.

Shaded cells represent HQs>0.1 or Hazard Index >1 (unitless). Hazard Index is the sum of all HQs. . " - " – Indicates that an HQ cannot be calculated because there is no ESL

See Tables 3-5 to 3-8 for dioxin/furan calculations and Table 2-8 for information regarding the UCL95 values

EPC – Exposure Point Concentration
IC – Insectivore/carnivore
H – Herbivore
HQ – Hazard Quotient
I – Insectivore
Dashes (- -) indicates calculation does not apply as UCL is receptor group specific
O – Omnivore
LE – Low Effect
mg/kg – milligram per kilogram
NA – Not applicable
TC – Top carnivore
UCL95 – Upper 95th percent confidence limit

Table 3-12. Dioxin-Furan Concentrations, TECs, and TEQs for Mammals for Samples From Within the SWMU Boundary

Parameter name	CAS NO.	09RCRA709 Result (mg/kg)	DC	09RCRA711 Result (mg/kg)	DC	RE16-12-17673 Result (mg/kg)	DC	RE16-12-17674 Result (mg/kg)	DC	RE16-12-17675 Result (mg/kg)	DC	RE16-12-17676 Result (mg/kg)	DC	RE16-12-17677 Result (mg/kg)	DC	RE16-12-17678 Result (mg/kg)	DC	RE16-12-17679 Result (mg/kg)	DC	RE16-12-17680 Result (mg/kg)	DC
1,2,3,4,5,6,7,8-OCDD	3268-87-9	1.85E-04	1	4.80E-03	1	3.81E-04	1	1.08E-04	1	2.40E-04	1	3.32E-04	1	3.77E-05	1	1.09E-04	1	4.81E-04	1		
1,2,3,4,5,6,7,8-OCDF	39001-02-0	2.19E-05	1	6.57E-04	1	4.53E-05	1	1.18E-05	1	2.82E-05	1	3.63E-05	1	3.56E-06	1	1.01E-05	1	4.94E-05	1	1.28E-03	1
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-05	1	9.00E-04	1	5.27E-05	1	1.81E-05	1	3.48E-05	1	4.21E-05	1	5.33E-06	1	1.49E-05	1	8.02E-05	1	1.70E-03	1
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-06	1	2.88E-04	1	1.72E-05	1	5.49E-06	1	1.32E-05	1	1.42E-05	1	2.05E-06	1	2.94E-06	1	2.57E-05	1	5.61E-04	1
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-07	1	1.92E-05	1	1.39E-06	1	0.00E+00	0	8.79E-07	1	1.17E-06	1	0.00E+00	0	0.00E+00	0	1.50E-06	1	3.30E-05	1
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-07	1	1.79E-05	1	1.20E-06	1	0.00E+00	0	7.40E-07	1	8.66E-07	1	0.00E+00	0	0.00E+00	0	1.61E-06	1	3.08E-05	1
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-07	1	1.21E-05	1	1.75E-06	1	0.00E+00	0	7.33E-07	1	8.23E-07	1	0.00E+00	0	0.00E+00	0	9.85E-07	1	1.69E-05	1
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-06	1	3.33E-05	1	2.52E-06	1	1.04E-06	1	1.58E-06	1	1.75E-06	1	0.00E+00	0	7.55E-07	1	3.69E-06	1	7.18E-05	1
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-07	1	1.44E-05	1	1.10E-06	1	0.00E+00	0	7.05E-07	1	7.81E-07	1	0.00E+00	0	0.00E+00	0	1.32E-06	1	2.23E-05	1
1,2,3,7,8,9-HxCDD	19408-74-3			4.07E-05	1	2.63E-06	1	9.98E-07	1	1.71E-06	1	1.98E-06	1	0.00E+00	0	6.99E-07	1	4.34E-06	1	8.71E-05	1
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00	0	2.02E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.88E-06	1
1,2,3,7,8-PeCDD	40321-76-4			6.99E-06	1	7.45E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	8.39E-07	1	1.11E-05	1
1,2,3,7,8-PeCDF	57117-41-6	4.76E-07	1	1.65E-06	1	1.61E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.50E-07	1	1.77E-06	1
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-07	1	1.78E-05	1	1.49E-06	1	0.00E+00	0	9.09E-07	1	7.41E-07	1	0.00E+00	0	0.00E+00	0	1.57E-06	1	2.66E-05	1
2,3,4,7,8-PeCDF	57117-31-4			1.97E-06	1	8.97E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	3.00E-06	1
2,3,7,8-TCDD	1746-01-6	5.49E-07	1	1.34E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	4.17E-07	1	1.49E-06	1
2,3,7,8-TCDF	51207-31-9	5.95E-07	1	1.51E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																					
1,2,3,4,5,6,7,8-OCDD	3268-87-9	5.55E-08		1.44E-06		1.14E-07		3.24E-08		7.20E-08		9.96E-08		1.13E-08		3.27E-08		1.44E-07		0.00E+00	
1,2,3,4,5,6,7,8-OCDF	39001-02-0	6.57E-09		1.97E-07		1.36E-08		3.54E-09		8.46E-09		1.09E-08		1.07E-09		3.03E-09		1.48E-08		3.84E-07	
1,2,3,4,6,7,8-HpCDD	35822-46-9	3.23E-07		9.00E-06		5.27E-07		1.81E-07		3.48E-07		4.21E-07		5.33E-08		1.49E-07		8.02E-07		1.70E-05	
1,2,3,4,6,7,8-HpCDF	67562-39-4	8.71E-08		2.88E-06		1.72E-07		5.49E-08		1.32E-07		1.42E-07		2.05E-08		2.94E-08		2.57E-07		5.61E-06	
1,2,3,4,7,8,9-HpCDF	55673-89-7	7.41E-09		1.92E-07		1.39E-08		0.00E+00		8.79E-09		1.17E-08		0.00E+00		0.00E+00		1.50E-08		3.30E-07	
1,2,3,4,7,8-HxCDD	39227-28-6	7.71E-08		1.79E-06		1.20E-07		0.00E+00		7.40E-08		8.66E-08		0.00E+00		0.00E+00		1.61E-07		3.08E-06	
1,2,3,4,7,8-HxCDF	70648-26-9	7.66E-08		1.21E-06		1.75E-07		0.00E+00		7.33E-08		8.23E-08		0.00E+00		0.00E+00		9.85E-08		1.69E-06	
1,2,3,6,7,8-HxCDD	57653-85-7	1.28E-07		3.33E-06		2.52E-07		1.04E-07		1.58E-07		1.75E-07		0.00E+00		7.55E-08		3.69E-07		7.18E-06	
1,2,3,6,7,8-HxCDF	57117-44-9	7.37E-08		1.44E-06		1.10E-07		0.00E+00		7.05E-08		7.81E-08		0.00E+00		0.00E+00		1.32E-07		2.23E-06	
1,2,3,7,8,9-HxCDD	19408-74-3	0.00E+00		4.07E-06		2.63E-07		9.98E-08		1.71E-07		1.98E-07		0.00E+00		6.99E-08		4.34E-07		8.71E-06	
1,2,3,7,8,9-HxCDF	72918-21-9	0.00E+00		2.02E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.88E-07	
1,2,3,7,8-PeCDD	40321-76-4	0.00E+00		6.99E-06		7.45E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		8.39E-07		1.11E-05	
1,2,3,7,8-PeCDF	57117-41-6	1.43E-08		4.95E-08		4.83E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		1.95E-08		5.31E-08	
2,3,4,6,7,8-HxCDF	60851-34-5	8.63E-08		1.78E-06		1.49E-07		0.00E+00		9.09E-08		7.41E-08		0.00E+00		0.00E+00		1.57E-07		2.66E-06	
2,3,4,7,8-PeCDF	57117-31-4	0.00E+00		5.91E-07		2.69E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		9.00E-07	
2,3,7,8-TCDD	1746-01-6	5.49E-07		1.34E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		4.17E-07		1.49E-06	
2,3,7,8-TCDF	51207-31-9	5.95E-08		1.51E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ		**1.54E-06**		**3.67E-05**		**2.97E-06**		**4.76E-07**		**1.21E-06**		**1.38E-06**		**8.62E-08**		**3.60E-07**		**3.86E-06**		**6.27E-05**	

	WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358		WST16-19-181359		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366	
Parameter name	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**	**Result (mg/kg)**	**DC**
1,2,3,4,5,6,7,8-OCDD	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1	6.50E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1
1,2,3,4,5,6,7,8-OCDF	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1	8.35E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1
1,2,3,4,6,7,8-HpCDD	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1	1.05E-04	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1
1,2,3,4,6,7,8-HpCDF	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1	3.47E-05	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1
1,2,3,4,7,8,9-HpCDF	1.89E-06	1	9.85E-07	1	0.00E+00	0	7.85E-07	1	1.07E-06	1	2.20E-06	1	0.00E+00	0	0.00E+00	0	3.26E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDD	9.07E-07	1	1.14E-06	1	0.00E+00	0	6.78E-07	1	8.31E-07	1	1.95E-06	1	5.72E-07	1	0.00E+00	0	4.13E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDF	2.44E-06	1	8.29E-07	1	0.00E+00	0	7.14E-07	1	1.42E-06	1	1.64E-06	1	8.57E-07	1	0.00E+00	0	2.06E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,6,7,8-HxCDD	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1	4.06E-06	1	8.53E-07	1	0.00E+00	0	7.10E-06	1	7.06E-07	1	0.00E+00	0
1,2,3,6,7,8-HxCDF	1.71E-06	1	9.81E-07	1	0.00E+00	0	6.89E-07	1	1.04E-06	1	1.56E-06	1	0.00E+00	0	0.00E+00	0	2.57E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8,9-HxCDD	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1	4.20E-06	1	7.43E-07	1	0.00E+00	0	8.50E-06	1	1.13E-06	1	5.09E-07	1
1,2,3,7,8,9-HxCDF	4.96E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDD	4.88E-07	1	5.71E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.70E-07	1	0.00E+00	0	0.00E+00	0	1.53E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDF	2.03E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.99E-07	1	5.68E-07	1	8.34E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,4,6,7,8-HxCDF	2.45E-06	1	1.14E-06	1	0.00E+00	0	8.59E-07	1	1.55E-06	1	1.91E-06	1	0.00E+00	0	0.00E+00	0	3.56E-06	1	0.00E+00	0	0.00E+00	0
2,3,4,7,8-PeCDF	1.43E-06	1	0.00E+00	0	0.00E+00	0	4.69E-07	1	1.06E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDD	2.15E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.03E-07	1	2.10E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDF	1.66E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																						
1,2,3,4,5,6,7,8-OCDD	9.03E-08		1.05E-07		1.60E-08		4.44E-08		6.57E-08		1.95E-07		5.13E-08		1.38E-08		3.39E-07		3.84E-08		2.02E-08	
1,2,3,4,5,6,7,8-OCDF	1.32E-08		9.81E-09		1.70E-09		5.55E-09		8.64E-09		2.51E-08		5.79E-09		1.47E-09		3.51E-08		3.84E-09		2.15E-09	
1,2,3,4,6,7,8-HpCDD	4.52E-07		5.55E-07		1.00E-07		2.24E-07		3.34E-07		1.05E-06		2.40E-07		6.19E-08		1.99E-06		2.10E-07		1.01E-07	
1,2,3,4,6,7,8-HpCDF	1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07		3.47E-07		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08	
1,2,3,4,7,8,9-HpCDF	1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08		2.20E-08		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDD	9.07E-08		1.14E-07		0.00E+00		6.78E-08		8.31E-08		1.95E-07		5.72E-08		0.00E+00		4.13E-07		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDF	2.44E-07		8.29E-08		0.00E+00		7.14E-08		1.42E-07		1.64E-07		8.57E-08		0.00E+00		2.06E-07		0.00E+00		0.00E+00	
1,2,3,6,7,8-HxCDD	1.87E-07		2.08E-07		5.40E-08		1.16E-07		1.58E-07		4.06E-07		8.53E-08		0.00E+00		7.10E-07		7.06E-08		0.00E+00	
1,2,3,6,7,8-HxCDF	1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07		1.56E-07		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00	
1,2,3,7,8,9-HxCDD	1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07		4.20E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08	
1,2,3,7,8,9-HxCDF	4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00		6.70E-07		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	6.09E-08		0.00E+00		0.00E+00		0.00E+00		1.80E-08		1.70E-08		2.50E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,4,6,7,8-HxCDF	2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07		1.91E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	4.29E-07		0.00E+00		0.00E+00		1.41E-07		3.18E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDD	2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.03E-07		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	1.66E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**3.29E-06**		**2.27E-06**		**2.69E-07**		**1.04E-06**		**1.70E-06**		**4.06E-06**		**8.89E-07**		**8.94E-08**		**7.31E-06**		**5.00E-07**		**2.07E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.
Duplicate pairs are shaded
DC – Detect code (1=detect, 0=nondetect)

TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

Table 3-13. Dioxin-Furan Concentrations, TECs, and TEQs for Birds for Samples From Within the SWMU Boundary

	WST16-19-181353		WST16-19-181354		WST16-19-181355		WST16-19-181357		WST16-19-181358		WST16-19-181359		WST16-19-181362		WST16-19-181363		WST16-19-181364		WST16-19-181365		WST16-19-181366	
Parameter name	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC	Result (mg/kg)	DC
1,2,3,4,5,6,7,8-OCDD	3.01E-04	1	3.50E-04	1	5.32E-05	1	1.48E-04	1	2.19E-04	1	6.50E-04	1	1.71E-04	1	4.61E-05	1	1.13E-03	1	1.28E-04	1	6.72E-05	1
1,2,3,4,5,6,7,8-OCDF	4.39E-05	1	3.27E-05	1	5.67E-06	1	1.85E-05	1	2.88E-05	1	8.35E-05	1	1.93E-05	1	4.89E-06	1	1.17E-04	1	1.28E-05	1	7.18E-06	1
1,2,3,4,6,7,8-HpCDD	4.52E-05	1	5.55E-05	1	1.00E-05	1	2.24E-05	1	3.34E-05	1	1.05E-04	1	2.40E-05	1	6.19E-06	1	1.99E-04	1	2.10E-05	1	1.01E-05	1
1,2,3,4,6,7,8-HpCDF	1.80E-05	1	1.82E-05	1	3.96E-06	1	9.10E-06	1	1.30E-05	1	3.47E-05	1	5.40E-06	1	1.22E-06	1	5.96E-05	1	6.41E-06	1	3.30E-06	1
1,2,3,4,7,8,9-HpCDF	1.89E-06	1	9.85E-07	1	0.00E+00	0	7.85E-07	1	1.07E-06	1	2.20E-06	1	0.00E+00	0	0.00E+00	0	3.26E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDD	9.07E-07	1	1.14E-06	1	0.00E+00	0	6.78E-07	1	8.31E-07	1	1.95E-06	1	5.72E-07	1	0.00E+00	0	4.13E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,4,7,8-HxCDF	2.44E-06	1	8.29E-07	1	0.00E+00	0	7.14E-07	1	1.42E-06	1	1.64E-06	1	8.57E-07	1	0.00E+00	0	2.06E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,6,7,8-HxCDD	1.87E-06	1	2.08E-06	1	5.40E-07	1	1.16E-06	1	1.58E-06	1	4.06E-06	1	8.53E-07	1	0.00E+00	0	7.10E-06	1	7.06E-07	1	0.00E+00	0
1,2,3,6,7,8-HxCDF	1.71E-06	1	9.81E-07	1	0.00E+00	0	6.89E-07	1	1.04E-06	1	1.56E-06	1	0.00E+00	0	0.00E+00	0	2.57E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8,9-HxCDD	1.90E-06	1	2.19E-06	1	5.75E-07	1	1.12E-06	1	1.72E-06	1	4.20E-06	1	7.43E-07	1	0.00E+00	0	8.50E-06	1	1.13E-06	1	5.09E-07	1
1,2,3,7,8,9-HxCDF	4.96E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDD	4.88E-07	1	5.71E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	6.70E-07	1	0.00E+00	0	0.00E+00	0	1.53E-06	1	0.00E+00	0	0.00E+00	0
1,2,3,7,8-PeCDF	2.03E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	5.99E-07	1	5.68E-07	1	8.34E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,4,6,7,8-HxCDF	2.45E-06	1	1.14E-06	1	0.00E+00	0	8.59E-07	1	1.55E-06	1	1.91E-06	1	0.00E+00	0	0.00E+00	0	3.56E-06	1	0.00E+00	0	0.00E+00	0
2,3,4,7,8-PeCDF	1.43E-06	1	0.00E+00	0	0.00E+00	0	4.69E-07	1	1.06E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDD	2.15E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	2.03E-07	1	2.10E-07	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
2,3,7,8-TCDF	1.66E-06	1	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0	0.00E+00	0
TECs																						
1,2,3,4,5,6,7,8-OCDD	3.01E-08		3.50E-08		5.32E-09		1.48E-08		2.19E-08		6.50E-08		1.71E-08		4.61E-09		1.13E-07		1.28E-08		6.72E-09	
1,2,3,4,5,6,7,8-OCDF	4.39E-09		3.27E-09		5.67E-10		1.85E-09		2.88E-09		8.35E-09		1.93E-09		4.89E-10		1.17E-08		1.28E-09		7.18E-10	
1,2,3,4,6,7,8-HpCDD	4.52E-08		5.55E-08		1.00E-08		2.24E-08		3.34E-08		1.05E-07		2.40E-08		6.19E-09		1.99E-07		2.10E-08		1.01E-08	
1,2,3,4,6,7,8-HpCDF	1.80E-07		1.82E-07		3.96E-08		9.10E-08		1.30E-07		3.47E-07		5.40E-08		1.22E-08		5.96E-07		6.41E-08		3.30E-08	
1,2,3,4,7,8,9-HpCDF	1.89E-08		9.85E-09		0.00E+00		7.85E-09		1.07E-08		2.20E-08		0.00E+00		0.00E+00		3.26E-08		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDD	4.54E-08		5.70E-08		0.00E+00		3.39E-08		4.16E-08		9.75E-08		2.86E-08		0.00E+00		2.07E-07		0.00E+00		0.00E+00	
1,2,3,4,7,8-HxCDF	2.44E-06		8.29E-07		0.00E+00		7.14E-07		1.42E-06		1.64E-06		8.57E-07		0.00E+00		2.06E-06		0.00E+00		0.00E+00	
1,2,3,6,7,8-HxCDD	1.87E-08		2.08E-08		5.40E-09		1.16E-08		1.58E-08		4.06E-08		8.53E-09		0.00E+00		7.10E-08		7.06E-09		0.00E+00	
1,2,3,6,7,8-HxCDF	1.71E-07		9.81E-08		0.00E+00		6.89E-08		1.04E-07		1.56E-07		0.00E+00		0.00E+00		2.57E-07		0.00E+00		0.00E+00	
1,2,3,7,8,9-HxCDD	1.90E-07		2.19E-07		5.75E-08		1.12E-07		1.72E-07		4.20E-07		7.43E-08		0.00E+00		8.50E-07		1.13E-07		5.09E-08	
1,2,3,7,8,9-HxCDF	4.96E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDD	4.88E-07		5.71E-07		0.00E+00		0.00E+00		0.00E+00		6.70E-07		0.00E+00		0.00E+00		1.53E-06		0.00E+00		0.00E+00	
1,2,3,7,8-PeCDF	2.03E-07		0.00E+00		0.00E+00		0.00E+00		5.99E-08		5.68E-08		8.34E-08		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,4,6,7,8-HxCDF	2.45E-07		1.14E-07		0.00E+00		8.59E-08		1.55E-07		1.91E-07		0.00E+00		0.00E+00		3.56E-07		0.00E+00		0.00E+00	
2,3,4,7,8-PeCDF	1.43E-07		0.00E+00		0.00E+00		4.69E-08		1.06E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDD	2.15E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00		2.03E-07		2.10E-07		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
2,3,7,8-TCDF	1.66E-06		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00		0.00E+00	
TEQ	**6.15E-06**		**2.19E-06**		**1.18E-07**		**1.21E-06**		**2.27E-06**		**4.02E-06**		**1.36E-06**		**2.35E-08**		**6.28E-06**		**2.19E-07**		**1.01E-07**	

Notes: The TECi are summed in each column to obtain the TEQ.
Duplicate pairs are shaded
DC – Detect code (1=detect, 0=nondetect)
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF

TEF – Toxicity Equivalency Factor

Table 3-14. Calculation of Maximum Dioxin/Furan Hazard Quotients for All Ecological Receptors for Samples From Within the SWMU Boundary

Sample ID	Mammalian TEQ	Avian TEQ	Maximum Am. Kestrel (TC) NE HQ	Maximum Am. Kestrel (IC) NE HQ	Maximum Am. Robin (H) NE HQ	Maximum Am. Robin (I) NE HQ	Maximum Am. Robin (O) NE HQ	Maximum Deer Mouse (O) NE HQ	Maximum Earthworm (Soil Fauna) NE HQ	Maximum Generic Plant NE HQ	Maximum Gray Fox (C) NE HQ	Maximum Montane Shrew (I) NE HQ	Maximum Mountain Cottontail (H) NE HQ
09RCRA709	1.54E-06	2.32E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	5E+00	4E-02
09RCRA711	3.67E-05	3.55E-05	9E+00	9E+00	9E+00	9E+00	9E+00	6E+01	7E-06	No ESL	4E-01	1E+02	9E-01
RE16-12-17673	2.97E-06	3.63E-06	9E-01	9E-01	9E-01	9E-01	9E-01	5E+00	6E-07	No ESL	3E-02	1E+01	7E-02
RE16-12-17674	4.76E-07	1.95E-07	5E-02	5E-02	5E-02	5E-02	5E-02	8E-01	1E-07	No ESL	5E-03	2E+00	1E-02
RE16-12-17676	1.38E-06	1.47E-06	4E-01	4E-01	4E-01	4E-01	4E-01	2E+00	3E-07	No ESL	1E-02	5E+00	3E-02
RE16-12-17677	8.62E-08	3.00E-08	7E-03	7E-03	7E-03	7E-03	7E-03	1E-01	2E-08	No ESL	9E-04	3E-01	2E-03
RE16-12-17678	3.60E-07	1.34E-07	3E-02	3E-02	3E-02	3E-02	3E-02	6E-01	7E-08	No ESL	4E-03	1E+00	9E-03
RE16-12-17679	3.86E-06	3.55E-06	9E-01	9E-01	9E-01	9E-01	9E-01	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
RE16-12-17680	6.27E-05	5.39E-05	1E+01	1E+01	1E+01	1E+01	1E+01	1E+02	1E-05	No ESL	6E-01	2E+02	2E+00
WST16-19-181353	3.29E-06	6.15E-06	1E+00	1E+00	1E+00	1E+00	1E+00	6E+00	7E-07	No ESL	3E-02	1E+01	8E-02
WST16-19-181354	2.27E-06	2.19E-06	5E-01	5E-01	5E-01	5E-01	5E-01	4E+00	5E-07	No ESL	2E-02	8E+00	6E-02
WST16-19-181355	2.69E-07	1.18E-07	3E-02	3E-02	3E-02	3E-02	3E-02	5E-01	5E-08	No ESL	3E-03	9E-01	7E-03
WST16-19-181358	1.70E-06	2.27E-06	6E-01	6E-01	6E-01	6E-01	6E-01	3E+00	3E-07	No ESL	2E-02	6E+00	4E-02
WST16-19-181359	4.06E-06	4.02E-06	1E+00	1E+00	1E+00	1E+00	1E+00	7E+00	8E-07	No ESL	4E-02	1E+01	1E-01
WST16-19-181362	8.89E-07	1.36E-06	3E-01	3E-01	3E-01	3E-01	3E-01	2E+00	2E-07	No ESL	9E-03	3E+00	2E-02
WST16-19-181363	8.94E-08	2.35E-08	6E-03	6E-03	6E-03	6E-03	6E-03	2E-01	2E-08	No ESL	9E-04	3E-01	2E-03
WST16-19-181364	7.31E-06	6.28E-06	2E+00	2E+00	2E+00	2E+00	2E+00	1E+01	1E-06	No ESL	7E-02	3E+01	2E-01
WST16-19-181365	5.00E-07	2.19E-07	5E-02	5E-02	5E-02	5E-02	5E-02	9E-01	1E-07	No ESL	5E-03	2E+00	1E-02
WST16-19-181366	2.07E-07	1.01E-07	2E-02	2E-02	2E-02	2E-02	2E-02	4E-01	4E-08	No ESL	2E-03	7E-01	5E-03
Max TEQ	**6.27E-05**	**5.39E-05**	**1E+01**	**1E+01**	**1E+01**	**1E+01**	**1E+01**	**1E+02**	**1E-05**	**0E+00**	**6E-01**	**2E+02**	**2E+00**

Notes: Shaded cells indicate HQs exceed the target of 0.1
Minimum of duplicate pair removed
ESL – Ecological screening level
NE HQ – HQ based on No effect ESL
TEQ – Toxicity Equivalent Quotient, the sum of the TECs
TEC – Toxicity Equivalent Concentration, the product of the raw concentration and the receptor category specific TEF
TEF – Toxicity Equivalency Factor

Table 3-15. Low Effect Hazard Index Analysis by Receptor for Exposure Adjusted with Area Use Factors for Samples From Within the SWMU Boundary

Name	CAS	Low Effect Ecological Screening Levels (ESLs) for Terrestrial Receptors (mg/kg)										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Antimony	7440-36-0	-	-	-	-	-	23	780	58	460	79	27
Barium	7440-39-3	44000	13000	1200	1400	1300	8700	3200	260	190000	10000	14000
Cadmium	7440-43-9	2300	7.7	23	1.6	3	6.8	760	160	7400	3.6	140
Calcium	Ca	-	-	-	-	-	-	-	-	-	-	-
Copper	7440-50-8	3500	240	100	43	60	100	530	490	6700	70	430
Lead	7439-92-1	1000	160	36	23	28	230	8400	570	7000	170	600
Nitrate	14797-55-8	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	14797-73-0	4	8	0.24	64	0.49	1	35	80	16	150	1.3
Selenium	7782-49-2	140	7.5	1.9	1.4	1.6	1.2	41	3	130	1	3.4
Silver	7440-22-4	6000	130	100	26	41	240	-	2800	44000	140	1500
Zinc	7440-66-6	7000	590	120	120	220	1700	930	810	94000	980	18000
3,5-Dinitroaniline	618-87-1	-	-	-	-	-	230	180	330	67000	120	3200
Amino-2,6-dinitrotoluene[4-]	19406-51-0	-	-	-	-	-	230	180	330	67000	120	3200
Amino-4,6-dinitrotoluene[2-]	35572-78-2	-	-	-	-	-	230	430	140	97000	160	1100
Anthracene	120-12-7	-	-	-	-	-	3000	-	9	380000	2100	12000
Benzoic Acid	65-85-0	-	-	-	-	-	13	-	-	20000	10	46
Bis(2-ethylhexyl)phthalate	117-81-7	93	0.96	160	0.2	0.4	11	-	-	5000	6	19000
Dinitrotoluene[2,4-]	121-14-2	-	-	-	-	-	200	180	60	20000	140	740
HMX	2691-41-0	-	-	-	-	-	790	160	3500	150000	2900	1100
Isopropyltoluene[4-]	99-87-6	-	-	-	-	-	250	-	2000	120000	230	660
Methylene Chloride	75-09-2	-	-	-	-	-	22	-	16000	36000	79	32
Methylnaphthalene[2-]	91-57-6	-	-	-	-	-	240	-	-	49000	160	1100
PETN	78-11-5	-	-	-	-	-	1000	-	-	470000	10000	1200
RDX	121-82-4	1400	22	4.3	4.5	4.4	51	15	-	22000	53	120
TATB	3058-38-6	-	-	-	-	-	1100	28	-	100000	7200	1500
TCDD, 2,3,6,8	1746-01-6	-	-	-	-	-	3.8E-06	10	-	0.00068	1.9E-06	0.00027
Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	-	-	-	-	-	-	1977	419	-	-	-
Trinitrobenzene[1,3,5-]	99-35-4	-	-	-	-	-	1100	28	-	100000	7200	1500
Trinitrotoluene[2,4,6-]	118-96-7	5700	2400	13	220	26	440	58	120	120000	9100	540

HR (ha)[a]	106	106	0.42	0.42	0.42	0.077	NA	NA	1038	0.39	3.1
Population Area[b]	4240	4240	16.8	16.8	16.8	3.08	NA	NA	41520	15.6	124
PAUF[c]	0.00004	0.00004	0.010	0.010	0.010	0.053	NA	NA	0.000004	0.010	0.001
AUF[d]	0.0015	0.0015	0.3854	0.3854	0.3854	1.0000	NA	NA	0.0002	0.4151	0.0522

COPC Name	Refined EPC (mg/kg)	Population Area Use Adjusted LE ESL Hazard Quotients										
		Am. Kestrel (TC)	Am. Kestrel (IC)	Am. Robin (H)	Am. Robin (I)	Am. Robin (O)	Deer Mouse (O)	Earthworm (Soil Fauna)	Generic Plant	Gray Fox (C)	Montane Shrew (I)	Mountain Cottontail (H)
Inorganics												
Antimony	0.56	-	-	-	-	-	2E-03	7E-04	1E-02	8E-09	1E-04	4E-05
Barium	4423	6E-06	2E-05	6E-02	5E-02	5E-02	4E-02	1E+00	2E+01	1E-07	7E-03	7E-04
Cadmium	0.439	1E-08	3E-06	3E-04	4E-03	2E-03	5E-03	6E-04	3E-03	4E-10	2E-03	7E-06
Calcium	6628	-	-	-	-	-	-	-	-	-	-	-
Copper	45.41	8E-07	1E-05	7E-03	2E-02	1E-02	4E-02	9E-02	9E-02	4E-08	1E-02	2E-04
Lead	76.88	5E-06	3E-05	3E-02	5E-02	4E-02	3E-02	9E-03	1E-01	7E-08	8E-03	3E-04
Nitrate	3.468	-	-	-	-	-	-	-	-	-	-	-
Perchlorate	6.98E-04	1E-08	5E-09	4E-05	2E-07	2E-05	6E-05	2E-05	9E-06	3E-10	8E-08	1E-06
Selenium	1.403	6E-07	1E-05	1E-02	2E-02	1E-02	1E-01	3E-02	5E-01	7E-08	2E-02	9E-04
Silver	3.136	3E-08	1E-06	5E-04	2E-03	1E-03	1E-03	-	1E-03	4E-10	4E-04	4E-06
Zinc	66.99	6E-07	7E-06	9E-03	9E-03	5E-03	3E-03	7E-02	8E-02	4E-09	1E-03	8E-06
Organics												
3,5-Dinitroaniline	1.33	-	-	-	-	-	5E-04	7E-03	4E-03	1E-10	2E-04	9E-07
Amino-2,6-dinitrotoluene[4-]	0.773	-	-	-	-	-	3E-04	4E-03	2E-03	7E-11	1E-04	5E-07
Amino-4,6-dinitrotoluene[2-]	0.487	-	-	-	-	-	2E-04	1E-03	3E-03	3E-11	5E-05	9E-07
Anthracene	0.262	-	-	-	-	-	7E-06	-	3E-02	4E-12	2E-06	5E-08
Bis(2-ethylhexyl)phthalate	29.44	2E-05	2E-03	3E-03	2E+00	1E+00	2E-01	-	-	4E-08	8E-02	3E-06
Dinitrotoluene[2,4-]	0.172	-	-	-	-	-	7E-05	1E-03	3E-03	5E-11	2E-05	5E-07
HMX	35.1	-	-	-	-	-	4E-03	2E-01	1E-02	1E-09	2E-04	7E-05
Isopropyltoluene[4-]	0.000424	-	-	-	-	-	1E-07	-	2E-07	2E-14	3E-08	1E-09
Methylene Chloride	0.00473	-	-	-	-	-	2E-05	-	3E-07	8E-13	1E-06	3E-07
PETN	38.80	-	-	-	-	-	3E-03	-	-	5E-10	6E-05	7E-05
RDX	20.49	9E-07	6E-05	7E-02	7E-02	7E-02	3E-02	1E+00	-	6E-09	6E-03	4E-04
TATB	14.37	-	-	-	-	-	1E-03	5E-01	-	9E-10	3E-05	2E-05
TCDD, 2,3,6,8	4.3E-05	-	-	-	-	-	1E+00	4E-06	-	4E-07	4E-01	3E-04
Total Petroleum Hydrocarbons Diesel Range Organics	34.47	-	-	-	-	-	-	2E-02	8E-02	-	-	-
Trinitrobenzene[1,3,5-]	0.429	-	-	-	-	-	3E-05	2E-02	-	3E-11	1E-06	6E-07
Trinitrotoluene[2,4,6-]	3.015	3E-08	8E-08	4E-03	2E-04	2E-03	6E-04	5E-02	3E-02	2E-10	6E-06	1E-05
Hazard Index		**3E-05**	**2E-03**	**2E-01**	**2E+00**	**1E+00**	**1E+00**	**4E+00**	**2E+01**	**8E-07**	**5E-01**	**3E-03**

Notes: Area of Site (ha): 0.26

" - " – Indicates there is no ESL, or HQs based on ESLs2.471 0.64

AUF - Area use factor NA - Not applicable

ESLs - Ecological screening level PAUF - Population area use factor

HR - Home range

a - Values from USEPA (1993)

b - Derived as 40*HR

c - PAUF is the area of site divided by the Population Area

d - AUF is the area of the site divided by the HR; AUF cannot exceed 1 and value is set to 1 if calculation results in a higher value

COPC Name	CAS	Low Effect Ecological Screening Levels (ESLs) for Terrestrial Receptors (mg/kg)									
		Kestrel (carnivore/insectivore)	Robin (herbivore)	Robin (insectivore)	Robin (omnivore)	Deer mouse	Desert cottontail	Earthworm	Plant	Montane shrew	Gray fox
Barium	Ba	13000	1200.0	1400	1300	8700	14000	3200	260	10000	190000
Selenium	Se	7.5	1.9	1.4	1.6	1.2	3.4	41	3	1	130
Silver	Ag	130	100.0	26	41	240	1500	0	2800	140	44000
Bis(2-ethylhexyl)phthalate	117-81-7	0.96	160.0	0.2	0.4	11	19000	0	0	6	5000
HMX	2691-41-0	0	0	0	0	790	1100	160	3500	2900	150000
RDX	121-82-4	22	4.3	4.5	4.4	51	120	15	0	53	22000
TATB	99-35-4	0	0	0	0	1100	1500	28	0	7200	100000
Tetrachlorodibenzodioxin[2,3,7,8-]	1746-01-6	0	0	0	0	3.80E-06	0.00027	10	0	0.0000019	0.00068

Note: The TATB toxicity values are based on 1,3,5-trinitrobenzene as a surrogate

	Kestrel (carnivore/insectivore)	Robin (herbivore)	Robin (insectivore)	Robin (omnivore)	Deer mouse	Desert cottontail	Earthworm	Plant	Montane shrew	Gray fox
HR (ha)[a]	106	0.42	0.42	0.42	0.077	3.1	NA	NA	0.39	1038
Population Area[b]	4240	16.8	16.8	16.8	3.08	124	NA	NA	15.6	41520
PAUF[c]	0.00002	0.005	0.005	0.005	0.03	0.001	NA	NA	0.005	0.000002
AUF[d]	0.0008	0.19	0.19	0.19	1.00	0.03	NA	NA	0.21	0.0001

COPC Name	UCL95 EPC (mg/kg)	Population Area Use Adjusted LE ESL Hazard Quotients									
		Kestrel (carnivore/ insectivore)	Robin (herbivore)	Robin (insectivore)	Robin (omnivore)	Deer mouse	Desert cottontail	Earthworm	Plant	Montane shrew	Red fox
Inorganics											
Barium	6609.00	1E-05	3E-02	2E-02	2E-02	2E-02	3E-04	2E+00	3E+01	3E-03	7E-08
Selenium	1.78	4E-06	4E-03	6E-03	5E-03	4E-02	3E-04	4E-02	6E-01	9E-03	3E-08
Silver	5.43	8E-07	3E-04	1E-03	6E-04	6E-04	2E-06	NA, No ESL	2E-03	2E-04	2E-10
Organics											
Bis(2-ethylhexyl)phthalate	18.15	4E-04	5E-04	4E-01	2E-01	4E-02	6E-07	NA, No ESL	NA, No ESL	2E-02	7E-09
HMX	80.66	NA, No ESL	NA, No ESL	NA, No ESL	NA, No ESL	3E-03	5E-05	5E-01	2E-02	1E-04	1E-09
RDX	347.00	3E-04	4E-01	4E-01	4E-01	2E-01	2E-03	2E+01	NA, No ESL	3E-02	3E-08
TATB	13.02	NA, No ESL	NA, No ESL	NA, No ESL	NA, No ESL	3E-04	6E-06	5E-01	NA, No ESL	9E-06	3E-10
Tetrachlorodibenzodioxin[2,3,7,8-]	Varies	NA, No ESL	NA, No ESL	NA, No ESL	NA, No ESL	2E-01	7E-05	2E-08	NA, No ESL	8E-02	8E-08

Notes:

Area of Site (ha):	0.08

NA - Not applicable
ESLs - Ecological screening level
PAUF - Population area use factor
AUF - Area use factor
HR - Home range

a - Values from USEPA (1993)
b - Derived as 40*HR
c - PAUF is the area of site divided by the Population Area
d - AUF is the area of the site divided by the HR; AUF cannot exceed 1 and value is set to 1 if calculation results in a higher value

TCDD UCL95s (mg/kg)

Invertebrates (TCDD)	2.13E-07
Mammals	2.81E-05
Birds	2.05E-05

Figures

Figure 1-1. Map of Sampling Locations For TA-16-399

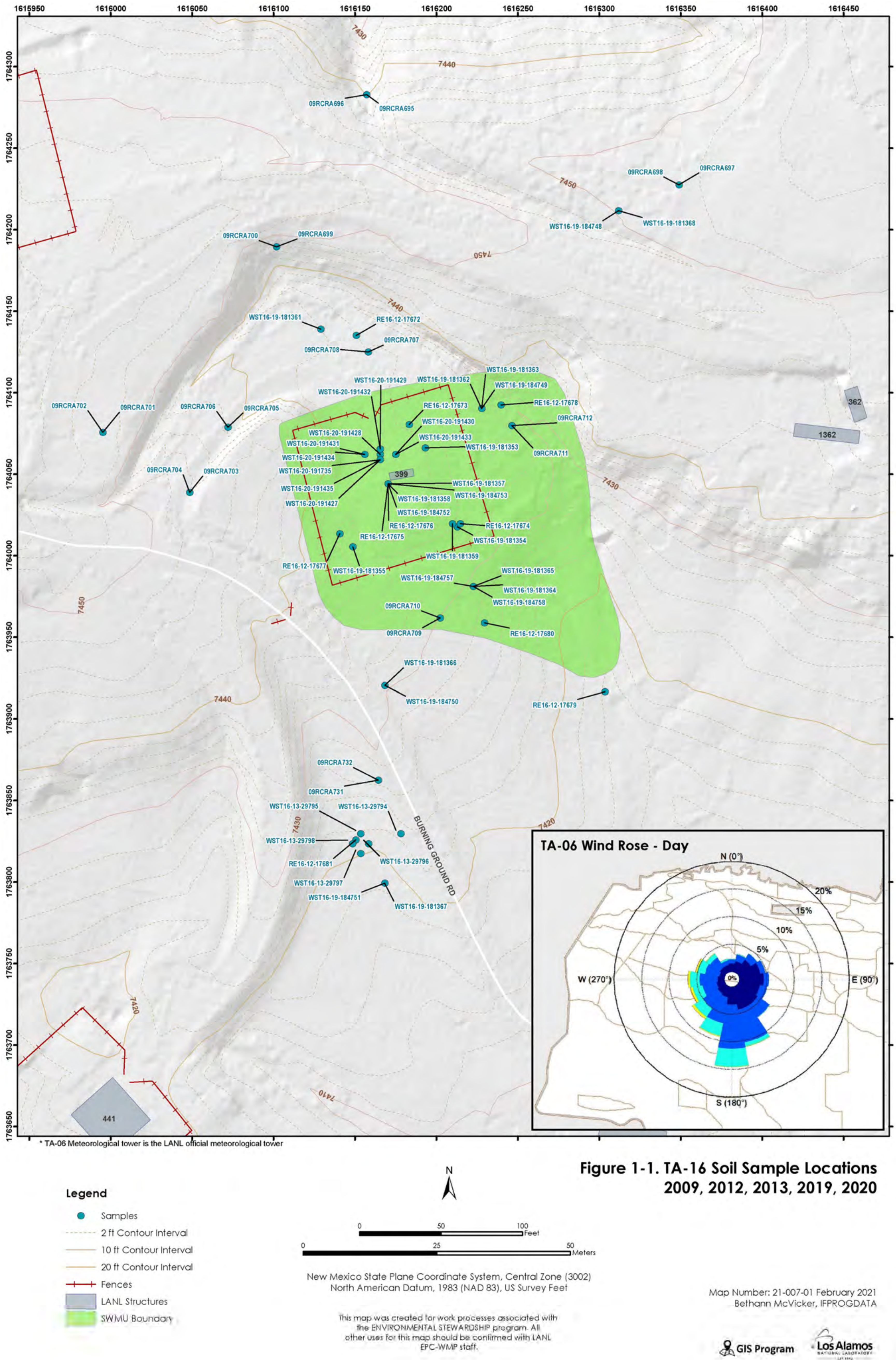


Figure 1-2. Sampling Locations Showing Excavated Boundary and Locations

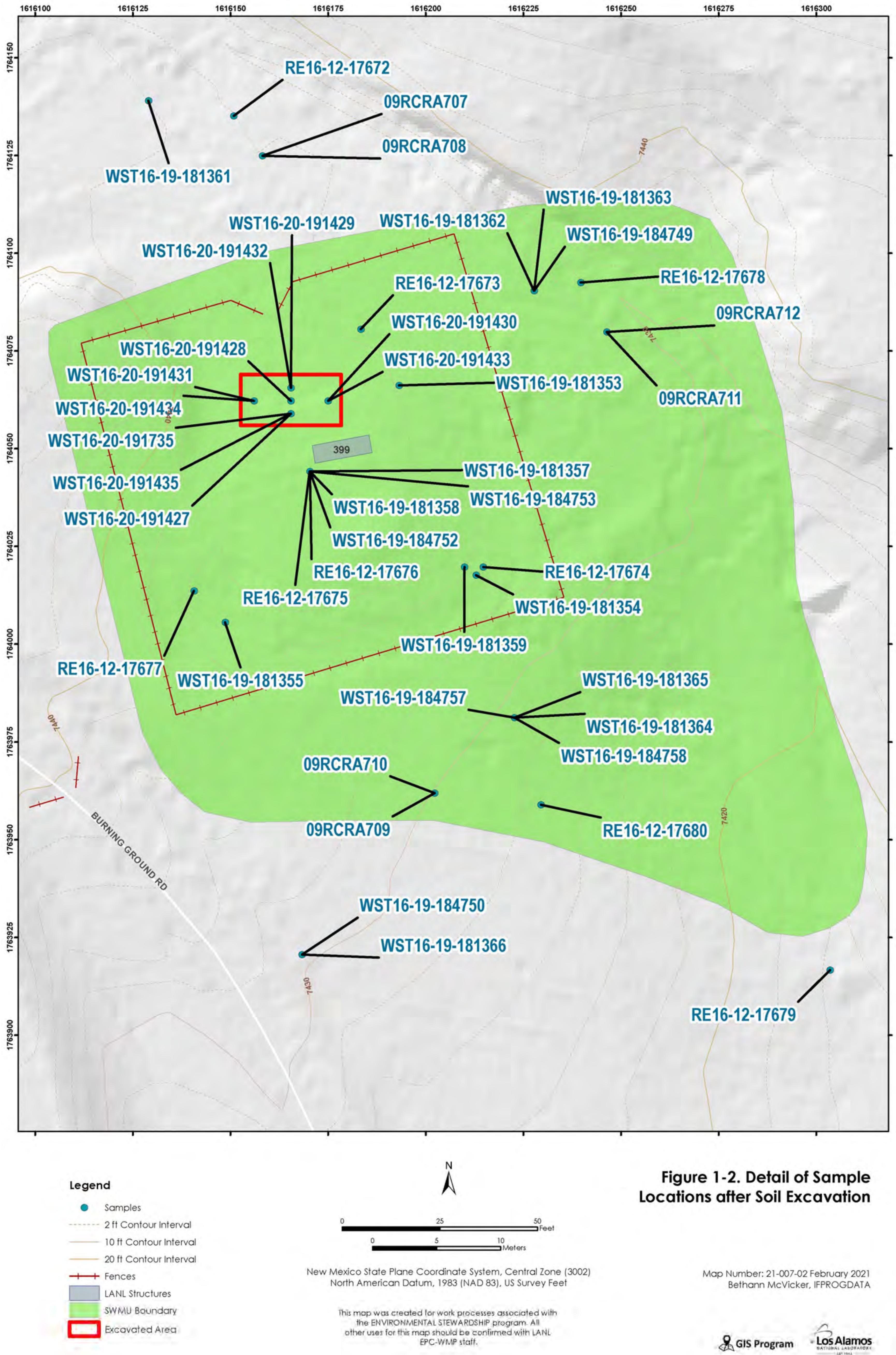


Figure 1-3. Soil Concentrations for Nitrates, Perchlorates and Metals Detected Above Background Values

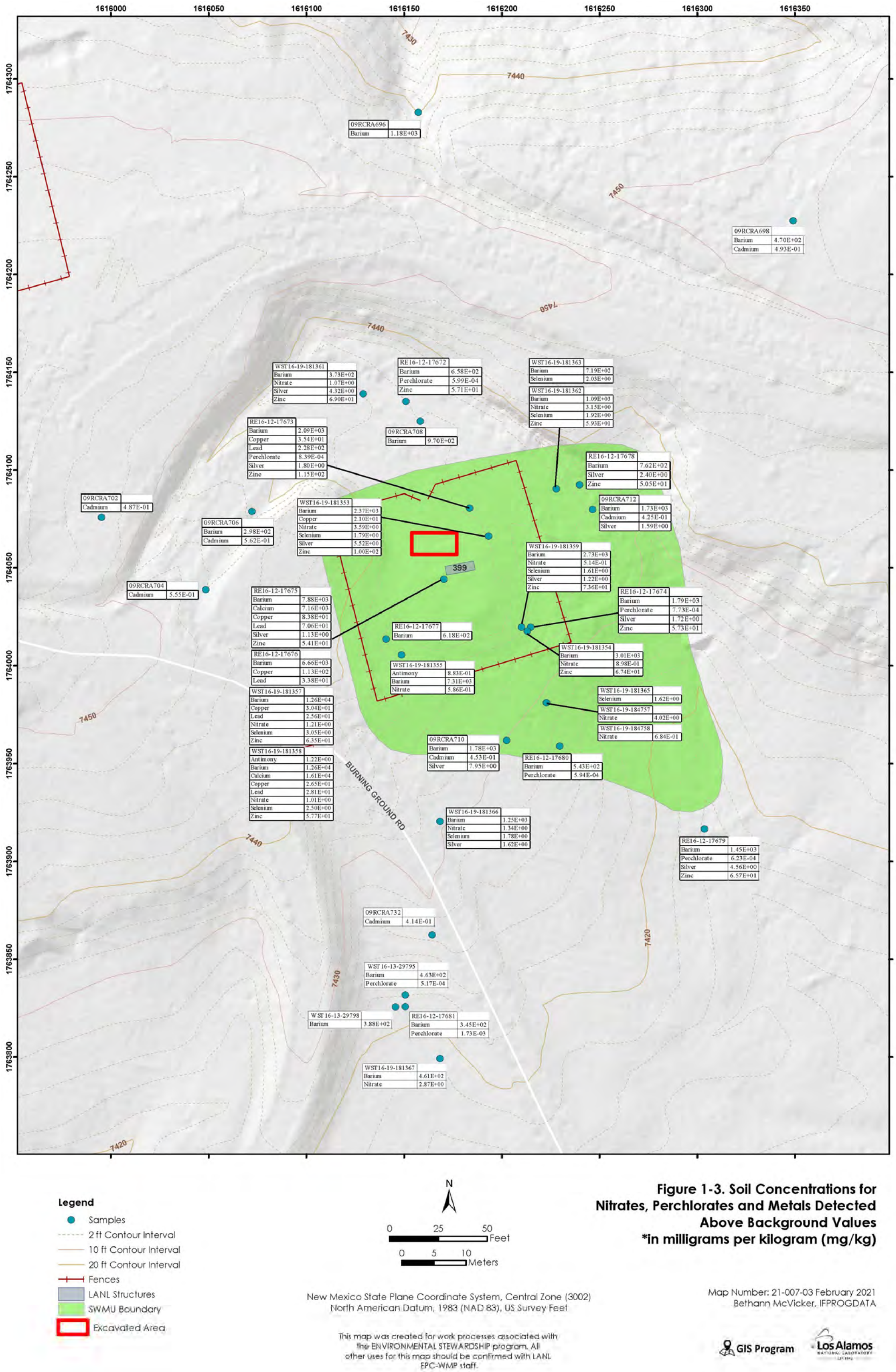


Figure 1-4. Soil Concentrations for Explosives

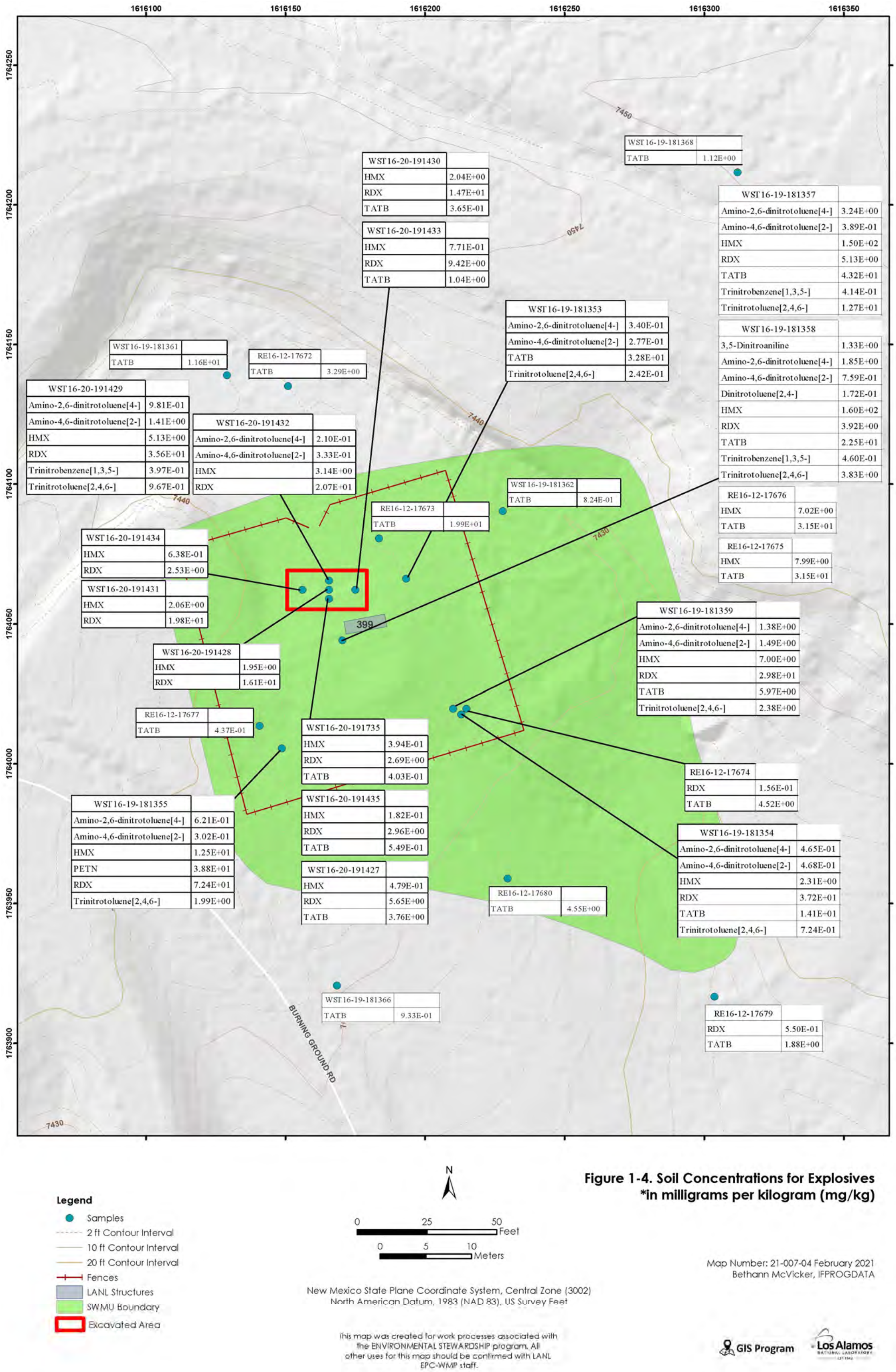
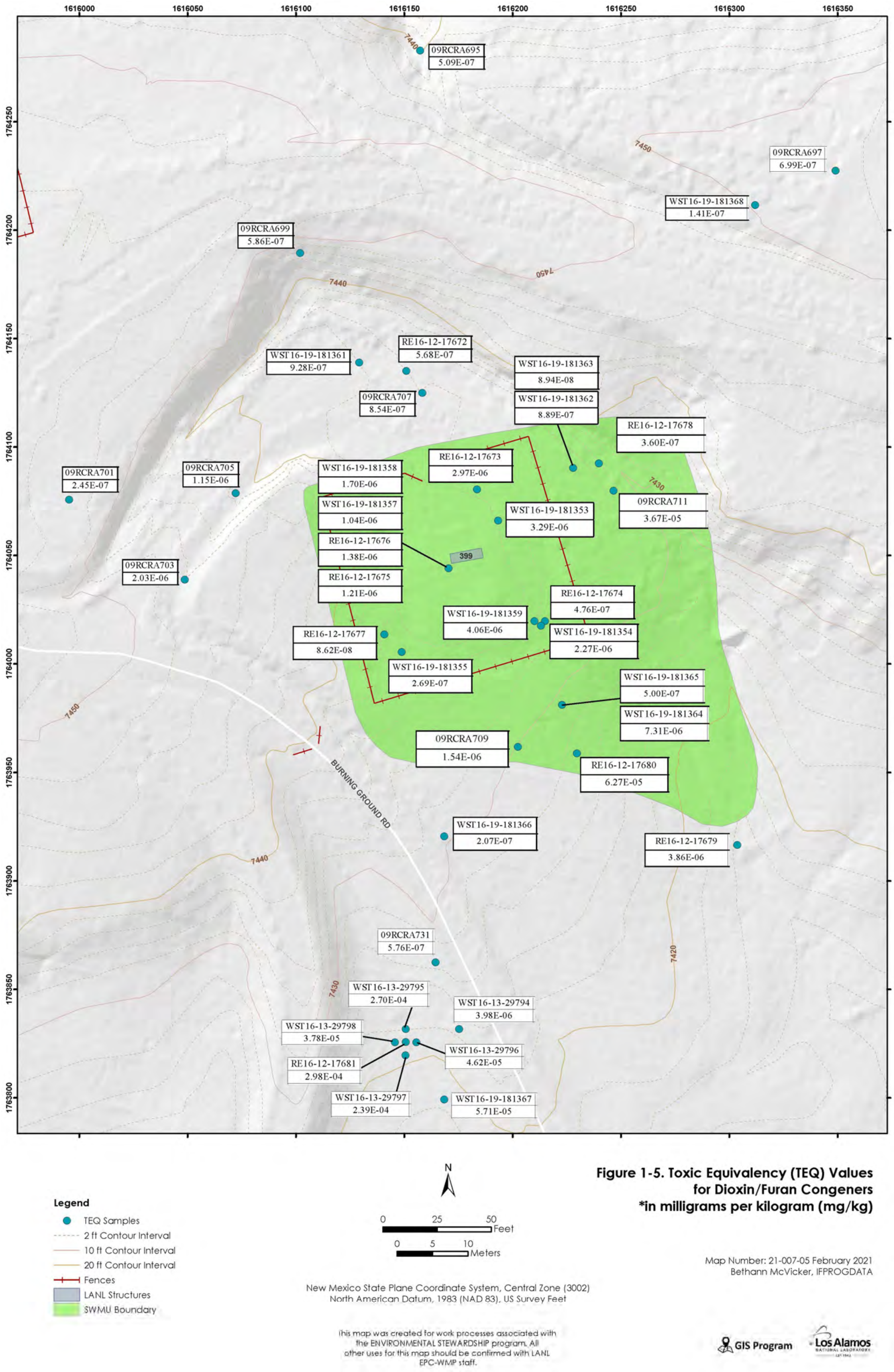


Figure 1-5. Toxic Equivalency (TEQ) Values for Dioxin/Furan Congeners



~~Figure 1-1. Map of Sampling Locations For TA-16-399~~

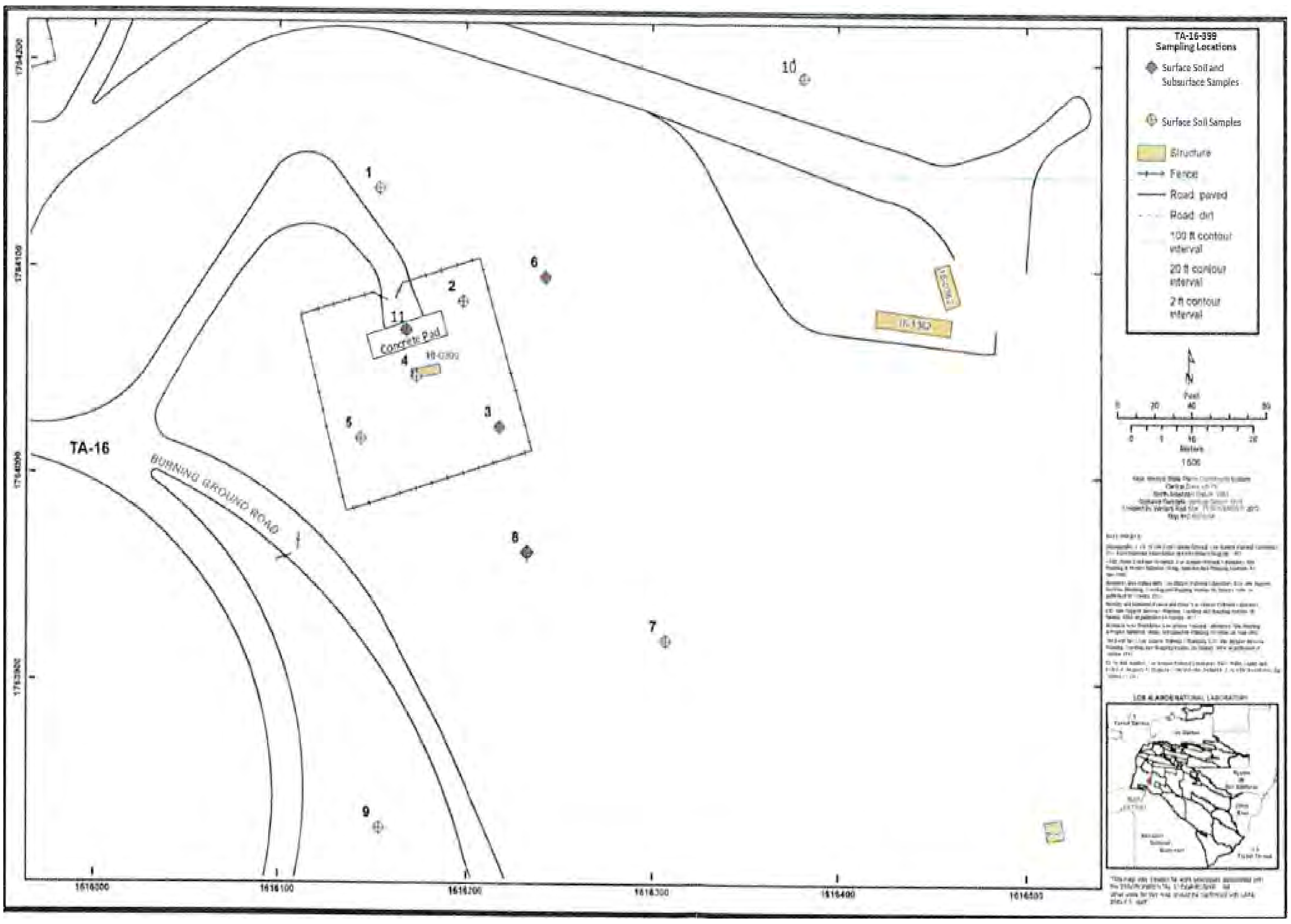
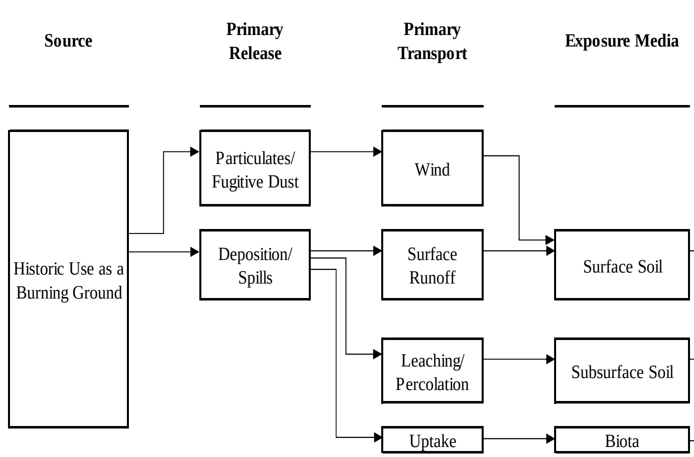

TA-16-399
Sampling Locations
Surface Soil and Subsurface Samples
Surface Soil Samples
Structure
Fence
Road, paved
Road, dirt
100 ft contour interval
20 ft contour interval
2 ft contour interval
Feet
0
20
40
80
Meters
1:600
LOS ALAMOS NATIONAL LABORATORY
TA-16
BURNING GROUND ROAD
Concrete Pad
1
2
3
4
5
6
7
8
9
10
11
1764200
1764100
1764000
1763900
1616000
1616100
1616200
1616300
1616400
1616500

Figure 3-1. Ecological Conceptual Site Model



Exposure Media	Am. Kestrel (Avian TC)	Am. Kestrel (Avian IC)	Am. Robin (Avian H)	Am. Robin (Avian I)	Am. Robin (Avian O)	Deer mouse (Mammalian O)	Earthworm (Soil invertebrate)	Generic Plant (Terrestrial autotroph - producer)	Gray Fox (Mammalian TC)	Montane Shrew (Mammalian I)	Mountain cottontail (Mammalian H)
Surface Soil	ING	ING	ING	ING	ING	ING	DC	DC	ING	ING	ING
Subsurface Soil	ING	ING	ING	ING	ING	ING	DC	DC	ING	ING	ING
Biota	ING	ING	ING	ING	ING	ING	ING	NA	ING	ING	ING

Dermal and inhalation exposure are recognized as potentially complete pathways. These pathways are considered insignificant relative to ingestion exposure and are not quantitatively evaluated
The site area is 0.26 ac.
There is no riparian habitat. The shrew is retained as a potential receptor only as a surrogate for other mammalian insectivores that might occur.

C	carnivore	ING - Ingestion
IC	insectivore / carnivore	DC - Direct contact
TC	top carnivore	NA - Not applicable
H	herbivore	
I	insectivore	
O	omnivore	

Attachment A.1 ProUCL Output for Upper Confidence Limit Calculations for All Data

UCL Statistics for Uncensored Full Data Sets

User Selected Options

Date/Time of Computation	ProUCL 5.1 1/12/2021 3:06:35 PM
From File	Worksheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Dioxin Furan Total TEC TEQ UCL of all Samples. Removed Lowest DUPs. Note all data for TEC and TEQ are detect only - NDs fall out of calculation

General Statistics

Total Number of Observations	37	Number of Distinct Observations	37
		Number of Missing Observations	2
Minimum	8.62E-08	Mean	2.95E-05
Maximum	2.98E-04	Median	1.38E-06
SD	7.43E-05	Std. Error of Mean	1.22E-05
Coefficient of Variation	N/A	Skewness	2.995

Normal GOF Test

Shapiro Wilk Test Statistic	0.445	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.401	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Normal at 5% Significance Level	

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	5.01E-05	95% Adjusted-CLT UCL (Chen-1995)	5.60E-05
		95% Modified-t UCL (Johnson-1978)	5.11E-05

Gamma GOF Test

A-D Test Statistic	3.727	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.87	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.309	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.158	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.274	k star (bias corrected MLE)	0.27
Theta hat (MLE)	1.08E-04	Theta star (bias corrected MLE)	1.09E-04
nu hat (MLE)	20.29	nu star (bias corrected)	19.98
MLE Mean (bias corrected)	2.95E-05	MLE Sd (bias corrected)	5.68E-05
		Approximate Chi Square Value (0.05)	10.83
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	10.54

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	5.44E-05	95% Adjusted Gamma UCL (use when n<50)	5.59E-05

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.157	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-16.27	Mean of logged Data	-12.98
Maximum of Logged Data	-8.118	SD of logged Data	2.249

Assuming Lognormal Distribution

95% H-UCL	1.34E-04	90% Chebyshev (MVUE) UCL	6.06E-05
95% Chebyshev (MVUE) UCL	7.74E-05	97.5% Chebyshev (MVUE) UCL	1.01E-04
99% Chebyshev (MVUE) UCL	1.47E-04		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	4.96E-05	95% Jackknife UCL	5.01E-05
95% Standard Bootstrap UCL	4.96E-05	95% Bootstrap-t UCL	6.47E-05
95% Hall's Bootstrap UCL	4.76E-05	95% Percentile Bootstrap UCL	5.15E-05
95% BCA Bootstrap UCL	5.83E-05		

90% Chebyshev(Mean, Sd) UCL	6.61E-05	95% Chebyshev(Mean, Sd) UCL	8.28E-05
97.5% Chebyshev(Mean, Sd) UCL	1.06E-04	99% Chebyshev(Mean, Sd) UCL	1.51E-04
Suggested UCL to Use			
97.5% Chebyshev (Mean, Sd) UCL	**1.06E-04**		

UCL Statistics for Data Sets with Non-Detects

User Selected Options		
Date/Time of Computation	**ProUCL 5.11/13/2021 2:14:34 PM**	
From File	**Detected Analytes above BTV for ProUCL by sample with detect status for PROUCL.xls**	
Full Precision	**OFF**	
Confidence Coefficient		**95%**
Number of Bootstrap Operations		**2000**

Amino-2,6-dinitrotoluene[4-]

General Statistics			
Total Number of Observations	36	Number of Distinct Observations	13
		Number of Missing Observations	15
Number of Detects	7	Number of Non-Detects	29
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.21	Minimum Non-Detect	0.144
Maximum Detect	3.24	Maximum Non-Detect	0.152
Variance Detects	1.107	Percent Non-Detects	80.56%
Mean Detects	1.034	SD Detects	1.052
Median Detects	0.621	CV Detects	1.018
Skewness Detects	1.929	Kurtosis Detects	3.936
Mean of Logged Detects	-0.343	SD of Logged Detects	0.92
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.78	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.234	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Approximate Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	0.317	KM Standard Error of Mean	0.1
KM SD	0.556	95% KM (BCA) UCL	0.497
95% KM (t) UCL	0.486	95% KM (Percentile Bootstrap) UCL	0.481
95% KM (z) UCL	0.482	95% KM Bootstrap t UCL	0.672
90% KM Chebyshev UCL	0.617	95% KM Chebyshev UCL	0.753
97.5% KM Chebyshev UCL	0.942	99% KM Chebyshev UCL	1.312
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.277	Anderson-Darling GOF Test	
5% A-D Critical Value	0.722	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.183	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.317	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.472	k star (bias corrected MLE)	0.936
Theta hat (MLE)	0.702	Theta star (bias corrected MLE)	1.104
nu hat (MLE)	20.61	nu star (bias corrected)	13.11
Mean (detects)	1.034		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	0.209
Maximum	3.24	Median	0.01
SD	0.599	CV	2.865
k hat (MLE)	0.31	k star (bias corrected MLE)	0.303
Theta hat (MLE)	0.674	Theta star (bias corrected MLE)	0.69
nu hat (MLE)	22.33	nu star (bias corrected)	21.8
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (21.80, α)	12.19	Adjusted Chi Square Value (21.80, β)	11.86
95% Gamma Approximate UCL (use when n>=50)	0.374	95% Gamma Adjusted UCL (use when n<50)	0.384
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.317	SD (KM)	0.556
Variance (KM)	0.309	SE of Mean (KM)	0.1

k hat (KM)	0.326	k star (KM)	0.317
nu hat (KM)	23.45	nu star (KM)	22.83
theta hat (KM)	0.973	theta star (KM)	1
80% gamma percentile (KM)	0.492	90% gamma percentile (KM)	0.929
95% gamma percentile (KM)	1.424	99% gamma percentile (KM)	2.705

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (22.83, α)	12.96	Adjusted Chi Square Value (22.83, β)	12.62
95% Gamma Approximate KM-UCL (use when n>=50)	0.558	95% Gamma Adjusted KM-UCL (use when n<50)	0.573

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.984	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.129	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.221	Mean in Log Scale	-3.762
SD in Original Scale	0.596	SD in Log Scale	2.229
95% t UCL (assumes normality of ROS data)	0.389	95% Percentile Bootstrap UCL	0.393
95% BCA Bootstrap UCL	0.468	95% Bootstrap t UCL	0.67
95% H-UCL (Log ROS)	1.282		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-1.628	KM Geo Mean	0.196
KM SD (logged)	0.734	95% Critical H Value (KM-Log)	2.107
KM Standard Error of Mean (logged)	0.132	95% H-UCL (KM -Log)	0.334
KM SD (logged)	0.734	95% Critical H Value (KM-Log)	2.107
KM Standard Error of Mean (logged)	0.132		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.261	Mean in Log Scale	-2.157
SD in Original Scale	0.581	SD in Log Scale	0.981
95% t UCL (Assumes normality)	0.425	95% H-Stat UCL	0.277

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.486

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Amino-4,6-dinitrotoluene[2-]

General Statistics

Total Number of Observations	36	Number of Distinct Observations	13
		Number of Missing Observations	15
Number of Detects	7	Number of Non-Detects	29
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.277	Minimum Non-Detect	0.144
Maximum Detect	1.49	Maximum Non-Detect	0.152
Variance Detects	0.276	Percent Non-Detects	80.56%
Mean Detects	0.72	SD Detects	0.525
Median Detects	0.468	CV Detects	0.73
Skewness Detects	0.889	Kurtosis Detects	-1.265
Mean of Logged Detects	-0.553	SD of Logged Detects	0.716

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.801	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.256	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.256	KM Standard Error of Mean	0.0563
KM SD	0.313	95% KM (BCA) UCL	0.344
95% KM (t) UCL	0.351	95% KM (Percentile Bootstrap) UCL	0.354
95% KM (z) UCL	0.349	95% KM Bootstrap t UCL	0.423
90% KM Chebyshev UCL	0.425	95% KM Chebyshev UCL	0.502
97.5% KM Chebyshev UCL	0.608	99% KM Chebyshev UCL	0.816

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.552	Anderson-Darling GOF Test	

5% A-D Critical Value	0.714	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.225	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.315	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	2.379	k star (bias corrected MLE)	1.455
Theta hat (MLE)	0.303	Theta star (bias corrected MLE)	0.495
nu hat (MLE)	33.31	nu star (bias corrected)	20.37
Mean (detects)	0.72		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	0.148
Maximum	1.49	Median	0.01
SD	0.358	CV	2.421
k hat (MLE)	0.352	k star (bias corrected MLE)	0.341
Theta hat (MLE)	0.42	Theta star (bias corrected MLE)	0.434
nu hat (MLE)	25.36	nu star (bias corrected)	24.58
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (24.58, α)	14.29	Adjusted Chi Square Value (24.58, β)	13.94
95% Gamma Approximate UCL (use when n>=50)	0.255	95% Gamma Adjusted UCL (use when n<50)	0.261
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.256	SD (KM)	0.313
Variance (KM)	0.0979	SE of Mean (KM)	0.0563
k hat (KM)	0.669	k star (KM)	0.632
nu hat (KM)	48.18	nu star (KM)	45.5
theta hat (KM)	0.382	theta star (KM)	0.405
80% gamma percentile (KM)	0.422	90% gamma percentile (KM)	0.658
95% gamma percentile (KM)	0.904	99% gamma percentile (KM)	1.496
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (45.50, α)	31.03	Adjusted Chi Square Value (45.50, β)	30.48
95% Gamma Approximate KM-UCL (use when n>=50)	0.375	95% Gamma Adjusted KM-UCL (use when n<50)	0.382
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.206	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.172	Mean in Log Scale	-3.139
SD in Original Scale	0.351	SD in Log Scale	1.687
95% t UCL (assumes normality of ROS data)	0.271	95% Percentile Bootstrap UCL	0.273
95% BCA Bootstrap UCL	0.307	95% Bootstrap t UCL	0.393
95% H-UCL (Log ROS)	0.456		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.669	KM Geo Mean	0.188
KM SD (logged)	0.621	95% Critical H Value (KM-Log)	2.006
KM Standard Error of Mean (logged)	0.112	95% H-UCL (KM -Log)	0.282
KM SD (logged)	0.621	95% Critical H Value (KM-Log)	2.006
KM Standard Error of Mean (logged)	0.112		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.2	Mean in Log Scale	-2.198
SD in Original Scale	0.338	SD in Log Scale	0.872
95% t UCL (Assumes normality)	0.295	95% H-Stat UCL	0.226
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Approximate Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.351		

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Anthracene

General Statistics

Total Number of Observations	27	Number of Distinct Observations	22
		Number of Missing Observations	12
Number of Detects	2	Number of Non-Detects	25
Number of Distinct Detects	2	Number of Distinct Non-Detects	20
Minimum Detect	0.0142	Minimum Non-Detect	0.01
Maximum Detect	0.509	Maximum Non-Detect	0.0505
Variance Detects	0.122	Percent Non-Detects	92.59%
Mean Detects	0.262	SD Detects	0.35
Median Detects	0.262	CV Detects	1.337
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-2.465	SD of Logged Detects	2.531

Antimony

General Statistics

Total Number of Observations	27	Number of Distinct Observations	22
		Number of Missing Observations	12
Number of Detects	6	Number of Non-Detects	21
Number of Distinct Detects	6	Number of Distinct Non-Detects	16
Minimum Detect	0.418	Minimum Non-Detect	0.302
Maximum Detect	1.22	Maximum Non-Detect	0.392
Variance Detects	0.0786	Percent Non-Detects	77.78%
Mean Detects	0.749	SD Detects	0.28
Median Detects	0.709	CV Detects	0.374
Skewness Detects	0.852	Kurtosis Detects	0.868
Mean of Logged Detects	-0.346	SD of Logged Detects	0.371

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.961	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.163	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.401	KM Standard Error of Mean	0.0467
KM SD	0.222	95% KM (BCA) UCL	0.498
95% KM (t) UCL	0.481	95% KM (Percentile Bootstrap) UCL	0.486
95% KM (z) UCL	0.478	95% KM Bootstrap t UCL	0.474
90% KM Chebyshev UCL	0.542	95% KM Chebyshev UCL	0.605
97.5% KM Chebyshev UCL	0.693	99% KM Chebyshev UCL	0.866

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.151	Anderson-Darling GOF Test	
5% A-D Critical Value	0.698	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.121	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.333	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	8.907	k star (bias corrected MLE)	4.565
Theta hat (MLE)	0.0841	Theta star (bias corrected MLE)	0.164
nu hat (MLE)	106.9	nu star (bias corrected)	54.78
Mean (detects)	0.749		

Gamma ROS Statistics using Imputed Non-Detects
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.174
Maximum	1.22	Median	0.01
SD	0.336	CV	1.931
k hat (MLE)	0.352	k star (bias corrected MLE)	0.337
Theta hat (MLE)	0.496	Theta star (bias corrected MLE)	0.517
nu hat (MLE)	18.98	nu star (bias corrected)	18.21
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (18.21, α)	9.54	Adjusted Chi Square Value (18.21, β)	9.139

95% Gamma Approximate UCL (use when n>=50)	0.333	95% Gamma Adjusted UCL (use when n<50)	0.347
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.401	SD (KM)	0.222
Variance (KM)	0.0491	SE of Mean (KM)	0.0467
k hat (KM)	3.279	k star (KM)	2.939
nu hat (KM)	177	nu star (KM)	158.7
theta hat (KM)	0.122	theta star (KM)	0.137
80% gamma percentile (KM)	0.574	90% gamma percentile (KM)	0.715
95% gamma percentile (KM)	0.847	99% gamma percentile (KM)	1.134
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (158.70, α)	130.6	Adjusted Chi Square Value (158.70, β)	128.9
95% Gamma Approximate KM-UCL (use when n>=50)	0.488	95% Gamma Adjusted KM-UCL (use when n<50)	0.494
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.999	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.109	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.283	Mean in Log Scale	-1.579
SD in Original Scale	0.284	SD in Log Scale	0.724
95% t UCL (assumes normality of ROS data)	0.376	95% Percentile Bootstrap UCL	0.381
95% BCA Bootstrap UCL	0.397	95% Bootstrap t UCL	0.43
95% H-UCL (Log ROS)	0.366		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.008	KM Geo Mean	0.365
KM SD (logged)	0.388	95% Critical H Value (KM-Log)	1.882
KM Standard Error of Mean (logged)	0.0819	95% H-UCL (KM -Log)	0.454
KM SD (logged)	0.388	95% Critical H Value (KM-Log)	1.882
KM Standard Error of Mean (logged)	0.0819		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.299	Mean in Log Scale	-1.455
SD in Original Scale	0.275	SD in Log Scale	0.627
95% t UCL (Assumes normality)	0.389	95% H-Stat UCL	0.368
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.481		
Barium	-	-	-
General Statistics			
Total Number of Observations	37	Number of Distinct Observations	37
		Number of Missing Observations	2
Minimum	69.9	Mean	1548
Maximum	12600	Median	618
SD	2541	Std. Error of Mean	417.7
Coefficient of Variation	1.641	Skewness	3.152
Normal GOF Test			
Shapiro Wilk Test Statistic	0.571	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.28	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	2253	95% Adjusted-CLT UCL (Chen-1995)	2466
		95% Modified-t UCL (Johnson-1978)	2289
Gamma GOF Test			
A-D Test Statistic	1.483	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.788	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.155	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.151	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics			
k hat (MLE)	0.761	k star (bias corrected MLE)	0.718
Theta hat (MLE)	2033	Theta star (bias corrected MLE)	2157
nu hat (MLE)	56.34	nu star (bias corrected)	53.1
MLE Mean (bias corrected)	1548	MLE Sd (bias corrected)	1827
		Approximate Chi Square Value (0.05)	37.36
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	36.79
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	2200	95% Adjusted Gamma UCL (use when n<50)	2235
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.972	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0911	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.144	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	4.247	Mean of logged Data	6.56
Maximum of Logged Data	9.441	SD of logged Data	1.212
Assuming Lognormal Distribution			
95% H-UCL	2509	90% Chebyshev (MVUE) UCL	2461
95% Chebyshev (MVUE) UCL	2930	97.5% Chebyshev (MVUE) UCL	3582
99% Chebyshev (MVUE) UCL	4861		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	2235	95% Jackknife UCL	2253
95% Standard Bootstrap UCL	2240	95% Bootstrap-t UCL	2886
95% Hall's Bootstrap UCL	2549	95% Percentile Bootstrap UCL	2277
95% BCA Bootstrap UCL	2520		
90% Chebyshev(Mean, Sd) UCL	2801	95% Chebyshev(Mean, Sd) UCL	3369
97.5% Chebyshev(Mean, Sd) UCL	4157	99% Chebyshev(Mean, Sd) UCL	5705
Suggested UCL to Use			
95% H-UCL	2509		

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.
Use 95% Chebyshev in lieu of H statistic

Benzoic Acid	-	-	-
General Statistics			
Total Number of Observations	27	Number of Distinct Observations	24
		Number of Missing Observations	12
Number of Detects	2	Number of Non-Detects	25
Number of Distinct Detects	2	Number of Distinct Non-Detects	22
Minimum Detect	0.483	Minimum Non-Detect	0.167
Maximum Detect	0.49	Maximum Non-Detect	5.09
Variance Detects	2.45E-05	Percent Non-Detects	92.59%
Mean Detects	0.487	SD Detects	0.00495
Median Detects	0.487	CV Detects	0.0102
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.721	SD of Logged Detects	0.0102
Warning: Data set has only 2 Detected Values.			
This is not enough to compute meaningful or reliable statistics and estimates.			

Bis(2-ethylhexyl)phthalate	-	-	-
General Statistics			
Total Number of Observations	27	Number of Distinct Observations	21
		Number of Missing Observations	12
Number of Detects	9	Number of Non-Detects	18
Number of Distinct Detects	9	Number of Distinct Non-Detects	12
Minimum Detect	0.0111	Minimum Non-Detect	0.0106
Maximum Detect	56.6	Maximum Non-Detect	0.108
Variance Detects	346.4	Percent Non-Detects	66.67%
Mean Detects	7.073	SD Detects	18.61
Median Detects	0.149	CV Detects	2.631
Skewness Detects	2.975	Kurtosis Detects	8.887
Mean of Logged Detects	-1.274	SD of Logged Detects	2.973
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.441	Shapiro Wilk GOF Test	

5% Shapiro Wilk Critical Value	0.829	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.466	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.274	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.368	KM Standard Error of Mean	2.177
KM SD	10.66	95% KM (BCA) UCL	6.61
95% KM (t) UCL	6.081	95% KM (Percentile Bootstrap) UCL	6.516
95% KM (z) UCL	5.949	95% KM Bootstrap t UCL	58.31
90% KM Chebyshev UCL	8.898	95% KM Chebyshev UCL	11.86
97.5% KM Chebyshev UCL	15.96	99% KM Chebyshev UCL	24.03

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.774	Anderson-Darling GOF Test	
5% A-D Critical Value	0.838	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.234	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.307	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.224	k star (bias corrected MLE)	0.223
Theta hat (MLE)	31.61	Theta star (bias corrected MLE)	31.68
nu hat (MLE)	4.028	nu star (bias corrected)	4.019
Mean (detects)	7.073		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	2.364
Maximum	56.6	Median	0.01
SD	10.87	CV	4.596
k hat (MLE)	0.173	k star (bias corrected MLE)	0.178
Theta hat (MLE)	13.68	Theta star (bias corrected MLE)	13.26
nu hat (MLE)	9.331	nu star (bias corrected)	9.628
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (9.63, α)	3.71	Adjusted Chi Square Value (9.63, β)	3.478
95% Gamma Approximate UCL (use when n>=50)	6.135	95% Gamma Adjusted UCL (use when n<50)	6.545

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.368	SD (KM)	10.66
Variance (KM)	113.7	SE of Mean (KM)	2.177
k hat (KM)	0.0493	k star (KM)	0.0685
nu hat (KM)	2.663	nu star (KM)	3.7
theta hat (KM)	48.02	theta star (KM)	34.56
80% gamma percentile (KM)	0.807	90% gamma percentile (KM)	5.023
95% gamma percentile (KM)	13.58	99% gamma percentile (KM)	45.06

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (3.70, α)	0.607	Adjusted Chi Square Value (3.70, β)	0.536
95% Gamma Approximate KM-UCL (use when n>=50)	14.44	95% Gamma Adjusted KM-UCL (use when n<50)	16.35
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.916	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.829	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.176	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.274	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.361	Mean in Log Scale	-4.867
SD in Original Scale	10.87	SD in Log Scale	3.375
95% t UCL (assumes normality of ROS data)	5.928	95% Percentile Bootstrap UCL	6.475
95% BCA Bootstrap UCL	8.73	95% Bootstrap t UCL	59.14
95% H-UCL (Log ROS)	158.6		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-3.295	KM Geo Mean	0.0371
KM SD (logged)	2.189	95% Critical H Value (KM-Log)	4.352
KM Standard Error of Mean (logged)	0.462	95% H-UCL (KM -Log)	2.638
KM SD (logged)	2.189	95% Critical H Value (KM-Log)	4.352
KM Standard Error of Mean (logged)	0.462		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.384	Mean in Log Scale	-2.759
SD in Original Scale	10.86	SD in Log Scale	2.111
95% t UCL (Assumes normality)	5.95	95% H-Stat UCL	3.371
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	16.35		

Cadmium

General Statistics			
Total Number of Observations	37	Number of Distinct Observations	26
		Number of Missing Observations	2
Number of Detects	10	Number of Non-Detects	27
Number of Distinct Detects	10	Number of Distinct Non-Detects	16
Minimum Detect	0.319	Minimum Non-Detect	0.0916
Maximum Detect	0.562	Maximum Non-Detect	0.119
Variance Detects	0.0082	Percent Non-Detects	72.97%
Mean Detects	0.436	SD Detects	0.0906
Median Detects	0.439	CV Detects	0.208
Skewness Detects	-0.0404	Kurtosis Detects	-1.319
Mean of Logged Detects	-0.849	SD of Logged Detects	0.214
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.914	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.18	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	0.185	KM Standard Error of Mean	0.0276
KM SD	0.16	95% KM (BCA) UCL	0.236
95% KM (t) UCL	0.231	95% KM (Percentile Bootstrap) UCL	0.232
95% KM (z) UCL	0.23	95% KM Bootstrap t UCL	0.236
90% KM Chebyshev UCL	0.268	95% KM Chebyshev UCL	0.305
97.5% KM Chebyshev UCL	0.357	99% KM Chebyshev UCL	0.46
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.416	Anderson-Darling GOF Test	
5% A-D Critical Value	0.725	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.197	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.266	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	25	k star (bias corrected MLE)	17.57
Theta hat (MLE)	0.0175	Theta star (bias corrected MLE)	0.0248
nu hat (MLE)	500	nu star (bias corrected)	351.4
Mean (detects)	0.436		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.0335	Mean	0.224
Maximum	0.562	Median	0.148
SD	0.147	CV	0.654
k hat (MLE)	2.478	k star (bias corrected MLE)	2.295
Theta hat (MLE)	0.0905	Theta star (bias corrected MLE)	0.0977
nu hat (MLE)	183.3	nu star (bias corrected)	169.8
Adjusted Level of Significance (β)	0.0431		

Approximate Chi Square Value (169.81, α)	140.7	Adjusted Chi Square Value (169.81, β)	139.5
95% Gamma Approximate UCL (use when n>=50)	0.271	95% Gamma Adjusted UCL (use when n<50)	0.273
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.185	SD (KM)	0.16
Variance (KM)	0.0254	SE of Mean (KM)	0.0276
k hat (KM)	1.342	k star (KM)	1.251
nu hat (KM)	99.32	nu star (KM)	92.6
theta hat (KM)	0.138	theta star (KM)	0.148
80% gamma percentile (KM)	0.291	90% gamma percentile (KM)	0.403
95% gamma percentile (KM)	0.512	99% gamma percentile (KM)	0.762
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (92.60, α)	71.41	Adjusted Chi Square Value (92.60, β)	70.6
95% Gamma Approximate KM-UCL (use when n>=50)	0.24	95% Gamma Adjusted KM-UCL (use when n<50)	0.242
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.901	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.188	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.267	Mean in Log Scale	-1.399
SD in Original Scale	0.117	SD in Log Scale	0.382
95% t UCL (assumes normality of ROS data)	0.299	95% Percentile Bootstrap UCL	0.299
95% BCA Bootstrap UCL	0.303	95% Bootstrap t UCL	0.307
95% H-UCL (Log ROS)	0.298		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.974	KM Geo Mean	0.139
KM SD (logged)	0.692	95% Critical H Value (KM-Log)	2.072
KM Standard Error of Mean (logged)	0.12	95% H-UCL (KM -Log)	0.224
KM SD (logged)	0.692	95% Critical H Value (KM-Log)	2.072
KM Standard Error of Mean (logged)	0.12		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.156	Mean in Log Scale	-2.393
SD in Original Scale	0.179	SD in Log Scale	0.96
95% t UCL (Assumes normality)	0.205	95% H-Stat UCL	0.211
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.231		
Calcium	-	-	-
General Statistics			
Total Number of Observations	27	Number of Distinct Observations	26
		Number of Missing Observations	12
Minimum	963	Mean	2360
Maximum	16100	Median	1630
SD	2987	Std. Error of Mean	574.9
Coefficient of Variation	1.266	Skewness	4.176
Normal GOF Test			
Shapiro Wilk Test Statistic	0.432	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.407	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.167	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	3341	95% Adjusted-CLT UCL (Chen-1995)	3800
		95% Modified-t UCL (Johnson-1978)	3418
Gamma GOF Test			
A-D Test Statistic	2.992	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.758	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.299	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.171	Data Not Gamma Distributed at 5% Significance Level	

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.912	k star (bias corrected MLE)	1.724
Theta hat (MLE)	1235	Theta star (bias corrected MLE)	1369
nu hat (MLE)	103.2	nu star (bias corrected)	93.09
MLE Mean (bias corrected)	2360	MLE Sd (bias corrected)	1798
		Approximate Chi Square Value (0.05)	71.84
Adjusted Level of Significance	0.0401	Adjusted Chi Square Value	70.64

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	3059	95% Adjusted Gamma UCL (use when n<50)	3110

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.778	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.216	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.167	Data Not Lognormal at 5% Significance Level	

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	6.87	Mean of logged Data	7.483
Maximum of Logged Data	9.687	SD of logged Data	0.616

Assuming Lognormal Distribution

95% H-UCL	2762	90% Chebyshev (MVUE) UCL	2937
95% Chebyshev (MVUE) UCL	3302	97.5% Chebyshev (MVUE) UCL	3808
99% Chebyshev (MVUE) UCL	4803		

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution (0.05)

Nonparametric Distribution Free UCLs

95% CLT UCL	3306	95% Jackknife UCL	3341
95% Standard Bootstrap UCL	3264	95% Bootstrap-t UCL	6916
95% Hall's Bootstrap UCL	8018	95% Percentile Bootstrap UCL	3413
95% BCA Bootstrap UCL	3990		
90% Chebyshev(Mean, Sd) UCL	4085	95% Chebyshev(Mean, Sd) UCL	4866
97.5% Chebyshev(Mean, Sd) UCL	5951	99% Chebyshev(Mean, Sd) UCL	8081

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	4866		

Copper

General Statistics

Total Number of Observations	27	Number of Distinct Observations	26
		Number of Missing Observations	12
Number of Detects	25	Number of Non-Detects	2
Number of Distinct Detects	24	Number of Distinct Non-Detects	2
Minimum Detect	5.78	Minimum Non-Detect	0.312
Maximum Detect	113	Maximum Non-Detect	0.356
Variance Detects	467.1	Percent Non-Detects	7.41%
Mean Detects	15.37	SD Detects	21.61
Median Detects	8.67	CV Detects	1.406
Skewness Detects	4.191	Kurtosis Detects	18.94
Mean of Logged Detects	2.39	SD of Logged Detects	0.673

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.431	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.918	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.362	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.173	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	14.26	KM Standard Error of Mean	4.077
KM SD	20.75	95% KM (BCA) UCL	21.85
95% KM (t) UCL	21.21	95% KM (Percentile Bootstrap) UCL	21.62
95% KM (z) UCL	20.96	95% KM Bootstrap t UCL	34.32
90% KM Chebyshev UCL	26.49	95% KM Chebyshev UCL	32.03
97.5% KM Chebyshev UCL	39.72	99% KM Chebyshev UCL	54.82

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	3.185	Anderson-Darling GOF Test	

5% A-D Critical Value	0.76	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.284	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.177	Detected Data Not Gamma Distributed at 5% Significance Level	
Detected Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.605	k star (bias corrected MLE)	1.439
Theta hat (MLE)	9.581	Theta star (bias corrected MLE)	10.69
nu hat (MLE)	80.23	nu star (bias corrected)	71.94
Mean (detects)	15.37		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	14.24
Maximum	113	Median	8.54
SD	21.17	CV	1.487
k hat (MLE)	0.762	k star (bias corrected MLE)	0.702
Theta hat (MLE)	18.69	Theta star (bias corrected MLE)	20.28
nu hat (MLE)	41.14	nu star (bias corrected)	37.9
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (37.90, α)	24.8	Adjusted Chi Square Value (37.90, β)	24.13
95% Gamma Approximate UCL (use when n>=50)	21.75	95% Gamma Adjusted UCL (use when n<50)	22.36
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	14.26	SD (KM)	20.75
Variance (KM)	430.7	SE of Mean (KM)	4.077
k hat (KM)	0.472	k star (KM)	0.444
nu hat (KM)	25.48	nu star (KM)	23.99
theta hat (KM)	30.21	theta star (KM)	32.1
80% gamma percentile (KM)	23.25	90% gamma percentile (KM)	39.5
95% gamma percentile (KM)	57.11	99% gamma percentile (KM)	100.9
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (23.99, α)	13.84	Adjusted Chi Square Value (23.99, β)	13.35
95% Gamma Approximate KM-UCL (use when n>=50)	24.71	95% Gamma Adjusted KM-UCL (use when n<50)	25.63
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.757	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.918	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.219	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.173	Detected Data Not Lognormal at 5% Significance Level	
Detected Data Not Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	14.43	Mean in Log Scale	2.285
SD in Original Scale	21.04	SD in Log Scale	0.748
95% t UCL (assumes normality of ROS data)	21.34	95% Percentile Bootstrap UCL	21.55
95% BCA Bootstrap UCL	26.09	95% Bootstrap t UCL	35.08
95% H-UCL (Log ROS)	17.99		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	2.126	KM Geo Mean	8.385
KM SD (logged)	1.126	95% Critical H Value (KM-Log)	2.69
KM Standard Error of Mean (logged)	0.221	95% H-UCL (KM -Log)	28.65
KM SD (logged)	1.126	95% Critical H Value (KM-Log)	2.69
KM Standard Error of Mean (logged)	0.221		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	14.25	Mean in Log Scale	2.08
SD in Original Scale	21.16	SD in Log Scale	1.29
95% t UCL (Assumes normality)	21.19	95% H-Stat UCL	38.5
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			

Data do not follow a Discernible Distribution at 5% Significance Level
Suggested UCL to Use

95% KM (Chebyshev) UCL	32.03		
HMX			
General Statistics			
Total Number of Observations	36	Number of Distinct Observations	16
		Number of Missing Observations	16
Number of Detects	14	Number of Non-Detects	22
Number of Distinct Detects	14	Number of Distinct Non-Detects	2
Minimum Detect	0.394	Minimum Non-Detect	0.149
Maximum Detect	160	Maximum Non-Detect	0.15
Variance Detects	1760	Percent Non-Detects	61.11%
Mean Detects	14.74	SD Detects	41.95
Median Detects	2.185	CV Detects	2.846
Skewness Detects	3.697	Kurtosis Detects	13.76
Mean of Logged Detects	1.069	SD of Logged Detects	1.571
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.364	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.874	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.45	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.226	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	5.824	KM Standard Error of Mean	4.531
KM SD	26.2	95% KM (BCA) UCL	14.48
95% KM (t) UCL	13.48	95% KM (Percentile Bootstrap) UCL	14.56
95% KM (z) UCL	13.28	95% KM Bootstrap t UCL	75.7
90% KM Chebyshev UCL	19.42	95% KM Chebyshev UCL	25.57
97.5% KM Chebyshev UCL	34.12	99% KM Chebyshev UCL	50.9
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	1.693	Anderson-Darling GOF Test	
5% A-D Critical Value	0.812	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.283	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.245	Detected Data Not Gamma Distributed at 5% Significance Level	
Detected Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.405	k star (bias corrected MLE)	0.366
Theta hat (MLE)	36.4	Theta star (bias corrected MLE)	40.3
nu hat (MLE)	11.34	nu star (bias corrected)	10.24
Mean (detects)	14.74		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	5.74
Maximum	160	Median	0.01
SD	26.59	CV	4.632
k hat (MLE)	0.18	k star (bias corrected MLE)	0.184
Theta hat (MLE)	31.82	Theta star (bias corrected MLE)	31.22
nu hat (MLE)	12.99	nu star (bias corrected)	13.24
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (13.24, α)	6.053	Adjusted Chi Square Value (13.24, β)	5.832
95% Gamma Approximate UCL (use when n>=50)	12.55	95% Gamma Adjusted UCL (use when n<50)	13.03
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	5.824	SD (KM)	26.2
Variance (KM)	686.2	SE of Mean (KM)	4.531
k hat (KM)	0.0494	k star (KM)	0.0638
nu hat (KM)	3.559	nu star (KM)	4.596
theta hat (KM)	117.8	theta star (KM)	91.24

80% gamma percentile (KM)	1.663	90% gamma percentile (KM)	11.62
95% gamma percentile (KM)	33.05	99% gamma percentile (KM)	114.4
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (4.60, α)	0.97	Adjusted Chi Square Value (4.60, β)	0.899
95% Gamma Approximate KM-UCL (use when n>=50)	27.59	95% Gamma Adjusted KM-UCL (use when n<50)	29.78
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.874	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.13	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.226	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	5.77	Mean in Log Scale	-1.937
SD in Original Scale	26.58	SD in Log Scale	2.953
95% t UCL (assumes normality of ROS data)	13.25	95% Percentile Bootstrap UCL	14.5
95% BCA Bootstrap UCL	19.14	95% Bootstrap t UCL	79.61
95% H-UCL (Log ROS)	148.1		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-0.748	KM Geo Mean	0.473
KM SD (logged)	1.73	95% Critical H Value (KM-Log)	3.326
KM Standard Error of Mean (logged)	0.299	95% H-UCL (KM -Log)	5.587
KM SD (logged)	1.73	95% Critical H Value (KM-Log)	3.326
KM Standard Error of Mean (logged)	0.299		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	5.779	Mean in Log Scale	-1.168
SD in Original Scale	26.58	SD in Log Scale	2.048
95% t UCL (Assumes normality)	13.26	95% H-Stat UCL	9.376
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Lognormal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (Chebyshev) UCL	25.57		
Isopropyltoluene[4-]	-	-	-
General Statistics			
Total Number of Observations	22	Number of Distinct Observations	22
		Number of Missing Observations	20
Number of Detects	2	Number of Non-Detects	20
Number of Distinct Detects	2	Number of Distinct Non-Detects	20
Minimum Detect	4.24E-04	Minimum Non-Detect	3.06E-04
Maximum Detect	0.00105	Maximum Non-Detect	4.07E-04
Variance Detects	1.96E-07	Percent Non-Detects	90.91%
Mean Detects	7.37E-04	SD Detects	4.43E-04
Median Detects	7.37E-04	CV Detects	0.601
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-7.312	SD of Logged Detects	0.641
Warning: Data set has only 2 Detected Values. This is not enough to compute meaningful or reliable statistics and estimates.			
Lead	-	-	-
General Statistics			
Total Number of Observations	37	Number of Distinct Observations	33
		Number of Missing Observations	2
Minimum	5.19	Mean	18.78
Maximum	228	Median	11
SD	36.89	Std. Error of Mean	6.065
Coefficient of Variation	1.964	Skewness	5.423
Normal GOF Test			
Shapiro Wilk Test Statistic	0.301	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.422	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			

Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	29.02	95% Adjusted-CLT UCL (Chen-1995)	34.54
		95% Modified-t UCL (Johnson-1978)	29.92
Gamma GOF Test			
A-D Test Statistic	6.707	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.77	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.389	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.148	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.319	k star (bias corrected MLE)	1.23
Theta hat (MLE)	14.24	Theta star (bias corrected MLE)	15.26
nu hat (MLE)	97.63	nu star (bias corrected)	91.04
MLE Mean (bias corrected)	18.78	MLE Sd (bias corrected)	16.93
		Approximate Chi Square Value (0.05)	70.04
Adjusted Level of Significance	0.0431	Adjusted Chi Square Value	69.24
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	24.41	95% Adjusted Gamma UCL (use when n<50)	24.69
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.677	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.936	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.308	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.144	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.647	Mean of logged Data	2.508
Maximum of Logged Data	5.429	SD of logged Data	0.658
Assuming Lognormal Distribution			
95% H-UCL	19.07	90% Chebyshev (MVUE) UCL	20.44
95% Chebyshev (MVUE) UCL	22.84	97.5% Chebyshev (MVUE) UCL	26.17
99% Chebyshev (MVUE) UCL	32.71		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	28.76	95% Jackknife UCL	29.02
95% Standard Bootstrap UCL	28.85	95% Bootstrap-t UCL	95.13
95% Hall's Bootstrap UCL	67.47	95% Percentile Bootstrap UCL	30.72
95% BCA Bootstrap UCL	37.59		
90% Chebyshev(Mean, Sd) UCL	36.98	95% Chebyshev(Mean, Sd) UCL	45.22
97.5% Chebyshev(Mean, Sd) UCL	56.66	99% Chebyshev(Mean, Sd) UCL	79.13
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	45.22		
Perchlorate			
General Statistics			
Total Number of Observations	27	Number of Distinct Observations	22
		Number of Missing Observations	12
Number of Detects	7	Number of Non-Detects	20
Number of Distinct Detects	7	Number of Distinct Non-Detects	15
Minimum Detect	5.17E-04	Minimum Non-Detect	5.02E-04
Maximum Detect	0.00173	Maximum Non-Detect	6.10E-04
Variance Detects	1.77E-07	Percent Non-Detects	74.07%
Mean Detects	8.11E-04	SD Detects	4.20E-04
Median Detects	6.23E-04	CV Detects	0.519
Skewness Detects	2.277	Kurtosis Detects	5.459
Mean of Logged Detects	-7.201	SD of Logged Detects	0.406
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.689	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.33	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	5.83E-04	KM Standard Error of Mean	4.99E-05
KM SD	2.40E-04	95% KM (BCA) UCL	6.67E-04
95% KM (t) UCL	6.68E-04	95% KM (Percentile Bootstrap) UCL	6.70E-04
95% KM (z) UCL	6.65E-04	95% KM Bootstrap t UCL	8.13E-04
90% KM Chebyshev UCL	7.32E-04	95% KM Chebyshev UCL	8.00E-04
97.5% KM Chebyshev UCL	8.94E-04	99% KM Chebyshev UCL	0.00108

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.803	Anderson-Darling GOF Test	
5% A-D Critical Value	0.71	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.27	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.313	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	6.172	k star (bias corrected MLE)	3.622
Theta hat (MLE)	1.31E-04	Theta star (bias corrected MLE)	2.24E-04
nu hat (MLE)	86.41	nu star (bias corrected)	50.71
Mean (detects)	8.11E-04		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	5.17E-04	Mean	0.00762
Maximum	0.01	Median	0.01
SD	0.00411	CV	0.539
k hat (MLE)	1.391	k star (bias corrected MLE)	1.261
Theta hat (MLE)	0.00548	Theta star (bias corrected MLE)	0.00604
nu hat (MLE)	75.09	nu star (bias corrected)	68.08
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (68.08, α)	50.09	Adjusted Chi Square Value (68.08, β)	49.1
95% Gamma Approximate UCL (use when n>=50)	0.0104	95% Gamma Adjusted UCL (use when n<50)	0.0106

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	5.83E-04	SD (KM)	2.40E-04
Variance (KM)	5.75E-08	SE of Mean (KM)	4.99E-05
k hat (KM)	5.909	k star (KM)	5.277
nu hat (KM)	319.1	nu star (KM)	285
theta hat (KM)	9.86E-05	theta star (KM)	1.10E-04
80% gamma percentile (KM)	7.79E-04	90% gamma percentile (KM)	9.22E-04
95% gamma percentile (KM)	0.00105	99% gamma percentile (KM)	0.00133

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (284.98, α)	246.9	Adjusted Chi Square Value (284.98, β)	244.6
95% Gamma Approximate KM-UCL (use when n>=50)	6.73E-04	95% Gamma Adjusted KM-UCL (use when n<50)	6.79E-04

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.806	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.243	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	3.61E-04	Mean in Log Scale	-8.18
SD in Original Scale	3.40E-04	SD in Log Scale	0.651
95% t UCL (assumes normality of ROS data)	4.73E-04	95% Percentile Bootstrap UCL	4.74E-04
95% BCA Bootstrap UCL	5.14E-04	95% Bootstrap t UCL	5.56E-04
95% H-UCL (Log ROS)	4.54E-04		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-7.493	KM Geo Mean	5.57E-04
KM SD (logged)	0.258	95% Critical H Value (KM-Log)	1.794
KM Standard Error of Mean (logged)	0.0537	95% H-UCL (KM -Log)	6.31E-04
KM SD (logged)	0.258	95% Critical H Value (KM-Log)	1.794
KM Standard Error of Mean (logged)	0.0537		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	4.07E-04	Mean in Log Scale	-7.968
SD in Original Scale	3.17E-04	SD in Log Scale	0.505
95% t UCL (Assumes normality)	5.11E-04	95% H-Stat UCL	4.78E-04

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM Adjusted Gamma UCL	6.79E-04	95% GROS Adjusted Gamma UCL	0.0106

Warning: Recommended UCL exceeds the maximum observation

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test

When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

RDX

General Statistics

Total Number of Observations	36	Number of Distinct Observations	17
		Number of Missing Observations	15
Number of Detects	15	Number of Non-Detects	21
Number of Distinct Detects	15	Number of Distinct Non-Detects	2
Minimum Detect	0.156	Minimum Non-Detect	0.149
Maximum Detect	72.4	Maximum Non-Detect	0.15
Variance Detects	377.3	Percent Non-Detects	58.33%
Mean Detects	18.18	SD Detects	19.42
Median Detects	14.7	CV Detects	1.068
Skewness Detects	1.682	Kurtosis Detects	3.38
Mean of Logged Detects	2.101	SD of Logged Detects	1.671

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.831	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.881	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.182	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.22	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	7.662	KM Standard Error of Mean	2.592
KM SD	15.02	95% KM (BCA) UCL	12.26
95% KM (t) UCL	12.04	95% KM (Percentile Bootstrap) UCL	11.82
95% KM (z) UCL	11.93	95% KM Bootstrap t UCL	14.68
90% KM Chebyshev UCL	15.44	95% KM Chebyshev UCL	18.96
97.5% KM Chebyshev UCL	23.85	99% KM Chebyshev UCL	33.45

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.166	Anderson-Darling GOF Test	
5% A-D Critical Value	0.775	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.119	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.23	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.749	k star (bias corrected MLE)	0.644
Theta hat (MLE)	24.27	Theta star (bias corrected MLE)	28.24
nu hat (MLE)	22.47	nu star (bias corrected)	19.31
Mean (detects)	18.18		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	7.581
Maximum	72.4	Median	0.01
SD	15.28	CV	2.015
k hat (MLE)	0.193	k star (bias corrected MLE)	0.195
Theta hat (MLE)	39.3	Theta star (bias corrected MLE)	38.81
nu hat (MLE)	13.89	nu star (bias corrected)	14.06
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (14.06, α)	6.616	Adjusted Chi Square Value (14.06, β)	6.384

95% Gamma Approximate UCL (use when n>=50)	16.12	95% Gamma Adjusted UCL (use when n<50)	16.7
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	7.662	SD (KM)	15.02
Variance (KM)	225.7	SE of Mean (KM)	2.592
k hat (KM)	0.26	k star (KM)	0.257
nu hat (KM)	18.72	nu star (KM)	18.5
theta hat (KM)	29.46	theta star (KM)	29.82
80% gamma percentile (KM)	11.23	90% gamma percentile (KM)	22.95
95% gamma percentile (KM)	36.79	99% gamma percentile (KM)	73.47
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (18.50, α)	9.751	Adjusted Chi Square Value (18.50, β)	9.462
95% Gamma Approximate KM-UCL (use when n>=50)	14.53	95% Gamma Adjusted KM-UCL (use when n<50)	14.98
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.881	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.171	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.22	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	7.695	Mean in Log Scale	-0.548
SD in Original Scale	15.22	SD in Log Scale	2.78
95% t UCL (assumes normality of ROS data)	11.98	95% Percentile Bootstrap UCL	12.08
95% BCA Bootstrap UCL	13.29	95% Bootstrap t UCL	14.97
95% H-UCL (Log ROS)	275		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-0.235	KM Geo Mean	0.79
KM SD (logged)	2.232	95% Critical H Value (KM-Log)	4.058
KM Standard Error of Mean (logged)	0.385	95% H-UCL (KM -Log)	44.17
KM SD (logged)	2.232	95% Critical H Value (KM-Log)	4.058
KM Standard Error of Mean (logged)	0.385		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	7.619	Mean in Log Scale	-0.636
SD in Original Scale	15.26	SD in Log Scale	2.573
95% t UCL (Assumes normality)	11.92	95% H-Stat UCL	106.1
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Approximate Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	12.04		
When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test			
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL			
CLF - Use the 95% Gamma Adjusted KM-UCL (use when n<50)	*14.98*	*less than max, gamma UCL next higher than Suggesed Approx Normal*	
Selenium	-	-	-
General Statistics			
Total Number of Observations	37	Number of Distinct Observations	33
		Number of Missing Observations	2
Number of Detects	13	Number of Non-Detects	24
Number of Distinct Detects	13	Number of Distinct Non-Detects	20
Minimum Detect	0.958	Minimum Non-Detect	0.318
Maximum Detect	3.05	Maximum Non-Detect	0.59
Variance Detects	0.31	Percent Non-Detects	64.86%
Mean Detects	1.601	SD Detects	0.556
Median Detects	1.61	CV Detects	0.348
Skewness Detects	1.437	Kurtosis Detects	3.008
Mean of Logged Detects	0.421	SD of Logged Detects	0.319
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.878	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.866	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.143	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.234	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	0.769	KM Standard Error of Mean	0.118
KM SD	0.689	95% KM (BCA) UCL	0.98
95% KM (t) UCL	0.968	95% KM (Percentile Bootstrap) UCL	0.969
95% KM (z) UCL	0.963	95% KM Bootstrap t UCL	0.992
90% KM Chebyshev UCL	1.123	95% KM Chebyshev UCL	1.283
97.5% KM Chebyshev UCL	1.505	99% KM Chebyshev UCL	1.942
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.313	Anderson-Darling GOF Test	
5% A-D Critical Value	0.734	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.137	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.237	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	10.33	k star (bias corrected MLE)	7.995
Theta hat (MLE)	0.155	Theta star (bias corrected MLE)	0.2
nu hat (MLE)	268.5	nu star (bias corrected)	207.9
Mean (detects)	1.601		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	0.654
Maximum	3.05	Median	0.117
SD	0.781	CV	1.195
k hat (MLE)	0.637	k star (bias corrected MLE)	0.604
Theta hat (MLE)	1.026	Theta star (bias corrected MLE)	1.083
nu hat (MLE)	47.15	nu star (bias corrected)	44.66
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (44.66, α)	30.33	Adjusted Chi Square Value (44.66, β)	29.82
95% Gamma Approximate UCL (use when n>=50)	0.962	95% Gamma Adjusted UCL (use when n<50)	0.979
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.769	SD (KM)	0.689
Variance (KM)	0.475	SE of Mean (KM)	0.118
k hat (KM)	1.243	k star (KM)	1.16
nu hat (KM)	91.98	nu star (KM)	85.86
theta hat (KM)	0.618	theta star (KM)	0.662
80% gamma percentile (KM)	1.221	90% gamma percentile (KM)	1.706
95% gamma percentile (KM)	2.186	99% gamma percentile (KM)	3.288
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (85.86, α)	65.5	Adjusted Chi Square Value (85.86, β)	64.73
95% Gamma Approximate KM-UCL (use when n>=50)	1.008	95% Gamma Adjusted KM-UCL (use when n<50)	1.02
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.956	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.866	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.133	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.234	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.925	Mean in Log Scale	-0.233
SD in Original Scale	0.6	SD in Log Scale	0.531
95% t UCL (assumes normality of ROS data)	1.092	95% Percentile Bootstrap UCL	1.098
95% BCA Bootstrap UCL	1.124	95% Bootstrap t UCL	1.137
95% H-UCL (Log ROS)	1.083		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-0.595	KM Geo Mean	0.551
KM SD (logged)	0.77	95% Critical H Value (KM-Log)	2.146
KM Standard Error of Mean (logged)	0.132	95% H-UCL (KM -Log)	0.977
KM SD (logged)	0.77	95% Critical H Value (KM-Log)	2.146
KM Standard Error of Mean (logged)	0.132		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	

Mean in Original Scale	0.697	Mean in Log Scale	-0.892
SD in Original Scale	0.748	SD in Log Scale	1.015
95% t UCL (Assumes normality)	0.904	95% H-Stat UCL	1.031

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.968

Silver

General Statistics

Total Number of Observations	37	Number of Distinct Observations	36
		Number of Missing Observations	2
Number of Detects	33	Number of Non-Detects	4
Number of Distinct Detects	33	Number of Distinct Non-Detects	3
Minimum Detect	0.157	Minimum Non-Detect	0.102
Maximum Detect	7.95	Maximum Non-Detect	0.112
Variance Detects	3.135	Percent Non-Detects	10.81%
Mean Detects	1.325	SD Detects	1.771
Median Detects	0.574	CV Detects	1.336
Skewness Detects	2.457	Kurtosis Detects	6.071
Mean of Logged Detects	-0.298	SD of Logged Detects	1.025

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.648	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.931	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.274	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.152	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.193	KM Standard Error of Mean	0.282
KM SD	1.69	95% KM (BCA) UCL	1.671
95% KM (t) UCL	1.669	95% KM (Percentile Bootstrap) UCL	1.694
95% KM (z) UCL	1.657	95% KM Bootstrap t UCL	1.959
90% KM Chebyshev UCL	2.039	95% KM Chebyshev UCL	2.423
97.5% KM Chebyshev UCL	2.955	99% KM Chebyshev UCL	4

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.687	Anderson-Darling GOF Test	
5% A-D Critical Value	0.776	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.199	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.158	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.997	k star (bias corrected MLE)	0.926
Theta hat (MLE)	1.329	Theta star (bias corrected MLE)	1.431
nu hat (MLE)	65.78	nu star (bias corrected)	61.13
Mean (detects)	1.325		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.183
Maximum	7.95	Median	0.537
SD	1.72	CV	1.454
k hat (MLE)	0.655	k star (bias corrected MLE)	0.62
Theta hat (MLE)	1.806	Theta star (bias corrected MLE)	1.908
nu hat (MLE)	48.46	nu star (bias corrected)	45.87
Adjusted Level of Significance (β)	0.0431		
Approximate Chi Square Value (45.87, α)	31.33	Adjusted Chi Square Value (45.87, β)	30.81
95% Gamma Approximate UCL (use when n>=50)	1.732	95% Gamma Adjusted UCL (use when n<50)	1.761

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.193	SD (KM)	1.69
Variance (KM)	2.856	SE of Mean (KM)	0.282
k hat (KM)	0.498	k star (KM)	0.476

nu hat (KM)	36.87	nu star (KM)	35.22
theta hat (KM)	2.394	theta star (KM)	2.507
80% gamma percentile (KM)	1.954	90% gamma percentile (KM)	3.26
95% gamma percentile (KM)	4.663	99% gamma percentile (KM)	8.131

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (35.22, α)	22.64	Adjusted Chi Square Value (35.22, β)	22.2
95% Gamma Approximate KM-UCL (use when n>=50)	1.856	95% Gamma Adjusted KM-UCL (use when n<50)	1.892

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.939	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.931	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.139	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.152	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.19	Mean in Log Scale	-0.55
SD in Original Scale	1.715	SD in Log Scale	1.214
95% t UCL (assumes normality of ROS data)	1.666	95% Percentile Bootstrap UCL	1.667
95% BCA Bootstrap UCL	1.775	95% Bootstrap t UCL	1.928
95% H-UCL (Log ROS)	2.061		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-0.512	KM Geo Mean	0.599
KM SD (logged)	1.135	95% Critical H Value (KM-Log)	2.548
KM Standard Error of Mean (logged)	0.19	95% H-UCL (KM -Log)	1.848
KM SD (logged)	1.135	95% Critical H Value (KM-Log)	2.548
KM Standard Error of Mean (logged)	0.19		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.188	Mean in Log Scale	-0.584
SD in Original Scale	1.717	SD in Log Scale	1.276
95% t UCL (Assumes normality)	1.664	95% H-Stat UCL	2.246

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

KM H-UCL	1.848

TATB

General Statistics

Total Number of Observations	35	Number of Distinct Observations	25
		Number of Missing Observations	16
Number of Detects	19	Number of Non-Detects	16
Number of Distinct Detects	19	Number of Distinct Non-Detects	6
Minimum Detect	0.365	Minimum Non-Detect	0.293
Maximum Detect	43.2	Maximum Non-Detect	0.3
Variance Detects	168	Percent Non-Detects	45.71%
Mean Detects	9.597	SD Detects	12.96
Median Detects	3.76	CV Detects	1.351
Skewness Detects	1.599	Kurtosis Detects	1.536
Mean of Logged Detects	1.274	SD of Logged Detects	1.543

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.733	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.294	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	5.344	KM Standard Error of Mean	1.804
KM SD	10.39	95% KM (BCA) UCL	8.267
95% KM (t) UCL	8.393	95% KM (Percentile Bootstrap) UCL	8.445
95% KM (z) UCL	8.31	95% KM Bootstrap t UCL	9.577
90% KM Chebyshev UCL	10.75	95% KM Chebyshev UCL	13.21
97.5% KM Chebyshev UCL	16.61	99% KM Chebyshev UCL	23.29

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.65	Anderson-Darling GOF Test	
5% A-D Critical Value	0.791	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.164	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.208	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.622	k star (bias corrected MLE)	0.559
Theta hat (MLE)	15.42	Theta star (bias corrected MLE)	17.16
nu hat (MLE)	23.65	nu star (bias corrected)	21.25
Mean (detects)	9.597		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	0.01	Mean	5.214
Maximum	43.2	Median	0.437
SD	10.6	CV	2.033
k hat (MLE)	0.234	k star (bias corrected MLE)	0.233
Theta hat (MLE)	22.27	Theta star (bias corrected MLE)	22.36
nu hat (MLE)	16.39	nu star (bias corrected)	16.32
Adjusted Level of Significance (β)	0.0425		
Approximate Chi Square Value (16.32, α)	8.189	Adjusted Chi Square Value (16.32, β)	7.916
95% Gamma Approximate UCL (use when n>=50)	10.39	95% Gamma Adjusted UCL (use when n<50)	10.75
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	5.344	SD (KM)	10.39
Variance (KM)	107.9	SE of Mean (KM)	1.804
k hat (KM)	0.265	k star (KM)	0.261
nu hat (KM)	18.53	nu star (KM)	18.27
theta hat (KM)	20.19	theta star (KM)	20.47
80% gamma percentile (KM)	7.876	90% gamma percentile (KM)	15.99
95% gamma percentile (KM)	25.53	99% gamma percentile (KM)	50.79
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (18.27, α)	9.59	Adjusted Chi Square Value (18.27, β)	9.291
95% Gamma Approximate KM-UCL (use when n>=50)	10.18	95% Gamma Adjusted KM-UCL (use when n<50)	10.51
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.143	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	5.251	Mean in Log Scale	-0.578
SD in Original Scale	10.58	SD in Log Scale	2.428
95% t UCL (assumes normality of ROS data)	8.276	95% Percentile Bootstrap UCL	8.192
95% BCA Bootstrap UCL	9.201	95% Bootstrap t UCL	9.717
95% H-UCL (Log ROS)	71.7		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	0.13	KM Geo Mean	1.139
KM SD (logged)	1.666	95% Critical H Value (KM-Log)	3.377
KM Standard Error of Mean (logged)	0.289	95% H-UCL (KM -Log)	11.99
KM SD (logged)	1.666	95% Critical H Value (KM-Log)	3.377
KM Standard Error of Mean (logged)	0.289		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	5.278	Mean in Log Scale	-0.179
SD in Original Scale	10.57	SD in Log Scale	1.959
95% t UCL (Assumes normality)	8.299	95% H-Stat UCL	20.62
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	10.51		
Total Petroleum Hydrocarbons Diesel Range Organics -	-	-	-
General Statistics			
Total Number of Observations	13	Number of Distinct Observations	13
		Number of Missing Observations	26

Minimum	3.54	Mean	15.32
Maximum	79.1	Median	9.43
SD	19.95	Std. Error of Mean	5.534
Coefficient of Variation	1.302	Skewness	3.136
Normal GOF Test			
Shapiro Wilk Test Statistic	0.565	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.866	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.333	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.234	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	25.19	95% Adjusted-CLT UCL (Chen-1995)	29.57
		95% Modified-t UCL (Johnson-1978)	25.99
Gamma GOF Test			
A-D Test Statistic	0.771	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.753	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.213	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.242	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data follow Appr. Gamma Distribution at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.33	k star (bias corrected MLE)	1.074
Theta hat (MLE)	11.52	Theta star (bias corrected MLE)	14.26
nu hat (MLE)	34.58	nu star (bias corrected)	27.93
MLE Mean (bias corrected)	15.32	MLE Sd (bias corrected)	14.78
		Approximate Chi Square Value (0.05)	16.87
Adjusted Level of Significance	0.0301	Adjusted Chi Square Value	15.66
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	25.36	95% Adjusted Gamma UCL (use when n<50)	27.33
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.921	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.866	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.141	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.234	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.264	Mean of logged Data	2.309
Maximum of Logged Data	4.371	SD of logged Data	0.859
Assuming Lognormal Distribution			
95% H-UCL	27.78	90% Chebyshev (MVUE) UCL	24.68
95% Chebyshev (MVUE) UCL	29.51	97.5% Chebyshev (MVUE) UCL	36.21
99% Chebyshev (MVUE) UCL	49.37		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	24.43	95% Jackknife UCL	25.19
95% Standard Bootstrap UCL	24.01	95% Bootstrap-t UCL	45
95% Hall's Bootstrap UCL	61.89	95% Percentile Bootstrap UCL	25.33
95% BCA Bootstrap UCL	31.38		
90% Chebyshev(Mean, Sd) UCL	31.92	95% Chebyshev(Mean, Sd) UCL	39.44
97.5% Chebyshev(Mean, Sd) UCL	49.88	99% Chebyshev(Mean, Sd) UCL	70.38
Suggested UCL to Use			
95% Adjusted Gamma UCL	27.33		
When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test			
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL			
Trinitrobenzene[1,3,5-]			
General Statistics			
Total Number of Observations	36	Number of Distinct Observations	10
		Number of Missing Observations	15
Number of Detects	2	Number of Non-Detects	34
Number of Distinct Detects	2	Number of Distinct Non-Detects	8
Minimum Detect	0.397	Minimum Non-Detect	0.144
Maximum Detect	0.46	Maximum Non-Detect	0.152
Variance Detects	0.00198	Percent Non-Detects	94.44%
Mean Detects	0.429	SD Detects	0.0445
Median Detects	0.429	CV Detects	0.104

Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.85	SD of Logged Detects	0.104

Warning: Data set has only 2 Detected Values.

Trinitrotoluene[2,4,6-]

General Statistics

Total Number of Observations	36	Number of Distinct Observations	13
		Number of Missing Observations	15
Number of Detects	6	Number of Non-Detects	30
Number of Distinct Detects	6	Number of Distinct Non-Detects	7
Minimum Detect	0.242	Minimum Non-Detect	0.144
Maximum Detect	12.7	Maximum Non-Detect	0.152
Variance Detects	22.45	Percent Non-Detects	83.33%
Mean Detects	3.167	SD Detects	4.738
Median Detects	1.479	CV Detects	1.496
Skewness Detects	2.296	Kurtosis Detects	5.407
Mean of Logged Detects	0.387	SD of Logged Detects	1.335

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.654	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.399	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.648	KM Standard Error of Mean	0.382
KM SD	2.095	95% KM (BCA) UCL	1.376
95% KM (t) UCL	1.294	95% KM (Percentile Bootstrap) UCL	1.322
95% KM (z) UCL	1.277	95% KM Bootstrap t UCL	2.866
90% KM Chebyshev UCL	1.795	95% KM Chebyshev UCL	2.315
97.5% KM Chebyshev UCL	3.036	99% KM Chebyshev UCL	4.453

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.427	Anderson-Darling GOF Test	
5% A-D Critical Value	0.72	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.274	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.343	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.778	k star (bias corrected MLE)	0.5
Theta hat (MLE)	4.072	Theta star (bias corrected MLE)	6.334
nu hat (MLE)	9.333	nu star (bias corrected)	6
Mean (detects)	3.167		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.536
Maximum	12.7	Median	0.01
SD	2.152	CV	4.013
k hat (MLE)	0.229	k star (bias corrected MLE)	0.228
Theta hat (MLE)	2.344	Theta star (bias corrected MLE)	2.35
nu hat (MLE)	16.47	nu star (bias corrected)	16.43
Adjusted Level of Significance (β)	0.0428		
Approximate Chi Square Value (16.43, α)	8.266	Adjusted Chi Square Value (16.43, β)	8.003
95% Gamma Approximate UCL (use when n>=50)	1.066	95% Gamma Adjusted UCL (use when n<50)	1.101

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.648	SD (KM)	2.095
Variance (KM)	4.387	SE of Mean (KM)	0.382
k hat (KM)	0.0957	k star (KM)	0.106
nu hat (KM)	6.888	nu star (KM)	7.647
theta hat (KM)	6.772	theta star (KM)	6.1
80% gamma percentile (KM)	0.489	90% gamma percentile (KM)	1.765
95% gamma percentile (KM)	3.745	99% gamma percentile (KM)	9.983

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.65, α)	2.533	Adjusted Chi Square Value (7.65, β)	2.401

95% Gamma Approximate KM-UCL (use when n>=50)	1.956	95% Gamma Adjusted KM-UCL (use when n<50)	2.064
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.973	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.193	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.539	Mean in Log Scale	-5.09
SD in Original Scale	2.151	SD in Log Scale	3.328
95% t UCL (assumes normality of ROS data)	1.145	95% Percentile Bootstrap UCL	1.222
95% BCA Bootstrap UCL	1.684	95% Bootstrap t UCL	3.354
95% H-UCL (Log ROS)	39.59		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-1.55	KM Geo Mean	0.212
KM SD (logged)	0.999	95% Critical H Value (KM-Log)	2.382
KM Standard Error of Mean (logged)	0.182	95% H-UCL (KM -Log)	0.522
KM SD (logged)	0.999	95% Critical H Value (KM-Log)	2.382
KM Standard Error of Mean (logged)	0.182		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.59	Mean in Log Scale	-2.099
SD in Original Scale	2.139	SD in Log Scale	1.235
95% t UCL (Assumes normality)	1.192	95% H-Stat UCL	0.458
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	2.064		

Zinc

General Statistics			
Total Number of Observations	27	Number of Distinct Observations	27
		Number of Missing Observations	12
Minimum	26.4	Mean	50.72
Maximum	115	Median	45.5
SD	21.58	Std. Error of Mean	4.154
Coefficient of Variation	0.426	Skewness	1.418
Normal GOF Test			
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.168	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.167	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	57.8	95% Adjusted-CLT UCL (Chen-1995)	58.76
		95% Modified-t UCL (Johnson-1978)	57.99
Gamma GOF Test			
A-D Test Statistic	0.594	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.746	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.157	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.168	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	6.838	k star (bias corrected MLE)	6.103
Theta hat (MLE)	7.417	Theta star (bias corrected MLE)	8.31
nu hat (MLE)	369.3	nu star (bias corrected)	329.6
MLE Mean (bias corrected)	50.72	MLE Sd (bias corrected)	20.53
		Approximate Chi Square Value (0.05)	288.5
Adjusted Level of Significance	0.0401	Adjusted Chi Square Value	286.1
Assuming Gamma Distribution			

95% Approximate Gamma UCL (use when n>=50)	57.94	95% Adjusted Gamma UCL (use when n<50)	58.43
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.95	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.923	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.141	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.167	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	3.273	Mean of logged Data	3.851
Maximum of Logged Data	4.745	SD of logged Data	0.383
Assuming Lognormal Distribution			
95% H-UCL	58.33	90% Chebyshev (MVUE) UCL	61.96
95% Chebyshev (MVUE) UCL	67.16	97.5% Chebyshev (MVUE) UCL	74.36
99% Chebyshev (MVUE) UCL	88.52		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	57.55	95% Jackknife UCL	57.8
95% Standard Bootstrap UCL	57.39	95% Bootstrap-t UCL	59.65
95% Hall's Bootstrap UCL	60.48	95% Percentile Bootstrap UCL	57.88
95% BCA Bootstrap UCL	59.05		
90% Chebyshev(Mean, Sd) UCL	63.18	95% Chebyshev(Mean, Sd) UCL	68.83
97.5% Chebyshev(Mean, Sd) UCL	76.66	99% Chebyshev(Mean, Sd) UCL	92.05
Suggested UCL to Use			
95% Adjusted Gamma UCL	58.43		

UCL Statistics for Uncensored Full Data Sets

User Selected Options

Date/Time of Computation	ProUCL 5.11/17/2021 12:28:04 PM	
From File	WorkSheet.xls	
Full Precision	OFF	
Confidence Coefficient		95%
Number of Bootstrap Operations		2000

NO2

General Statistics			
Total Number of Observations	11	Number of Distinct Observations	11
		Number of Missing Observations	8
Minimum	0.51	Mean	1.812
Maximum	4.02	Median	1.21
SD	1.318	Std. Error of Mean	0.398
Coefficient of Variation	0.728	Skewness	0.693
Normal GOF Test			
Shapiro Wilk Test Statistic	0.839	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.85	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.276	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.251	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	2.532	95% Adjusted-CLT UCL (Chen-1995)	2.554
		95% Modified-t UCL (Johnson-1978)	2.546
Gamma GOF Test			
A-D Test Statistic	0.581	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.738	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.208	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.258	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	2.111	k star (bias corrected MLE)	1.596
Theta hat (MLE)	0.858	Theta star (bias corrected MLE)	1.136
nu hat (MLE)	46.43	nu star (bias corrected)	35.1
MLE Mean (bias corrected)	1.812	MLE Sd (bias corrected)	1.434
		Approximate Chi Square Value (0.05)	22.55
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	20.92
Assuming Gamma Distribution			

95% Approximate Gamma UCL (use when n>=50)	2.821	95% Adjusted Gamma UCL (use when n<50)	3.04
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.906	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.191	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-0.673	Mean of logged Data	0.339
Maximum of Logged Data	1.391	SD of logged Data	0.758
Assuming Lognormal Distribution			
95% H-UCL	3.458	90% Chebyshev (MVUE) UCL	3.109
95% Chebyshev (MVUE) UCL	3.695	97.5% Chebyshev (MVUE) UCL	4.51
99% Chebyshev (MVUE) UCL	6.11		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	2.466	95% Jackknife UCL	2.532
95% Standard Bootstrap UCL	2.445	95% Bootstrap-t UCL	2.675
95% Hall's Bootstrap UCL	2.366	95% Percentile Bootstrap UCL	2.455
95% BCA Bootstrap UCL	2.504		
90% Chebyshev(Mean, Sd) UCL	3.004	95% Chebyshev(Mean, Sd) UCL	3.545
97.5% Chebyshev(Mean, Sd) UCL	4.294	99% Chebyshev(Mean, Sd) UCL	5.767
Suggested UCL to Use			
95% Adjusted Gamma UCL	3.04		

~~Attachment A. ProUCL Output for Upper Confidence Limit Calculations~~

~~UCL Statistics for Data Sets with Non-Detects~~
~~User Selected Options~~

~~Date/Time of Computation~~	**~~ProUCL 5.1 7/27/2019 7:14:51 AM~~**		
~~From File~~	**~~WorkSheet.xls~~**		
~~Full Precision~~	**~~OFF~~**		
~~Confidence Coefficient~~	**~~95%~~**		
~~Number of Bootstrap Operations~~	**~~2000~~**		
~~Ba~~			
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
		~~Number of Missing Observations~~	~~2~~
~~Minimum~~	~~69.9~~	~~Mean~~	~~3067~~
~~Maximum~~	~~12600~~	~~Median~~	~~1250~~
~~SD~~	~~4207~~	~~Std. Error of Mean~~	~~1086~~
~~Coefficient of Variation~~	~~1.372~~	~~Skewness~~	~~1.728~~
~~Normal GOF Test~~			
~~Shapiro Wilk Test Statistic~~	~~0.699~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.305~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data Not Normal at 5% Significance Level~~	
~~Data Not Normal at 5% Significance Level~~			
~~Assuming Normal Distribution~~			
~~95% Normal UCL~~		~~95% UCLs (Adjusted for Skewness)~~	
~~95% Student's-t UCL~~	~~4981~~	~~95% Adjusted-CLT UCL (Chen-1995)~~	~~5372~~
		~~95% Modified-t UCL (Johnson-1978)~~	~~5061~~
~~Gamma GOF Test~~			
~~A-D Test Statistic~~	~~0.387~~	~~Anderson-Darling Gamma GOF Test~~	
~~5% A-D Critical Value~~	~~0.783~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.142~~	~~Kolmogorov-Smirnov Gamma GOF Test~~	
~~5% K-S Critical Value~~	~~0.232~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~Detected data appear Gamma Distributed at 5% Significance Level~~			
~~Gamma Statistics~~			
~~k hat (MLE)~~	~~0.641~~	~~k star (bias corrected MLE)~~	~~0.558~~
~~Theta hat (MLE)~~	~~4782~~	~~Theta star (bias corrected MLE)~~	~~5501~~
~~nu hat (MLE)~~	~~19.24~~	~~nu star (bias corrected)~~	~~16.73~~
~~MLE Mean (bias corrected)~~	~~3067~~	~~MLE Sd (bias corrected)~~	~~4108~~
		~~Approximate Chi Square Value (0.05)~~	~~8.477~~
~~Adjusted Level of Significance~~	~~0.0324~~	~~Adjusted Chi Square Value~~	~~7.763~~
~~Assuming Gamma Distribution~~			
~~95% Approximate Gamma UCL (use when n>=50)~~	~~6052~~	~~95% Adjusted Gamma UCL (use when n<50)~~	~~6609~~
~~Lognormal GOF Test~~			
~~Shapiro Wilk Test Statistic~~	~~0.972~~	~~Shapiro Wilk Lognormal GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.0794~~	~~Lilliefors Lognormal GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Data appear Lognormal at 5% Significance Level~~			
~~Lognormal Statistics~~			
~~Minimum of Logged Data~~	~~4.247~~	~~Mean of logged Data~~	~~7.075~~
~~Maximum of Logged Data~~	~~9.441~~	~~SD of logged Data~~	~~1.563~~
~~Assuming Lognormal Distribution~~			
~~95% H-UCL~~	~~19048~~	~~90% Chebyshev (MVUE) UCL~~	~~8224~~
~~95% Chebyshev (MVUE) UCL~~	~~10388~~	~~97.5% Chebyshev (MVUE) UCL~~	~~13392~~
~~99% Chebyshev (MVUE) UCL~~	~~19291~~		
~~Nonparametric Distribution Free UCL Statistics~~			

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	4854	95% Jackknife UCL	4981
95% Standard Bootstrap UCL	4819	95% Bootstrap-t UCL	6568
95% Hall's Bootstrap UCL	5592	95% Percentile Bootstrap UCL	4951
95% BCA Bootstrap UCL	5479		
90% Chebyshev(Mean, Sd) UCL	6326	95% Chebyshev(Mean, Sd) UCL	7802
97.5% Chebyshev(Mean, Sd) UCL	9851	99% Chebyshev(Mean, Sd) UCL	13876

Suggested UCL to Use

95% Adjusted Gamma UCL	6609

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.

These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).

However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Ag

General Statistics

Total Number of Observations	15	Number of Distinct Observations	14
		Number of Missing Observations	2
Number of Detects	11	Number of Non-Detects	4
Number of Distinct Detects	11	Number of Distinct Non-Detects	3
Minimum Detect	0.3	Minimum Non-Detect	0.102
Maximum Detect	12.3	Maximum Non-Detect	0.112
Variance Detects	13.11	Percent Non-Detects	0.2667
Mean Detects	2.651	SD Detects	3.621
Median Detects	1.22	CV Detects	1.366
Skewness Detects	2.246	Kurtosis Detects	5.277
Mean of Logged Detects	0.305	SD of Logged Detects	1.169

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.683	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.85	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.339	Lilliefors GOF Test
5% Lilliefors Critical Value	0.251	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	1.971	KM Standard Error of Mean	0.857
KM SD	3.164	95% KM (BCA) UCL	3.389
95% KM (t) UCL	3.481	95% KM (Percentile Bootstrap) UCL	3.545
95% KM (z) UCL	3.381	95% KM Bootstrap t UCL	5.236
90% KM Chebyshev UCL	4.542	95% KM Chebyshev UCL	5.706
97.5% KM Chebyshev UCL	7.322	99% KM Chebyshev UCL	10.5

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.621	Anderson-Darling GOF Test
5% A-D Critical Value	0.757	Detected data appear Gamma Distributed at 5% Significance Level

~~K-S Test Statistic~~	~~0.249~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.264~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~Detected data appear Gamma Distributed at 5% Significance Level~~			

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.876~~	~~k star (bias corrected MLE)~~	~~0.698~~
~~Theta hat (MLE)~~	~~3.027~~	~~Theta star (bias corrected MLE)~~	~~3.8~~
~~nu hat (MLE)~~	~~19.27~~	~~nu star (bias corrected)~~	~~15.35~~
~~Mean (detects)~~	~~2.651~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~0.01~~	~~Mean~~	~~1.947~~
~~Maximum~~	~~12.3~~	~~Median~~	~~0.583~~
~~SD~~	~~3.29~~	~~CV~~	~~1.69~~
~~k hat (MLE)~~	~~0.395~~	~~k star (bias corrected MLE)~~	~~0.36~~
~~Theta hat (MLE)~~	~~4.931~~	~~Theta star (bias corrected MLE)~~	~~5.404~~
~~nu hat (MLE)~~	~~11.84~~	~~nu star (bias corrected)~~	~~10.81~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (10.81, α)~~	~~4.453~~	~~Adjusted Chi Square Value (10.81, β)~~	~~3.962~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~4.725~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~5.31~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~1.971~~	~~SD (KM)~~	~~3.164~~
~~Variance (KM)~~	~~10.01~~	~~SE of Mean (KM)~~	~~0.857~~
~~k hat (KM)~~	~~0.388~~	~~k star (KM)~~	~~0.355~~
~~nu hat (KM)~~	~~11.64~~	~~nu star (KM)~~	~~10.65~~
~~theta hat (KM)~~	~~5.079~~	~~theta star (KM)~~	~~5.553~~
~~80% gamma percentile (KM)~~	~~3.129~~	~~90% gamma percentile (KM)~~	~~5.68~~
~~95% gamma percentile (KM)~~	~~8.532~~	~~99% gamma percentile (KM)~~	~~15.8~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (10.65, α)~~	~~4.351~~	~~Adjusted Chi Square Value (10.65, β)~~	~~3.868~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~4.824~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~5.428~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.94~~	~~Shapiro Wilk GOF Test~~	

~~5% Shapiro Wilk Critical Value~~	~~0.85~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.167~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.251~~	~~Detected Data appear Lognormal at 5% Significance Level~~	

~~Detected Data appear Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~1.966~~	~~Mean in Log Scale~~	~~-0.453~~
~~SD in Original Scale~~	~~3.278~~	~~SD in Log Scale~~	~~1.642~~
~~95% t UCL (assumes normality of ROS data)~~	~~3.457~~	~~95% Percentile Bootstrap UCL~~	~~3.426~~
~~95% BCA Bootstrap UCL~~	~~4.075~~	~~95% Bootstrap t UCL~~	~~5.456~~
~~95% H-UCL (Log ROS)~~	~~13.38~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-0.385~~	~~KM Geo Mean~~	~~0.681~~
~~KM SD (logged)~~	~~1.49~~	~~95% Critical H Value (KM-Log)~~	~~3.594~~
~~KM Standard Error of Mean (logged)~~	~~0.404~~	~~95% H-UCL (KM -Log)~~	~~8.647~~
~~KM SD (logged)~~	~~1.49~~	~~95% Critical H Value (KM-Log)~~	~~3.594~~
~~KM Standard Error of Mean (logged)~~	~~0.404~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~1.958~~	~~Mean in Log Scale~~	~~-0.561~~
~~SD in Original Scale~~	~~3.283~~	~~SD in Log Scale~~	~~1.785~~
~~95% t UCL (Assumes normality)~~	~~3.451~~	~~95% H-Stat UCL~~	~~20.33~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~
~~Detected Data appear Gamma Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~5.428~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~Zn~~

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
		~~Number of Missing Observations~~	~~2~~
~~Minimum~~	~~29.6~~	~~Mean~~	~~50.39~~
~~Maximum~~	~~100~~	~~Median~~	~~40.2~~
~~SD~~	~~20.52~~	~~Std. Error of Mean~~	~~5.299~~
~~Coefficient of Variation~~	~~0.407~~	~~Skewness~~	~~1.069~~

~~Normal GOF Test~~

~~Shapiro Wilk Test Statistic~~	~~0.87~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.223~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data Not Normal at 5% Significance Level~~	

~~Data Not Normal at 5% Significance Level~~

~~Assuming Normal Distribution~~

~~95% Normal UCL~~		~~95% UCLs (Adjusted for Skewness)~~	
~~95% Student's-t UCL~~	~~59.72~~	~~95% Adjusted-CLT UCL (Chen-1995)~~	~~60.67~~
		~~95% Modified-t UCL (Johnson-1978)~~	~~59.96~~

~~Gamma GOF Test~~

~~A-D Test Statistic~~	~~0.641~~	~~Anderson-Darling Gamma GOF Test~~	
~~5% A-D Critical Value~~	~~0.738~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.211~~	~~Kolmogorov-Smirnov Gamma GOF Test~~	
~~5% K-S Critical Value~~	~~0.222~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics~~

~~k hat (MLE)~~	~~7.291~~	~~k star (bias corrected MLE)~~	~~5.877~~
~~Theta hat (MLE)~~	~~6.911~~	~~Theta star (bias corrected MLE)~~	~~8.573~~
~~nu hat (MLE)~~	~~218.7~~	~~nu star (bias corrected)~~	~~176.3~~
~~MLE Mean (bias corrected)~~	~~50.39~~	~~MLE Sd (bias corrected)~~	~~20.78~~
		~~Approximate Chi Square Value (0.05)~~	~~146.6~~
~~Adjusted Level of Significance~~	~~0.0324~~	~~Adjusted Chi Square Value~~	~~143.3~~

~~Assuming Gamma Distribution~~

~~95% Approximate Gamma UCL (use when n>=50)~~	~~60.6~~	~~95% Adjusted Gamma UCL (use when n<50)~~	~~62.01~~

~~Lognormal GOF Test~~

~~Shapiro Wilk Test Statistic~~	~~0.914~~	~~Shapiro Wilk Lognormal GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.193~~	~~Lilliefors Lognormal GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data appear Lognormal at 5% Significance Level~~	

~~Data appear Lognormal at 5% Significance Level~~

~~Lognormal Statistics~~

Minimum of Logged Data	3.388	Mean of logged Data	3.85
Maximum of Logged Data	4.605	SD of logged Data	0.38

Assuming Lognormal Distribution

95% H-UCL	61.52	90% Chebyshev (MVUE) UCL	65.26
95% Chebyshev (MVUE) UCL	72.07	97.5% Chebyshev (MVUE) UCL	81.51
99% Chebyshev (MVUE) UCL	100.1		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	59.1	95% Jackknife UCL	59.72
95% Standard Bootstrap UCL	58.8	95% Bootstrap-t UCL	61.68
95% Hall's Bootstrap UCL	61.55	95% Percentile Bootstrap UCL	58.77
95% BCA Bootstrap UCL	60.3		
90% Chebyshev(Mean, Sd) UCL	66.28	95% Chebyshev(Mean, Sd) UCL	73.49
97.5% Chebyshev(Mean, Sd) UCL	83.48	99% Chebyshev(Mean, Sd) UCL	103.1

Suggested UCL to Use

95% Adjusted Gamma UCL	62.01

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Cu

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
		Number of Missing Observations	2
Number of Detects	12	Number of Non-Detects	3
Number of Distinct Detects	12	Number of Distinct Non-Detects	3
Minimum Detect	6.35	Minimum Non-Detect	3.99
Maximum Detect	28.45	Maximum Non-Detect	4.45
Variance Detects	45.7	Percent Non-Detects	0.2
Mean Detects	11.35	SD Detects	6.761
Median Detects	8.54	CV Detects	0.595
Skewness Detects	1.915	Kurtosis Detects	3.221
Mean of Logged Detects	2.31	SD of Logged Detects	0.473

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.734	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.859	Detected Data Not Normal at 5% Significance Level	

~~Lilliefors Test Statistic~~	~~0.241~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.243~~	~~Detected Data appear Normal at 5% Significance Level~~	
~~Detected Data appear Approximate Normal at 5% Significance Level~~			

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~9.881~~	~~KM Standard Error of Mean~~	~~1.752~~
~~KM SD~~	~~6.496~~	~~95% KM (BCA) UCL~~	~~13.1~~
~~95% KM (t) UCL~~	~~12.97~~	~~95% KM (Percentile Bootstrap) UCL~~	~~12.8~~
~~95% KM (z) UCL~~	~~12.76~~	~~95% KM Bootstrap t UCL~~	~~16.36~~
~~90% KM Chebyshev UCL~~	~~15.14~~	~~95% KM Chebyshev UCL~~	~~17.52~~
~~97.5% KM Chebyshev UCL~~	~~20.82~~	~~99% KM Chebyshev UCL~~	~~27.31~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~0.931~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.734~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.22~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.246~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~Detected data follow Appr. Gamma Distribution at 5% Significance Level~~			

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~4.354~~	~~k star (bias corrected MLE)~~	~~3.321~~
~~Theta hat (MLE)~~	~~2.607~~	~~Theta star (bias corrected MLE)~~	~~3.418~~
~~nu hat (MLE)~~	~~104.5~~	~~nu star (bias corrected)~~	~~79.71~~
~~Mean (detects)~~	~~11.35~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~0.01~~	~~Mean~~	~~9.085~~
~~Maximum~~	~~28.45~~	~~Median~~	~~7.4~~
~~SD~~	~~7.614~~	~~CV~~	~~0.838~~
~~k hat (MLE)~~	~~0.497~~	~~k star (bias corrected MLE)~~	~~0.442~~
~~Theta hat (MLE)~~	~~18.28~~	~~Theta star (bias corrected MLE)~~	~~20.55~~
~~nu hat (MLE)~~	~~14.91~~	~~nu star (bias corrected)~~	~~13.26~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (13.26, α)~~	~~6.068~~	~~Adjusted Chi Square Value (13.26, β)~~	~~5.479~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~19.85~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~21.99~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~9.881~~	~~SD (KM)~~	~~6.496~~
~~Variance (KM)~~	~~42.19~~	~~SE of Mean (KM)~~	~~1.752~~
~~k hat (KM)~~	~~2.314~~	~~k star (KM)~~	~~1.896~~
~~nu hat (KM)~~	~~69.42~~	~~nu star (KM)~~	~~56.87~~
~~theta hat (KM)~~	~~4.27~~	~~theta star (KM)~~	~~5.213~~
~~80% gamma percentile (KM)~~	~~14.89~~	~~90% gamma percentile (KM)~~	~~19.46~~
~~95% gamma percentile (KM)~~	~~23.84~~	~~99% gamma percentile (KM)~~	~~33.58~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (56.87, α)~~	~~40.53~~	~~Adjusted Chi Square Value (56.87, β)~~	~~38.84~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~13.86~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~14.47~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.853~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.859~~	~~Detected Data Not Lognormal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.197~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.243~~	~~Detected Data appear Lognormal at 5% Significance Level~~

~~Detected Data appear Approximate Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~9.766~~	~~Mean in Log Scale~~	~~2.094~~
~~SD in Original Scale~~	~~6.834~~	~~SD in Log Scale~~	~~0.613~~
~~95% t UCL (assumes normality of ROS data)~~	~~12.87~~	~~95% Percentile Bootstrap UCL~~	~~12.73~~
~~95% BCA Bootstrap UCL~~	~~13.54~~	~~95% Bootstrap t UCL~~	~~15.51~~
~~95% H-UCL (Log ROS)~~	~~14.05~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~2.125~~	~~KM Geo Mean~~	~~8.373~~
~~KM SD (logged)~~	~~0.549~~	~~95% Critical H Value (KM-Log)~~	~~2.122~~
~~KM Standard Error of Mean (logged)~~	~~0.148~~	~~95% H-UCL (KM -Log)~~	~~13.29~~
~~KM SD (logged)~~	~~0.549~~	~~95% Critical H Value (KM-Log)~~	~~2.122~~
~~KM Standard Error of Mean (logged)~~	~~0.148~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~9.501~~	~~Mean in Log Scale~~	~~1.996~~
~~SD in Original Scale~~	~~7.114~~	~~SD in Log Scale~~	~~0.775~~
~~95% t UCL (Assumes normality)~~	~~12.74~~	~~95% H-Stat UCL~~	~~16.35~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~

~~Detected Data appear Approximate Normal Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~95% KM (t) UCL~~	~~12.97~~

~~When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test~~
~~When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size,~~
~~data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~RDX~~

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~8~~
		~~Number of Missing Observations~~	~~2~~
~~Number of Detects~~	~~6~~	~~Number of Non-Detects~~	~~9~~
~~Number of Distinct Detects~~	~~6~~	~~Number of Distinct Non-Detects~~	~~2~~
~~Minimum Detect~~	~~4.53~~	~~Minimum Non-Detect~~	~~0.149~~
~~Maximum Detect~~	~~607~~	~~Maximum Non-Detect~~	~~0.15~~
~~Variance Detects~~	~~56157~~	~~Percent Non-Detects~~	~~0.6~~
~~Mean Detects~~	~~126~~	~~SD Detects~~	~~237~~
~~Median Detects~~	~~33.5~~	~~CV Detects~~	~~1.881~~
~~Skewness Detects~~	~~2.389~~	~~Kurtosis Detects~~	~~5.764~~
~~Mean of Logged Detects~~	~~3.468~~	~~SD of Logged Detects~~	~~1.826~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.59~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.788~~	~~Detected Data Not Normal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.423~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.325~~	~~Detected Data Not Normal at 5% Significance Level~~

~~Detected Data Not Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~50.48~~	~~KM Standard Error of Mean~~	~~42.44~~
~~KM SD~~	~~150.1~~	~~95% KM (BCA) UCL~~	~~131.8~~
~~95% KM (t) UCL~~	~~125.2~~	~~95% KM (Percentile Bootstrap) UCL~~	~~129.1~~
~~95% KM (z) UCL~~	~~120.3~~	~~95% KM Bootstrap t UCL~~	~~562~~
~~90% KM Chebyshev UCL~~	~~177.8~~	~~95% KM Chebyshev UCL~~	~~235.5~~
~~97.5% KM Chebyshev UCL~~	~~315.5~~	~~99% KM Chebyshev UCL~~	~~472.8~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~0.528~~	~~Anderson-Darling GOF Test~~

~~5% A-D Critical Value~~	~~0.741~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.271~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.35~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.469~~	~~k star (bias corrected MLE)~~	~~0.346~~
~~Theta hat (MLE)~~	~~268.6~~	~~Theta star (bias corrected MLE)~~	~~364.5~~
~~nu hat (MLE)~~	~~5.628~~	~~nu star (bias corrected)~~	~~4.148~~
~~Mean (detects)~~	~~126~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~0.01~~	~~Mean~~	~~50.4~~
~~Maximum~~	~~607~~	~~Median~~	~~0.01~~
~~SD~~	~~155.4~~	~~CV~~	~~3.083~~
~~k hat (MLE)~~	~~0.146~~	~~k star (bias corrected MLE)~~	~~0.161~~
~~Theta hat (MLE)~~	~~345.8~~	~~Theta star (bias corrected MLE)~~	~~313~~
~~nu hat (MLE)~~	~~4.372~~	~~nu star (bias corrected)~~	~~4.831~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (4.83, α)~~	~~1.075~~	~~Adjusted Chi Square Value (4.83, β)~~	~~0.877~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~226.5~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~277.8~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~50.48~~	~~SD (KM)~~	~~150.1~~
~~Variance (KM)~~	~~22519~~	~~SE of Mean (KM)~~	~~42.44~~
~~k hat (KM)~~	~~0.113~~	~~k star (KM)~~	~~0.135~~
~~nu hat (KM)~~	~~3.395~~	~~nu star (KM)~~	~~4.049~~
~~theta hat (KM)~~	~~446.1~~	~~theta star (KM)~~	~~374~~
~~80% gamma percentile (KM)~~	~~50.04~~	~~90% gamma percentile (KM)~~	~~147.1~~
~~95% gamma percentile (KM)~~	~~283.2~~	~~99% gamma percentile (KM)~~	~~687.2~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (4.05, α)~~	~~0.741~~	~~Adjusted Chi Square Value (4.05, β)~~	~~0.589~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~275.8~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~347~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.923~~	~~Shapiro Wilk GOF Test~~	

~~5% Shapiro Wilk Critical Value~~	~~0.788~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.181~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.325~~	~~Detected Data appear Lognormal at 5% Significance Level~~	

~~Detected Data appear Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~50.52~~	~~Mean in Log Scale~~	~~-0.198~~
~~SD in Original Scale~~	~~155.3~~	~~SD in Log Scale~~	~~3.586~~
~~95% t UCL (assumes normality of ROS data)~~	~~121.2~~	~~95% Percentile Bootstrap UCL~~	~~127.1~~
~~95% BCA Bootstrap UCL~~	~~170~~	~~95% Bootstrap t UCL~~	~~653.8~~
~~95% H-UCL (Log ROS)~~	~~850951~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~0.245~~	~~KM Geo Mean~~	~~1.278~~
~~KM SD (logged)~~	~~2.835~~	~~95% Critical H Value (KM-Log)~~	~~6.234~~
~~KM Standard Error of Mean (logged)~~	~~0.802~~	~~95% H-UCL (KM -Log)~~	~~7997~~
~~KM SD (logged)~~	~~2.835~~	~~95% Critical H Value (KM-Log)~~	~~6.234~~
~~KM Standard Error of Mean (logged)~~	~~0.802~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~50.44~~	~~Mean in Log Scale~~	~~-0.169~~
~~SD in Original Scale~~	~~155.3~~	~~SD in Log Scale~~	~~3.262~~
~~95% t UCL (Assumes normality)~~	~~121.1~~	~~95% H-Stat UCL~~	~~83871~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~
~~Detected Data appear Gamma Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~347~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~UCL Statistics for Data Sets with Non-Detects~~

~~User Selected Options~~
~~Date/Time of Computation~~
~~From File~~
~~Full Precision~~
~~Confidence Coefficient~~
~~Number of Bootstrap Operations~~

~~B2EHP~~

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
		~~Number of Missing Observations~~	~~2~~
~~Number of Detects~~	~~10~~	~~Number of Non-Detects~~	~~5~~
~~Number of Distinct Detects~~	~~10~~	~~Number of Distinct Non-Detects~~	~~5~~
~~Minimum Detect~~	~~0.0111~~	~~Minimum Non-Detect~~	~~0.0106~~
~~Maximum Detect~~	~~31.41~~	~~Maximum Non-Detect~~	~~0.0505~~
~~Variance Detects~~	~~95.09~~	~~Percent Non-Detects~~	~~0.3333~~
~~Mean Detects~~	~~3.862~~	~~SD Detects~~	~~9.751~~
~~Median Detects~~	~~0.166~~	~~CV Detects~~	~~2.525~~
~~Skewness Detects~~	~~3.078~~	~~Kurtosis Detects~~	~~9.594~~
~~Mean of Logged Detects~~	~~-1.568~~	~~SD of Logged Detects~~	~~2.84~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.457~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.842~~	~~Detected Data Not Normal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.416~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.262~~	~~Detected Data Not Normal at 5% Significance Level~~

~~Detected Data Not Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~2.579~~	~~KM Standard Error of Mean~~	~~2.114~~
~~KM SD~~	~~7.768~~	~~95% KM (BCA) UCL~~	~~6.628~~
~~95% KM (t) UCL~~	~~6.303~~	~~95% KM (Percentile Bootstrap) UCL~~	~~6.686~~
~~95% KM (z) UCL~~	~~6.056~~	~~95% KM Bootstrap t UCL~~	~~32.6~~
~~90% KM Chebyshev UCL~~	~~8.922~~	~~95% KM Chebyshev UCL~~	~~11.79~~
~~97.5% KM Chebyshev UCL~~	~~15.78~~	~~99% KM Chebyshev UCL~~	~~23.62~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~0.785~~	~~Anderson-Darling GOF Test~~
~~5% A-D Critical Value~~	~~0.837~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~
~~K-S Test Statistic~~	~~0.237~~	~~Kolmogorov-Smirnov GOF~~
~~5% K-S Critical Value~~	~~0.291~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.244~~	~~k star (bias corrected MLE)~~	~~0.238~~
~~Theta hat (MLE)~~	~~15.82~~	~~Theta star (bias corrected MLE)~~	~~16.25~~
~~nu hat (MLE)~~	~~4.884~~	~~nu star (bias corrected)~~	~~4.752~~
~~Mean (detects)~~	~~3.862~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~0.01~~	~~Mean~~	~~2.578~~
~~Maximum~~	~~31.41~~	~~Median~~	~~0.0138~~
~~SD~~	~~8.041~~	~~CV~~	~~3.119~~
~~k hat (MLE)~~	~~0.207~~	~~k star (bias corrected MLE)~~	~~0.21~~
~~Theta hat (MLE)~~	~~12.43~~	~~Theta star (bias corrected MLE)~~	~~12.25~~
~~nu hat (MLE)~~	~~6.223~~	~~nu star (bias corrected)~~	~~6.312~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (6.31, α)~~	~~1.801~~	~~Adjusted Chi Square Value (6.31, β)~~	~~1.521~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~9.035~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~10.7~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~2.579~~	~~SD (KM)~~	~~7.768~~
~~Variance (KM)~~	~~60.35~~	~~SE of Mean (KM)~~	~~2.114~~
~~k hat (KM)~~	~~0.11~~	~~k star (KM)~~	~~0.133~~
~~nu hat (KM)~~	~~3.306~~	~~nu star (KM)~~	~~3.978~~
~~theta hat (KM)~~	~~23.4~~	~~theta star (KM)~~	~~19.45~~
~~80% gamma percentile (KM)~~	~~2.513~~	~~90% gamma percentile (KM)~~	~~7.485~~
~~95% gamma percentile (KM)~~	~~14.51~~	~~99% gamma percentile (KM)~~	~~35.43~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (3.98, α)~~	~~0.713~~	~~Adjusted Chi Square Value (3.98, β)~~	~~0.565~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~14.39~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~18.15~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.889~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.842~~	~~Detected Data appear Lognormal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.206~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.262~~	~~Detected Data appear Lognormal at 5% Significance Level~~

~~Detected Data appear Lognormal at 5% Significance Level~~

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.575	Mean in Log Scale	-3.511
SD in Original Scale	8.042	SD in Log Scale	3.704
95% t UCL (assumes normality of ROS data)	6.233	95% Percentile Bootstrap UCL	6.531
95% BCA Bootstrap UCL	8.998	95% Bootstrap t UCL	35.62
95% H-UCL (Log ROS)	77760		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.539	KM Geo Mean	0.079
KM SD (logged)	2.597	95% Critical H Value (KM-Log)	5.751
KM Standard Error of Mean (logged)	0.708	95% H-UCL (KM -Log)	124.4
KM SD (logged)	2.597	95% Critical H Value (KM-Log)	5.751
KM Standard Error of Mean (logged)	0.708		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.578	Mean in Log Scale	-2.678
SD in Original Scale	8.041	SD in Log Scale	2.821
95% t UCL (Assumes normality)	6.235	95% H-Stat UCL	394.5

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics
Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	18.15

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

HMX

General Statistics

Total Number of Observations	15	Number of Distinct Observations	8
		Number of Missing Observations	2
Number of Detects	6	Number of Non-Detects	9
Number of Distinct Detects	6	Number of Distinct Non-Detects	2
Minimum Detect	2.31	Minimum Non-Detect	0.149
Maximum Detect	155	Maximum Non-Detect	0.15
Variance Detects	3685	Percent Non-Detects	0.6

~~Mean Detects~~	~~42.23~~	~~SD Detects~~	~~60.71~~
~~Median Detects~~	~~9.75~~	~~CV Detects~~	~~1.437~~
~~Skewness Detects~~	~~1.712~~	~~Kurtosis Detects~~	~~2.443~~
~~Mean of Logged Detects~~	~~2.757~~	~~SD of Logged Detects~~	~~1.581~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.733~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.788~~	~~Detected Data Not Normal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.355~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.325~~	~~Detected Data Not Normal at 5% Significance Level~~

~~Detected Data Not Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~16.98~~	~~KM Standard Error of Mean~~	~~11.5~~
~~KM SD~~	~~40.66~~	~~95% KM (BCA) UCL~~	~~36.57~~
~~95% KM (t) UCL~~	~~37.24~~	~~95% KM (Percentile Bootstrap) UCL~~	~~36.35~~
~~95% KM (z) UCL~~	~~35.9~~	~~95% KM Bootstrap t UCL~~	~~159.9~~
~~90% KM Chebyshev UCL~~	~~51.49~~	~~95% KM Chebyshev UCL~~	~~67.12~~
~~97.5% KM Chebyshev UCL~~	~~88.81~~	~~99% KM Chebyshev UCL~~	~~131.4~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~0.494~~	~~Anderson-Darling GOF Test~~
~~5% A-D Critical Value~~	~~0.729~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~
~~K-S Test Statistic~~	~~0.304~~	~~Kolmogorov-Smirnov GOF~~
~~5% K-S Critical Value~~	~~0.346~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.623~~	~~k star (bias corrected MLE)~~	~~0.423~~
~~Theta hat (MLE)~~	~~67.81~~	~~Theta star (bias corrected MLE)~~	~~99.95~~
~~nu hat (MLE)~~	~~7.474~~	~~nu star (bias corrected)~~	~~5.07~~
~~Mean (detects)~~	~~42.23~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~0.01~~	~~Mean~~	~~16.9~~
~~Maximum~~	~~155~~	~~Median~~	~~0.01~~
~~SD~~	~~42.13~~	~~CV~~	~~2.493~~
~~k hat (MLE)~~	~~0.168~~	~~k star (bias corrected MLE)~~	~~0.179~~
~~Theta hat (MLE)~~	~~100.4~~	~~Theta star (bias corrected MLE)~~	~~94.34~~

~~nu hat (MLE)~~	~~5.051~~	~~nu star (bias corrected)~~	~~5.374~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (5.37, α)~~	~~1.329~~	~~Adjusted Chi Square Value (5.37, β)~~	~~1.1~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~68.34~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~82.59~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~16.98~~	~~SD (KM)~~	~~40.66~~
~~Variance (KM)~~	~~1654~~	~~SE of Mean (KM)~~	~~11.5~~
~~k hat (KM)~~	~~0.174~~	~~k star (KM)~~	~~0.184~~
~~nu hat (KM)~~	~~5.233~~	~~nu star (KM)~~	~~5.52~~
~~theta hat (KM)~~	~~97.36~~	~~theta star (KM)~~	~~92.31~~
~~80% gamma percentile (KM)~~	~~21.35~~	~~90% gamma percentile (KM)~~	~~51.27~~
~~95% gamma percentile (KM)~~	~~89.37~~	~~99% gamma percentile (KM)~~	~~195.7~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (5.52, α)~~	~~1.399~~	~~Adjusted Chi Square Value (5.52, β)~~	~~1.162~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~66.98~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~80.66~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.926~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.788~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.225~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.325~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Lognormal at 5% Significance Level~~			

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~17.01~~	~~Mean in Log Scale~~	~~-0.42~~
~~SD in Original Scale~~	~~42.08~~	~~SD in Log Scale~~	~~3.107~~
~~95% t UCL (assumes normality of ROS data)~~	~~36.15~~	~~95% Percentile Bootstrap UCL~~	~~36.84~~
~~95% BCA Bootstrap UCL~~	~~48.62~~	~~95% Bootstrap t UCL~~	~~200.4~~
~~95% H-UCL (Log ROS)~~	~~22888~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-0.0396~~	~~KM Geo Mean~~	~~0.961~~
~~KM SD (logged)~~	~~2.459~~	~~95% Critical H Value (KM-Log)~~	~~5.474~~
~~KM Standard Error of Mean (logged)~~	~~0.695~~	~~95% H-UCL (KM -Log)~~	~~720.6~~
~~KM SD (logged)~~	~~2.459~~	~~95% Critical H Value (KM-Log)~~	~~5.474~~
~~KM Standard Error of Mean (logged)~~	~~0.695~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~	~~DL/2 Log-Transformed~~

~~Mean in Original Scale~~	~~16.94~~	~~Mean in Log Scale~~	~~-0.454~~
~~SD in Original Scale~~	~~42.11~~	~~SD in Log Scale~~	~~2.873~~
~~95% t UCL (Assumes normality)~~	~~36.09~~	~~95% H-Stat UCL~~	~~5008~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~
~~Detected Data appear Gamma Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~80.66~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~PETN~~

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~5~~
		~~Number of Missing Observations~~	~~2~~
~~Number of Detects~~	~~1~~	~~Number of Non-Detects~~	~~14~~
~~Number of Distinct Detects~~	~~1~~	~~Number of Distinct Non-Detects~~	~~4~~

~~Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!~~
~~It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).~~

~~The data set for variable PETN was not processed!~~

~~TATB~~

~~General Statistics~~

~~Total Number of Observations~~	~~14~~	~~Number of Distinct Observations~~	~~11~~
		~~Number of Missing Observations~~	~~2~~
~~Number of Detects~~	~~9~~	~~Number of Non-Detects~~	~~5~~
~~Number of Distinct Detects~~	~~9~~	~~Number of Distinct Non-Detects~~	~~2~~
~~Minimum Detect~~	~~0.824~~	~~Minimum Non-Detect~~	~~0.299~~
~~Maximum Detect~~	~~32.8~~	~~Maximum Non-Detect~~	~~0.3~~
~~Variance Detects~~	~~131.8~~	~~Percent Non-Detects~~	~~0.3571~~
~~Mean Detects~~	~~12.01~~	~~SD Detects~~	~~11.48~~
~~Median Detects~~	~~11.6~~	~~CV Detects~~	~~0.956~~

~~Skewness Detects~~	~~0.826~~	~~Kurtosis Detects~~	~~-0.301~~
~~Mean of Logged Detects~~	~~1.795~~	~~SD of Logged Detects~~	~~1.467~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.881~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.829~~	~~Detected Data appear Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.201~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.274~~	~~Detected Data appear Normal at 5% Significance Level~~	

~~Detected Data appear Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~7.827~~	~~KM Standard Error of Mean~~	~~2.93~~
~~KM SD~~	~~10.34~~	~~95% KM (BCA) UCL~~	~~12.91~~
~~95% KM (t) UCL~~	~~13.02~~	~~95% KM (Percentile Bootstrap) UCL~~	~~12.5~~
~~95% KM (z) UCL~~	~~12.65~~	~~95% KM Bootstrap t UCL~~	~~15.23~~
~~90% KM Chebyshev UCL~~	~~16.62~~	~~95% KM Chebyshev UCL~~	~~20.6~~
~~97.5% KM Chebyshev UCL~~	~~26.12~~	~~99% KM Chebyshev UCL~~	~~36.98~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~0.465~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.748~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.216~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.288~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.853~~	~~k star (bias corrected MLE)~~	~~0.642~~
~~Theta hat (MLE)~~	~~14.09~~	~~Theta star (bias corrected MLE)~~	~~18.69~~
~~nu hat (MLE)~~	~~15.35~~	~~nu star (bias corrected)~~	~~11.56~~
~~Mean (detects)~~	~~12.01~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~0.01~~	~~Mean~~	~~7.724~~
~~Maximum~~	~~32.8~~	~~Median~~	~~1.027~~
~~SD~~	~~10.8~~	~~CV~~	~~1.399~~
~~k hat (MLE)~~	~~0.276~~	~~k star (bias corrected MLE)~~	~~0.264~~
~~Theta hat (MLE)~~	~~28.01~~	~~Theta star (bias corrected MLE)~~	~~29.22~~
~~nu hat (MLE)~~	~~7.722~~	~~nu star (bias corrected)~~	~~7.401~~
~~Adjusted Level of Significance (β)~~	~~0.0312~~		

~~Approximate Chi Square Value (7.40, α)~~	~~2.393~~	~~Adjusted Chi Square Value (7.40, β)~~	~~2.033~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~23.89~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~28.12~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~7.827~~	~~SD (KM)~~	~~10.34~~
~~Variance (KM)~~	~~106.8~~	~~SE of Mean (KM)~~	~~2.93~~
~~k hat (KM)~~	~~0.574~~	~~k star (KM)~~	~~0.498~~
~~nu hat (KM)~~	~~16.06~~	~~nu star (KM)~~	~~13.95~~
~~theta hat (KM)~~	~~13.65~~	~~theta star (KM)~~	~~15.71~~
~~80% gamma percentile (KM)~~	~~12.85~~	~~90% gamma percentile (KM)~~	~~21.19~~
~~95% gamma percentile (KM)~~	~~30.1~~	~~99% gamma percentile (KM)~~	~~52.03~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (13.95, α)~~	~~6.539~~	~~Adjusted Chi Square Value (13.95, β)~~	~~5.877~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~16.7~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~18.58~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.855~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.829~~	~~Detected Data appear Lognormal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.228~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.274~~	~~Detected Data appear Lognormal at 5% Significance Level~~

~~Detected Data appear Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~7.795~~	~~Mean in Log Scale~~	~~0.513~~
~~SD in Original Scale~~	~~10.75~~	~~SD in Log Scale~~	~~2.171~~
~~95% t UCL (assumes normality of ROS data)~~	~~12.88~~	~~95% Percentile Bootstrap UCL~~	~~12.48~~
~~95% BCA Bootstrap UCL~~	~~13.38~~	~~95% Bootstrap t UCL~~	~~16.04~~
~~95% H-UCL (Log ROS)~~	~~362.2~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~0.723~~	~~KM Geo Mean~~	~~2.061~~
~~KM SD (logged)~~	~~1.817~~	~~95% Critical H Value (KM-Log)~~	~~4.308~~
~~KM Standard Error of Mean (logged)~~	~~0.515~~	~~95% H-UCL (KM -Log)~~	~~94.03~~
~~KM SD (logged)~~	~~1.817~~	~~95% Critical H Value (KM-Log)~~	~~4.308~~
~~KM Standard Error of Mean (logged)~~	~~0.515~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~7.774~~	~~Mean in Log Scale~~	~~0.476~~
~~SD in Original Scale~~	~~10.77~~	~~SD in Log Scale~~	~~2.168~~

95% t UCL (Assumes normality)	12.87	95% H-Stat UCL	344.5

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~
~~Detected Data appear Normal Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

95% KM (t) UCL	13.02

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~TNT~~

~~General Statistics~~

Total Number of Observations	15	Number of Distinct Observations	9
		Number of Missing Observations	2
Number of Detects	7	Number of Non-Detects	8
Number of Distinct Detects	7	Number of Distinct Non-Detects	2
Minimum Detect	0.193	Minimum Non-Detect	0.149
Maximum Detect	8.27	Maximum Non-Detect	0.15
Variance Detects	10.34	Percent Non-Detects	0.5333
Mean Detects	2.9	SD Detects	3.215
Median Detects	1.99	CV Detects	1.109
Skewness Detects	1.065	Kurtosis Detects	-0.481
Mean of Logged Detects	0.308	SD of Logged Detects	1.492

~~Normal GOF Test on Detects Only~~

Shapiro Wilk Test Statistic	0.827	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.279	Lilliefors GOF Test
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level

~~Detected Data appear Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

KM Mean	1.433	KM Standard Error of Mean	0.684
KM SD	2.453	95% KM (BCA) UCL	2.511
95% KM (t) UCL	2.638	95% KM (Percentile Bootstrap) UCL	2.58
95% KM (z) UCL	2.558	95% KM Bootstrap t UCL	4.47
90% KM Chebyshev UCL	3.485	95% KM Chebyshev UCL	4.415
97.5% KM Chebyshev UCL	5.705	99% KM Chebyshev UCL	8.24

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.3	Anderson-Darling GOF Test
5% A-D Critical Value	0.735	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.167	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.322	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.786	k star (bias corrected MLE)	0.544
Theta hat (MLE)	3.691	Theta star (bias corrected MLE)	5.328
nu hat (MLE)	11	nu star (bias corrected)	7.619
Mean (detects)	2.9		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.359
Maximum	8.27	Median	0.01
SD	2.58	CV	1.899
k hat (MLE)	0.268	k star (bias corrected MLE)	0.259
Theta hat (MLE)	5.067	Theta star (bias corrected MLE)	5.246
nu hat (MLE)	8.044	nu star (bias corrected)	7.769
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (7.77, α)	2.602	Adjusted Chi Square Value (7.77, β)	2.248
95% Gamma Approximate UCL (use when n>=50)	4.057	95% Gamma Adjusted UCL (use when n<50)	4.695

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	1.433	SD (KM)	2.453
Variance (KM)	6.018	SE of Mean (KM)	0.684
k hat (KM)	0.341	k star (KM)	0.317
nu hat (KM)	10.23	nu star (KM)	9.519
theta hat (KM)	4.201	theta star (KM)	4.515
80% gamma percentile (KM)	2.226	90% gamma percentile (KM)	4.196
95% gamma percentile (KM)	6.436	99% gamma percentile (KM)	12.22

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (9.52, α)	3.644	Adjusted Chi Square Value (9.52, β)	3.209
95% Gamma Approximate KM-UCL (use when n>=50)	3.743	95% Gamma Adjusted KM-UCL (use when n<50)	4.25

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.921~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.803~~	~~Detected Data appear Lognormal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.172~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.304~~	~~Detected Data appear Lognormal at 5% Significance Level~~

~~Detected Data appear Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~1.368~~	~~Mean in Log Scale~~	~~-2.08~~
~~SD in Original Scale~~	~~2.575~~	~~SD in Log Scale~~	~~2.671~~
~~95% t UCL (assumes normality of ROS data)~~	~~2.539~~	~~95% Percentile Bootstrap UCL~~	~~2.482~~
~~95% BCA Bootstrap UCL~~	~~2.728~~	~~95% Bootstrap t UCL~~	~~4.717~~
~~95% H-UCL (Log ROS)~~	~~299.4~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-0.872~~	~~KM Geo Mean~~	~~0.418~~
~~KM SD (logged)~~	~~1.452~~	~~95% Critical H Value (KM-Log)~~	~~3.523~~
~~KM Standard Error of Mean (logged)~~	~~0.405~~	~~95% H-UCL (KM -Log)~~	~~4.705~~
~~KM SD (logged)~~	~~1.452~~	~~95% Critical H Value (KM-Log)~~	~~3.523~~
~~KM Standard Error of Mean (logged)~~	~~0.405~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~1.393~~	~~Mean in Log Scale~~	~~-1.24~~
~~SD in Original Scale~~	~~2.561~~	~~SD in Log Scale~~	~~1.789~~
~~95% t UCL (Assumes normality)~~	~~2.558~~	~~95% H-Stat UCL~~	~~10.44~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~
~~Detected Data appear Normal Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~95% KM (t) UCL~~	~~2.638~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~UCL Statistics for Data Sets with Non-Detects~~

~~User Selected Options~~
~~Date/Time of Computation~~
~~From File~~
~~Full Precision~~
~~Confidence Coefficient~~
~~Number of Bootstrap Operations~~

~~Se~~

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
		~~Number of Missing Observations~~	~~2~~
~~Minimum~~	~~0.958~~	~~Mean~~	~~1.554~~
~~Maximum~~	~~2.78~~	~~Median~~	~~1.61~~
~~SD~~	~~0.489~~	~~Std. Error of Mean~~	~~0.126~~
~~Coefficient of Variation~~	~~0.315~~	~~Skewness~~	~~0.971~~

~~Normal GOF Test~~

~~Shapiro Wilk Test Statistic~~	~~0.913~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data appear Normal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.14~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data appear Normal at 5% Significance Level~~

~~Data appear Normal at 5% Significance Level~~

~~Assuming Normal Distribution~~

~~95% Normal UCL~~		~~95% UCLs (Adjusted for Skewness)~~	
~~95% Student's-t UCL~~	~~1.776~~	~~95% Adjusted-CLT UCL (Chen-1995)~~	~~1.795~~
		~~95% Modified-t UCL (Johnson-1978)~~	~~1.781~~

~~Gamma GOF Test~~

~~A-D Test Statistic~~	~~0.35~~	~~Anderson-Darling Gamma GOF Test~~
~~5% A-D Critical Value~~	~~0.737~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~
~~K-S Test Statistic~~	~~0.158~~	~~Kolmogorov-Smirnov Gamma GOF Test~~
~~5% K-S Critical Value~~	~~0.221~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics~~

~~k hat (MLE)~~	~~11.65~~	~~k star (bias corrected MLE)~~	~~9.362~~
~~Theta hat (MLE)~~	~~0.133~~	~~Theta star (bias corrected MLE)~~	~~0.166~~
~~nu hat (MLE)~~	~~349.4~~	~~nu star (bias corrected)~~	~~280.9~~
~~MLE Mean (bias corrected)~~	~~1.554~~	~~MLE Sd (bias corrected)~~	~~0.508~~
		~~Approximate Chi Square Value (0.05)~~	~~243~~
~~Adjusted Level of Significance~~	~~0.0324~~	~~Adjusted Chi Square Value~~	~~238.7~~

~~Assuming Gamma Distribution~~

~~95% Approximate Gamma UCL (use when n>=50))~~	~~1.796~~	~~95% Adjusted Gamma UCL (use when n<50)~~	~~1.828~~

~~Lognormal GOF Test~~

~~Shapiro Wilk Test Statistic~~	~~0.951~~	~~Shapiro Wilk Lognormal GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.151~~	~~Lilliefors Lognormal GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data appear Lognormal at 5% Significance Level~~	

~~Data appear Lognormal at 5% Significance Level~~

~~Lognormal Statistics~~

~~Minimum of Logged Data~~	~~-0.0429~~	~~Mean of logged Data~~	~~0.397~~
~~Maximum of Logged Data~~	~~1.022~~	~~SD of logged Data~~	~~0.303~~

~~Assuming Lognormal Distribution~~

~~95% H-UCL~~	~~1.814~~	~~90% Chebyshev (MVUE) UCL~~	~~1.921~~
~~95% Chebyshev (MVUE) UCL~~	~~2.088~~	~~97.5% Chebyshev (MVUE) UCL~~	~~2.32~~
~~99% Chebyshev (MVUE) UCL~~	~~2.775~~		

~~Nonparametric Distribution Free UCL Statistics~~
~~Data appear to follow a Discernible Distribution at 5% Significance Level~~

~~Nonparametric Distribution Free UCLs~~

~~95% CLT UCL~~	~~1.761~~	~~95% Jackknife UCL~~	~~1.776~~
~~95% Standard Bootstrap UCL~~	~~1.757~~	~~95% Bootstrap-t UCL~~	~~1.831~~
~~95% Hall's Bootstrap UCL~~	~~1.861~~	~~95% Percentile Bootstrap UCL~~	~~1.763~~
~~95% BCA Bootstrap UCL~~	~~1.784~~		
~~90% Chebyshev(Mean, Sd) UCL~~	~~1.933~~	~~95% Chebyshev(Mean, Sd) UCL~~	~~2.104~~
~~97.5% Chebyshev(Mean, Sd) UCL~~	~~2.342~~	~~99% Chebyshev(Mean, Sd) UCL~~	~~2.81~~

~~Suggested UCL to Use~~

~~95% Student's-t UCL~~	~~1.776~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

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~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
		~~Number of Missing Observations~~	~~2~~
~~Minimum~~	~~4.16~~	~~Mean~~	~~11.25~~

~~Maximum~~	~~26.85~~	~~Median~~	~~10.1~~
~~SD~~	~~5.694~~	~~Std. Error of Mean~~	~~1.47~~
~~Coefficient of Variation~~	~~0.506~~	~~Skewness~~	~~1.709~~

~~Normal GOF Test~~

~~Shapiro Wilk Test Statistic~~	~~0.832~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.216~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data appear Normal at 5% Significance Level~~	
~~Data appear Approximate Normal at 5% Significance Level~~			

~~Assuming Normal Distribution~~

~~95% Normal UCL~~		~~95% UCLs (Adjusted for Skewness)~~	
~~95% Student's-t UCL~~	~~13.84~~	~~95% Adjusted-CLT UCL (Chen-1995)~~	~~14.36~~
		~~95% Modified-t UCL (Johnson-1978)~~	~~13.95~~

~~Gamma GOF Test~~

~~A-D Test Statistic~~	~~0.528~~	~~Anderson-Darling Gamma GOF Test~~	
~~5% A-D Critical Value~~	~~0.739~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.166~~	~~Kolmogorov-Smirnov Gamma GOF Test~~	
~~5% K-S Critical Value~~	~~0.222~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~Detected data appear Gamma Distributed at 5% Significance Level~~			

~~Gamma Statistics~~

~~k hat (MLE)~~	~~5.077~~	~~k star (bias corrected MLE)~~	~~4.106~~
~~Theta hat (MLE)~~	~~2.216~~	~~Theta star (bias corrected MLE)~~	~~2.741~~
~~nu hat (MLE)~~	~~152.3~~	~~nu star (bias corrected)~~	~~123.2~~
~~MLE Mean (bias corrected)~~	~~11.25~~	~~MLE Sd (bias corrected)~~	~~5.553~~
		~~Approximate Chi Square Value (0.05)~~	~~98.55~~
~~Adjusted Level of Significance~~	~~0.0324~~	~~Adjusted Chi Square Value~~	~~95.84~~

~~Assuming Gamma Distribution~~

~~95% Approximate Gamma UCL (use when n>=50))~~	~~14.07~~	~~95% Adjusted Gamma UCL (use when n<50)~~	~~14.46~~

~~Lognormal GOF Test~~

~~Shapiro Wilk Test Statistic~~	~~0.951~~	~~Shapiro Wilk Lognormal GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.881~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.186~~	~~Lilliefors Lognormal GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.22~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Data appear Lognormal at 5% Significance Level~~			

~~Lognormal Statistics~~

~~Minimum of Logged Data~~	~~1.426~~	~~Mean of logged Data~~	~~2.319~~
~~Maximum of Logged Data~~	~~3.29~~	~~SD of logged Data~~	~~0.46~~

~~Assuming Lognormal Distribution~~

~~95% H-UCL~~	~~14.49~~	~~90% Chebyshev (MVUE) UCL~~	~~15.31~~
~~95% Chebyshev (MVUE) UCL~~	~~17.17~~	~~97.5% Chebyshev (MVUE) UCL~~	~~19.74~~
~~99% Chebyshev (MVUE) UCL~~	~~24.8~~		

~~Nonparametric Distribution Free UCL Statistics~~
~~Data appear to follow a Discernible Distribution at 5% Significance Level~~

~~Nonparametric Distribution Free UCLs~~

~~95% CLT UCL~~	~~13.67~~	~~95% Jackknife UCL~~	~~13.84~~
~~95% Standard Bootstrap UCL~~	~~13.61~~	~~95% Bootstrap-t UCL~~	~~15.5~~
~~95% Hall's Bootstrap UCL~~	~~28.95~~	~~95% Percentile Bootstrap UCL~~	~~13.54~~
~~95% BCA Bootstrap UCL~~	~~14.36~~		
~~90% Chebyshev(Mean, Sd) UCL~~	~~15.66~~	~~95% Chebyshev(Mean, Sd) UCL~~	~~17.66~~
~~97.5% Chebyshev(Mean, Sd) UCL~~	~~20.43~~	~~99% Chebyshev(Mean, Sd) UCL~~	~~25.88~~

~~Suggested UCL to Use~~

~~95% Student's-t UCL~~	~~13.84~~

~~When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test~~
~~When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~UCL Statistics for Data Sets with Non-Detects~~

~~User Selected Options~~
~~Date/Time of Computation~~
~~From File~~
~~Full Precision~~
~~Confidence Coefficient~~
~~Number of Bootstrap Operations~~

~~Sb~~

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~14~~
		~~Number of Missing Observations~~	~~2~~
~~Number of Detects~~	~~6~~	~~Number of Non-Detects~~	~~9~~
~~Number of Distinct Detects~~	~~6~~	~~Number of Distinct Non-Detects~~	~~8~~
~~Minimum Detect~~	~~0.418~~	~~Minimum Non-Detect~~	~~0.323~~

~~Maximum Detect~~	~~1.11~~	~~Maximum Non-Detect~~	~~0.392~~
~~Variance Detects~~	~~0.0641~~	~~Percent Non-Detects~~	~~0.6~~
~~Mean Detects~~	~~0.773~~	~~SD Detects~~	~~0.253~~
~~Median Detects~~	~~0.818~~	~~CV Detects~~	~~0.327~~
~~Skewness Detects~~	~~-0.229~~	~~Kurtosis Detects~~	~~-0.865~~
~~Mean of Logged Detects~~	~~-0.308~~	~~SD of Logged Detects~~	~~0.361~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.973~~	~~Shapiro Wilk GOF Test~~
~~5% Shapiro Wilk Critical Value~~	~~0.788~~	~~Detected Data appear Normal at 5% Significance Level~~
~~Lilliefors Test Statistic~~	~~0.168~~	~~Lilliefors GOF Test~~
~~5% Lilliefors Critical Value~~	~~0.325~~	~~Detected Data appear Normal at 5% Significance Level~~

~~Detected Data appear Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~0.503~~	~~KM Standard Error of Mean~~	~~0.0749~~
~~KM SD~~	~~0.265~~	~~95% KM (BCA) UCL~~	~~0.626~~
~~95% KM (t) UCL~~	~~0.635~~	~~95% KM (Percentile Bootstrap) UCL~~	~~0.625~~
~~95% KM (z) UCL~~	~~0.626~~	~~95% KM Bootstrap t UCL~~	~~0.616~~
~~90% KM Chebyshev UCL~~	~~0.728~~	~~95% KM Chebyshev UCL~~	~~0.829~~
~~97.5% KM Chebyshev UCL~~	~~0.971~~	~~99% KM Chebyshev UCL~~	~~1.248~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~0.256~~	~~Anderson-Darling GOF Test~~
~~5% A-D Critical Value~~	~~0.698~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~
~~K-S Test Statistic~~	~~0.203~~	~~Kolmogorov-Smirnov GOF~~
~~5% K-S Critical Value~~	~~0.332~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~10.04~~	~~k star (bias corrected MLE)~~	~~5.133~~
~~Theta hat (MLE)~~	~~0.077~~	~~Theta star (bias corrected MLE)~~	~~0.151~~
~~nu hat (MLE)~~	~~120.5~~	~~nu star (bias corrected)~~	~~61.59~~
~~Mean (detects)~~	~~0.773~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~0.01~~	~~Mean~~	~~0.36~~
~~Maximum~~	~~1.11~~	~~Median~~	~~0.0788~~
~~SD~~	~~0.383~~	~~CV~~	~~1.064~~

~~k hat (MLE)~~	~~0.839~~	~~k star (bias corrected MLE)~~	~~0.716~~
~~Theta hat (MLE)~~	~~0.429~~	~~Theta star (bias corrected MLE)~~	~~0.502~~
~~nu hat (MLE)~~	~~25.18~~	~~nu star (bias corrected)~~	~~21.48~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (21.48, α)~~	~~11.95~~	~~Adjusted Chi Square Value (21.48, β)~~	~~11.08~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.647~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.697~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~0.503~~	~~SD (KM)~~	~~0.265~~
~~Variance (KM)~~	~~0.07~~	~~SE of Mean (KM)~~	~~0.0749~~
~~k hat (KM)~~	~~3.615~~	~~k star (KM)~~	~~2.936~~
~~nu hat (KM)~~	~~108.4~~	~~nu star (KM)~~	~~88.09~~
~~theta hat (KM)~~	~~0.139~~	~~theta star (KM)~~	~~0.171~~
~~80% gamma percentile (KM)~~	~~0.719~~	~~90% gamma percentile (KM)~~	~~0.897~~
~~95% gamma percentile (KM)~~	~~1.062~~	~~99% gamma percentile (KM)~~	~~1.422~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (88.09, α)~~	~~67.45~~	~~Adjusted Chi Square Value (88.09, β)~~	~~65.23~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~0.657~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~0.679~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.943~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.788~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.194~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.325~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Lognormal at 5% Significance Level~~			

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~0.455~~	~~Mean in Log Scale~~	~~-0.975~~
~~SD in Original Scale~~	~~0.309~~	~~SD in Log Scale~~	~~0.61~~
~~95% t UCL (assumes normality of ROS data)~~	~~0.596~~	~~95% Percentile Bootstrap UCL~~	~~0.596~~
~~95% BCA Bootstrap UCL~~	~~0.609~~	~~95% Bootstrap t UCL~~	~~0.623~~
~~95% H-UCL (Log ROS)~~	~~0.65~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-0.801~~	~~KM Geo Mean~~	~~0.449~~
~~KM SD (logged)~~	~~0.454~~	~~95% Critical H Value (KM-Log)~~	~~2.02~~
~~KM Standard Error of Mean (logged)~~	~~0.128~~	~~95% H-UCL (KM -Log)~~	~~0.635~~
~~KM SD (logged)~~	~~0.454~~	~~95% Critical H Value (KM-Log)~~	~~2.02~~
~~KM Standard Error of Mean (logged)~~	~~0.128~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~0.416~~	~~Mean in Log Scale~~	~~-1.159~~
~~SD in Original Scale~~	~~0.338~~	~~SD in Log Scale~~	~~0.753~~
~~95% t UCL (Assumes normality)~~	~~0.57~~	~~95% H-Stat UCL~~	~~0.672~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~
~~Detected Data appear Normal Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~95% KM (t) UCL~~	~~0.635~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~
~~Recommendations are based upon data size, data distribution, and skewness.~~
~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~
~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

~~Dioxins~~

~~UCL Statistics for Data Sets with Non-Detects~~	-	-	-	-	-	-
-	-	-	-	-	-	-
~~User Selected Options~~	-	-	-	-	-	-
		~~ProUCL 5.1~~		**~~7/27/2019 3:30:47 PM~~**		
		-				
		-				
		-				
~~Date/Time of Computation~~	-					-
		~~ProUCL Dioxin 399.xls~~				
		-				
		-				
		-				
~~From File~~	-					-
~~Full Precision~~	-	**~~OFF~~**	-	-	-	-
~~Confidence Coefficient~~	-	**~~95%~~**	-	-	-	-
~~Number of Bootstrap Operations~~	-	**~~2000~~**	-	-	-	-
-	-	-	-	-	-	-
~~Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]~~	-	-	-	-	-	-
-	-	-	-	-	-	-
~~General Statistics~~	-	-	-	-	-	-
~~Total Number of Observations~~	-	-	~~15~~	~~Number of Distinct Observations~~	-	~~15~~
~~Number of Detects~~	-	-	~~14~~	~~Number of Non-Detects~~	-	~~1~~
~~Number of Distinct Detects~~	-	-	~~14~~	~~Number of Distinct Non-Detects~~	-	~~1~~
~~Minimum Detect~~	-	-	~~2.98E-06~~	~~Minimum Non-Detect~~	-	~~4.72E-07~~
~~Maximum Detect~~	-	-	~~0.0014~~	~~Maximum Non-Detect~~	-	~~4.72E-07~~
~~Variance Detects~~	-	-	~~1.35E-07~~	~~Percent Non-Detects~~	-	~~6.67%~~
~~Mean Detects~~	-	-	~~1.38E-04~~	~~SD Detects~~	-	~~3.67E-04~~
~~Median Detects~~	-	-	~~2.28E-05~~	~~CV Detects~~	-	~~2.651~~
~~Skewness Detects~~	-	-	~~3.615~~	~~Kurtosis Detects~~	-	~~13.28~~
~~Mean of Logged Detects~~	-	-	~~-10.43~~	~~SD of Logged Detects~~	-	~~1.577~~
-	-	-	-	-	-	-
~~Normal GOF Test on Detects Only~~	-	-	-	-	-	-
~~Shapiro Wilk Test Statistic~~			~~0.398~~	~~Shapiro Wilk GOF Test~~		
~~5% Shapiro Wilk Critical Value~~			~~0.874~~	~~Detected Data Not Normal at 5% Significance Level~~		
~~Lilliefors Test Statistic~~			~~0.393~~	~~Lilliefors GOF Test~~		
~~5% Lilliefors Critical Value~~			~~0.226~~	~~Detected Data Not Normal at 5% Significance Level~~		
~~Detected Data Not Normal at 5% Significance Level~~						
~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~						
~~KM Mean~~			~~1.29E-04~~	~~KM Standard Error of Mean~~		~~9.20E-05~~
~~KM SD~~			~~3.43E-04~~	~~95% KM (BCA) UCL~~		~~3.08E-04~~
~~95% KM (t) UCL~~			~~2.91E-04~~	~~95% KM (Percentile Bootstrap) UCL~~		~~3.04E-04~~
~~95% KM (z) UCL~~			~~2.81E-04~~	~~95% KM Bootstrap t UCL~~		~~0.0015~~
~~90% KM Chebyshev UCL~~			~~4.05E-04~~	~~95% KM Chebyshev UCL~~		~~5.30E-04~~
~~97.5% KM Chebyshev UCL~~			~~7.04E-04~~	~~99% KM Chebyshev UCL~~		~~0.00104~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~1.515~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.808~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.278~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.244~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	

~~Detected Data Not Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.423~~	~~k star (bias corrected MLE)~~	~~0.38~~
~~Theta hat (MLE)~~	~~3.28E-04~~	~~Theta star (bias corrected MLE)~~	~~3.65E-04~~
~~nu hat (MLE)~~	~~11.83~~	~~nu star (bias corrected)~~	~~10.63~~
~~Mean (detects)~~	~~1.38E-04~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~

~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~

~~This is especially true when the sample size is small.~~

~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~2.98E-06~~	~~Mean~~	~~7.96E-04~~
~~Maximum~~	~~0.01~~	~~Median~~	~~2.40E-05~~
~~SD~~	~~0.00257~~	~~CV~~	~~3.23~~
~~k hat (MLE)~~	~~0.245~~	~~k star (bias corrected MLE)~~	~~0.241~~
~~Theta hat (MLE)~~	~~0.00324~~	~~Theta star (bias corrected MLE)~~	~~0.00331~~
~~nu hat (MLE)~~	~~7.359~~	~~nu star (bias corrected)~~	~~7.22~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (7.22, α)~~	~~2.292~~	~~Adjusted Chi Square Value (7.22, β)~~	~~1.966~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.00251~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.00292~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~1.29E-04~~	~~SD (KM)~~	~~3.43E-04~~
~~Variance (KM)~~	~~1.18E-07~~	~~SE of Mean (KM)~~	~~9.20E-05~~
~~k hat (KM)~~	~~0.142~~	~~k star (KM)~~	~~0.158~~
~~nu hat (KM)~~	~~4.25~~	~~nu star (KM)~~	~~4.733~~
~~theta hat (KM)~~	~~9.12E-04~~	~~theta star (KM)~~	~~8.19E-04~~
~~80% gamma percentile (KM)~~	~~1.46E-04~~	~~90% gamma percentile (KM)~~	~~3.86E-04~~
~~95% gamma percentile (KM)~~	~~7.04E-04~~	~~99% gamma percentile (KM)~~	~~0.00162~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (4.73, α)~~	~~1.031~~	~~Adjusted Chi Square Value (4.73, β)~~	~~0.838~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~5.93E-04~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~7.30E-04~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.934~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.874~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.157~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.226~~	~~Detected Data appear Lognormal at 5% Significance Level~~	

~~Detected Data appear Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~1.29E-04~~	~~Mean in Log Scale~~	~~-10.68~~
~~SD in Original Scale~~	~~3.55E-04~~	~~SD in Log Scale~~	~~1.807~~
~~95% t UCL (assumes normality of ROS data)~~	~~2.91E-04~~	~~95% Percentile Bootstrap UCL~~	~~3.08E-04~~
~~95% BCA Bootstrap UCL~~	~~4.01E-04~~	~~95% Bootstrap t UCL~~	~~0.00151~~
~~95% H-UCL (Log ROS)~~	~~8.89E-04~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-10.7~~	~~KM Geo Mean~~	~~2.24E-05~~
~~KM SD (logged)~~	~~1.794~~	~~95% Critical H Value (KM-Log)~~	~~4.165~~
~~KM Standard Error of Mean (logged)~~	~~0.481~~	~~95% H-UCL (KM -Log)~~	~~8.27E-04~~
~~KM SD (logged)~~	~~1.794~~	~~95% Critical H Value (KM-Log)~~	~~4.165~~
~~KM Standard Error of Mean (logged)~~	~~0.481~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~1.29E-04~~	~~Mean in Log Scale~~	~~-10.75~~
~~SD in Original Scale~~	~~3.55E-04~~	~~SD in Log Scale~~	~~1.966~~
~~95% t UCL (Assumes normality)~~	~~2.91E-04~~	~~95% H-Stat UCL~~	~~0.00157~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~

~~Detected Data appear Lognormal Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~97.5% KM (Chebyshev) UCL~~	~~7.04E-04~~	~~99% KM (Chebyshev) UCL~~	~~1.04E-03~~
~~Heptachlorodibenzofuran[1,2,3,4,6,7,8-]~~	-	-	-

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~14~~
~~Number of Detects~~	~~14~~	~~Number of Non-Detects~~	~~1~~
~~Number of Distinct Detects~~	~~13~~	~~Number of Distinct Non-Detects~~	~~1~~
~~Minimum Detect~~	~~1.22E-06~~	~~Minimum Non-Detect~~	~~4.72E-07~~
~~Maximum Detect~~	~~4.66E-04~~	~~Maximum Non-Detect~~	~~4.72E-07~~
~~Variance Detects~~	~~1.49E-08~~	~~Percent Non-Detects~~	~~6.67%~~
~~Mean Detects~~	~~4.61E-05~~	~~SD Detects~~	~~1.22E-04~~
~~Median Detects~~	~~7.76E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~3.636~~	~~Kurtosis Detects~~	~~13.41~~
~~Mean of Logged Detects~~	~~-11.44~~	~~SD of Logged Detects~~	~~1.5~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.392~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.874~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.395~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.226~~	~~Detected Data Not Normal at 5% Significance Level~~	

~~Detected Data Not Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~4.31E-05~~	~~KM Standard Error of Mean~~	~~3.06E-05~~
~~KM SD~~	~~1.14E-04~~	~~95% KM (BCA) UCL~~	~~1.05E-04~~
~~95% KM (t) UCL~~	~~9.69E-05~~	~~95% KM (Percentile Bootstrap) UCL~~	~~1.01E-04~~
~~95% KM (z) UCL~~	~~9.34E-05~~	~~95% KM Bootstrap t UCL~~	~~5.10E-04~~
~~90% KM Chebyshev UCL~~	~~1.35E-04~~	~~95% KM Chebyshev UCL~~	~~1.76E-04~~
~~97.5% KM Chebyshev UCL~~	~~2.34E-04~~	~~99% KM Chebyshev UCL~~	~~3.47E-04~~
~~Gamma GOF Tests on Detected Observations Only~~			
~~A-D Test Statistic~~	~~1.568~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.804~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.292~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.243~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~Detected Data Not Gamma Distributed at 5% Significance Level~~			
~~Gamma Statistics on Detected Data Only~~			
~~k hat (MLE)~~	~~0.445~~	~~k star (bias corrected MLE)~~	~~0.398~~
~~Theta hat (MLE)~~	~~1.04E-04~~	~~Theta star (bias corrected MLE)~~	~~1.16E-04~~
~~nu hat (MLE)~~	~~12.47~~	~~nu star (bias corrected)~~	~~11.13~~
~~Mean (detects)~~	~~4.61E-05~~		
~~Gamma ROS Statistics using Imputed Non-Detects~~			
~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~			
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~			
~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~			
~~This is especially true when the sample size is small.~~			
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~			
~~Minimum~~	~~1.22E-06~~	~~Mean~~	~~7.10E-04~~
~~Maximum~~	~~0.01~~	~~Median~~	~~9.10E-06~~
~~SD~~	~~0.00257~~	~~CV~~	~~3.625~~
~~k hat (MLE)~~	~~0.198~~	~~k star (bias corrected MLE)~~	~~0.203~~
~~Theta hat (MLE)~~	~~0.00359~~	~~Theta star (bias corrected MLE)~~	~~0.0035~~
~~nu hat (MLE)~~	~~5.929~~	~~nu star (bias corrected)~~	~~6.077~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (6.08, α)~~	~~1.679~~	~~Adjusted Chi Square Value (6.08, β)~~	~~1.412~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.00257~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.00306~~
~~Estimates of Gamma Parameters using KM Estimates~~			
~~Mean (KM)~~	~~4.31E-05~~	~~SD (KM)~~	~~1.14E-04~~
~~Variance (KM)~~	~~1.30E-08~~	~~SE of Mean (KM)~~	~~3.06E-05~~
~~k hat (KM)~~	~~0.143~~	~~k star (KM)~~	~~0.159~~
~~nu hat (KM)~~	~~4.284~~	~~nu star (KM)~~	~~4.761~~
~~theta hat (KM)~~	~~3.02E-04~~	~~theta star (KM)~~	~~2.72E-04~~
~~80% gamma percentile (KM)~~	~~4.90E-05~~	~~90% gamma percentile (KM)~~	~~1.29E-04~~
~~95% gamma percentile (KM)~~	~~2.35E-04~~	~~99% gamma percentile (KM)~~	~~5.38E-04~~
~~Gamma Kaplan-Meier (KM) Statistics~~			

~~Approximate Chi Square Value (4.76, α)~~	~~1.043~~	~~Adjusted Chi Square Value (4.76, β)~~	~~0.849~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~1.97E-04~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~2.42E-04~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.929~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.874~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.15~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.226~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~4.31E-05~~	~~Mean in Log Scale~~	~~-11.68~~
~~SD in Original Scale~~	~~1.18E-04~~	~~SD in Log Scale~~	~~1.717~~
~~95% t UCL (assumes normality of ROS data)~~	~~9.68E-05~~	~~95% Percentile Bootstrap UCL~~	~~1.03E-04~~
~~95% BCA Bootstrap UCL~~	~~1.41E-04~~	~~95% Bootstrap t UCL~~	~~5.13E-04~~
~~95% H-UCL (Log ROS)~~	~~2.34E-04~~		
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			
~~KM Mean (logged)~~	~~-11.65~~	~~KM Geo Mean~~	~~8.76E-06~~
~~KM SD (logged)~~	~~1.6~~	~~95% Critical H Value (KM-Log)~~	~~3.796~~
~~KM Standard Error of Mean (logged)~~	~~0.429~~	~~95% H-UCL (KM -Log)~~	~~1.60E-04~~
~~KM SD (logged)~~	~~1.6~~	~~95% Critical H Value (KM-Log)~~	~~3.796~~
~~KM Standard Error of Mean (logged)~~	~~0.429~~		
~~DL/2 Statistics~~			
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~4.31E-05~~	~~Mean in Log Scale~~	~~-11.69~~
~~SD in Original Scale~~	~~1.18E-04~~	~~SD in Log Scale~~	~~1.75~~
~~95% t UCL (Assumes normality)~~	~~9.68E-05~~	~~95% H-Stat UCL~~	~~2.61E-04~~
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			
~~Detected Data appear Lognormal Distributed at 5% Significance Level~~			
~~Suggested UCL to Use~~			
~~95% KM (Chebyshev) UCL~~	~~1.76E-04~~		
~~Heptachlorodibenzofuran[1,2,3,4,7,8,9-]~~	~~-~~	~~-~~ ~~-~~	~~-~~
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~8~~	~~Number of Non-Detects~~	~~7~~
~~Number of Distinct Detects~~	~~8~~	~~Number of Distinct Non-Detects~~	~~7~~
~~Minimum Detect~~	~~5.71E-07~~	~~Minimum Non-Detect~~	~~4.50E-07~~
~~Maximum Detect~~	~~2.38E-05~~	~~Maximum Non-Detect~~	~~4.84E-07~~
~~Variance Detects~~	~~6.31E-11~~	~~Percent Non-Detects~~	~~46.67%~~
~~Mean Detects~~	~~4.28E-06~~	~~SD Detects~~	~~7.94E-06~~
~~Median Detects~~	~~1.44E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~2.753~~	~~Kurtosis Detects~~	~~7.67~~

~~Mean of Logged Detects~~	~~-13.24~~	~~SD of Logged Detects~~	~~1.224~~
~~Normal GOF Test on Detects Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.522~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.818~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.426~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.283~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Detected Data Not Normal at 5% Significance Level~~			
~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~			
~~KM Mean~~	~~2.49E-06~~	~~KM Standard Error of Mean~~	~~1.59E-06~~
~~KM SD~~	~~5.75E-06~~	~~95% KM (BCA) UCL~~	~~5.69E-06~~
~~95% KM (t) UCL~~	~~5.29E-06~~	~~95% KM (Percentile Bootstrap) UCL~~	~~5.46E-06~~
~~95% KM (z) UCL~~	~~5.10E-06~~	~~95% KM Bootstrap t UCL~~	~~2.07E-05~~
~~90% KM Chebyshev UCL~~	~~7.25E-06~~	~~95% KM Chebyshev UCL~~	~~9.41E-06~~
~~97.5% KM Chebyshev UCL~~	~~1.24E-05~~	~~99% KM Chebyshev UCL~~	~~1.83E-05~~
~~Gamma GOF Tests on Detected Observations Only~~			
~~A-D Test Statistic~~	~~0.99~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.749~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.296~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.305~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~Detected data follow Appr. Gamma Distribution at 5% Significance Level~~			
~~Gamma Statistics on Detected Data Only~~			
~~k hat (MLE)~~	~~0.687~~	~~k star (bias corrected MLE)~~	~~0.513~~
~~Theta hat (MLE)~~	~~6.22E-06~~	~~Theta star (bias corrected MLE)~~	~~8.34E-06~~
~~nu hat (MLE)~~	~~11~~	~~nu star (bias corrected)~~	~~8.207~~
~~Mean (detects)~~	~~4.28E-06~~		
~~Gamma ROS Statistics using Imputed Non-Detects~~			
~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~			
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~			
~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~			
~~This is especially true when the sample size is small.~~			
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~			
~~Minimum~~	~~5.71E-07~~	~~Mean~~	~~0.00467~~
~~Maximum~~	~~0.01~~	~~Median~~	~~2.38E-05~~
~~SD~~	~~0.00516~~	~~CV~~	~~1.106~~
~~k hat (MLE)~~	~~0.193~~	~~k star (bias corrected MLE)~~	~~0.198~~
~~Theta hat (MLE)~~	~~0.0243~~	~~Theta star (bias corrected MLE)~~	~~0.0235~~
~~nu hat (MLE)~~	~~5.775~~	~~nu star (bias corrected)~~	~~5.953~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (5.95, α)~~	~~1.616~~	~~Adjusted Chi Square Value (5.95, β)~~	~~1.355~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0172~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.0205~~
~~Estimates of Gamma Parameters using KM Estimates~~			

~~Mean (KM)~~	~~2.49E-06~~	~~SD (KM)~~	~~5.75E-06~~
~~Variance (KM)~~	~~3.31E-11~~	~~SE of Mean (KM)~~	~~1.59E-06~~
~~k hat (KM)~~	~~0.187~~	~~k star (KM)~~	~~0.194~~
~~nu hat (KM)~~	~~5.624~~	~~nu star (KM)~~	~~5.832~~
~~theta hat (KM)~~	~~1.33E-05~~	~~theta star (KM)~~	~~1.28E-05~~
~~80% gamma percentile (KM)~~	~~3.23E-06~~	~~90% gamma percentile (KM)~~	~~7.53E-06~~
~~95% gamma percentile (KM)~~	~~1.29E-05~~	~~99% gamma percentile (KM)~~	~~2.79E-05~~
~~Gamma Kaplan-Meier (KM) Statistics~~			
~~Approximate Chi Square Value (5.83, α)~~	~~1.555~~	~~Adjusted Chi Square Value (5.83, β)~~	~~1.3~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~9.34E-06~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~1.12E-05~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.855~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.818~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.184~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.283~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~2.31E-06~~	~~Mean in Log Scale~~	~~-14.78~~
~~SD in Original Scale~~	~~6.02E-06~~	~~SD in Log Scale~~	~~1.907~~
~~95% t UCL (assumes normality of ROS data)~~	~~5.05E-06~~	~~95% Percentile Bootstrap UCL~~	~~5.36E-06~~
~~95% BCA Bootstrap UCL~~	~~6.91E-06~~	~~95% Bootstrap t UCL~~	~~1.82E-05~~
~~95% H-UCL (Log ROS)~~	~~2.19E-05~~		
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			
~~KM Mean (logged)~~	~~-13.88~~	~~KM Geo Mean~~	~~9.34E-07~~
~~KM SD (logged)~~	~~1.08~~	~~95% Critical H Value (KM-Log)~~	~~2.873~~
~~KM Standard Error of Mean (logged)~~	~~0.298~~	~~95% H-UCL (KM -Log)~~	~~3.84E-06~~
~~KM SD (logged)~~	~~1.08~~	~~95% Critical H Value (KM-Log)~~	~~2.873~~
~~KM Standard Error of Mean (logged)~~	~~0.298~~		
~~DL/2 Statistics~~			
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~2.39E-06~~	~~Mean in Log Scale~~	~~-14.19~~
~~SD in Original Scale~~	~~5.99E-06~~	~~SD in Log Scale~~	~~1.355~~
~~95% t UCL (Assumes normality)~~	~~5.12E-06~~	~~95% H-Stat UCL~~	~~5.81E-06~~
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			
~~Detected Data appear Approximate Gamma Distributed at 5% Significance Level~~			
~~Suggested UCL to Use~~			
~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~1.12E-05~~		
~~When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test~~			
~~When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL~~			
~~Hexachlorodibenzodioxin[1,2,3,4,7,8-]~~ ~~-~~	~~-~~	~~-~~ ~~-~~	~~-~~
~~General Statistics~~			

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~8~~	~~Number of Non-Detects~~	~~7~~
~~Number of Distinct Detects~~	~~8~~	~~Number of Distinct Non-Detects~~	~~7~~
~~Minimum Detect~~	~~5.72E-07~~	~~Minimum Non-Detect~~	~~4.50E-07~~
~~Maximum Detect~~	~~3.20E-05~~	~~Maximum Non-Detect~~	~~4.84E-07~~
~~Variance Detects~~	~~1.18E-10~~	~~Percent Non-Detects~~	~~46.67%~~
~~Mean Detects~~	~~5.27E-06~~	~~SD Detects~~	~~1.09E-05~~
~~Median Detects~~	~~1.02E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~2.765~~	~~Kurtosis Detects~~	~~7.716~~
~~Mean of Logged Detects~~	~~-13.27~~	~~SD of Logged Detects~~	~~1.342~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.5~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.818~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.417~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.283~~	~~Detected Data Not Normal at 5% Significance Level~~	

~~Detected Data Not Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~3.02E-06~~	~~KM Standard Error of Mean~~	~~2.15E-06~~
~~KM SD~~	~~7.80E-06~~	~~95% KM (BCA) UCL~~	~~7.27E-06~~
~~95% KM (t) UCL~~	~~6.81E-06~~	~~95% KM (Percentile Bootstrap) UCL~~	~~7.00E-06~~
~~95% KM (z) UCL~~	~~6.56E-06~~	~~95% KM Bootstrap t UCL~~	~~4.86E-05~~
~~90% KM Chebyshev UCL~~	~~9.48E-06~~	~~95% KM Chebyshev UCL~~	~~1.24E-05~~
~~97.5% KM Chebyshev UCL~~	~~1.65E-05~~	~~99% KM Chebyshev UCL~~	~~2.44E-05~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~1.224~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.758~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.317~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.308~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	

~~Detected Data Not Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.561~~	~~k star (bias corrected MLE)~~	~~0.434~~
~~Theta hat (MLE)~~	~~9.40E-06~~	~~Theta star (bias corrected MLE)~~	~~1.21E-05~~
~~nu hat (MLE)~~	~~8.973~~	~~nu star (bias corrected)~~	~~6.942~~
~~Mean (detects)~~	~~5.27E-06~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~

~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~

~~This is especially true when the sample size is small.~~

~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~5.72E-07~~	~~Mean~~	~~0.00467~~
~~Maximum~~	~~0.01~~	~~Median~~	~~3.20E-05~~
~~SD~~	~~0.00516~~	~~CV~~	~~1.105~~
~~k hat (MLE)~~	~~0.192~~	~~k star (bias corrected MLE)~~	~~0.198~~
~~Theta hat (MLE)~~	~~0.0243~~	~~Theta star (bias corrected MLE)~~	~~0.0236~~
~~nu hat (MLE)~~	~~5.759~~	~~nu star (bias corrected)~~	~~5.941~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (5.94, α)~~	~~1.61~~	~~Adjusted Chi Square Value (5.94, β)~~	~~1.349~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0172~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.0206~~
~~Estimates of Gamma Parameters using KM Estimates~~			
~~Mean (KM)~~	~~3.02E-06~~	~~SD (KM)~~	~~7.80E-06~~
~~Variance (KM)~~	~~6.09E-11~~	~~SE of Mean (KM)~~	~~2.15E-06~~
~~k hat (KM)~~	~~0.15~~	~~k star (KM)~~	~~0.164~~
~~nu hat (KM)~~	~~4.497~~	~~nu star (KM)~~	~~4.931~~
~~theta hat (KM)~~	~~2.02E-05~~	~~theta star (KM)~~	~~1.84E-05~~
~~80% gamma percentile (KM)~~	~~3.53E-06~~	~~90% gamma percentile (KM)~~	~~9.05E-06~~
~~95% gamma percentile (KM)~~	~~1.63E-05~~	~~99% gamma percentile (KM)~~	~~3.70E-05~~
~~Gamma Kaplan-Meier (KM) Statistics~~			
~~Approximate Chi Square Value (4.93, α)~~	~~1.12~~	~~Adjusted Chi Square Value (4.93, β)~~	~~0.916~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~1.33E-05~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~1.63E-05~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.8~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.818~~	~~Detected Data Not Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.247~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.283~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Approximate Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~2.83E-06~~	~~Mean in Log Scale~~	~~-14.92~~
~~SD in Original Scale~~	~~8.14E-06~~	~~SD in Log Scale~~	~~2.06~~
~~95% t UCL (assumes normality of ROS data)~~	~~6.54E-06~~	~~95% Percentile Bootstrap UCL~~	~~6.97E-06~~
~~95% BCA Bootstrap UCL~~	~~9.25E-06~~	~~95% Bootstrap t UCL~~	~~3.78E-05~~
~~95% H-UCL (Log ROS)~~	~~3.64E-05~~		
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			
~~KM Mean (logged)~~	~~-13.9~~	~~KM Geo Mean~~	~~9.23E-07~~
~~KM SD (logged)~~	~~1.137~~	~~95% Critical H Value (KM-Log)~~	~~2.967~~
~~KM Standard Error of Mean (logged)~~	~~0.314~~	~~95% H-UCL (KM -Log)~~	~~4.34E-06~~
~~KM SD (logged)~~	~~1.137~~	~~95% Critical H Value (KM-Log)~~	~~2.967~~
~~KM Standard Error of Mean (logged)~~	~~0.314~~		
~~DL/2 Statistics~~			
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~2.92E-06~~	~~Mean in Log Scale~~	~~-14.2~~

~~SD in Original Scale~~	~~8.11E-06~~	~~SD in Log Scale~~	~~1.401~~
~~95% t UCL (Assumes normality)~~	~~6.61E-06~~	~~95% H-Stat UCL~~	~~6.57E-06~~
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			
~~Detected Data appear Approximate Lognormal Distributed at 5% Significance Level~~			
~~Suggested UCL to Use~~			
~~95% KM (Chebyshev) UCL~~	~~1.24E-05~~		
~~Hexachlorodibenzodioxin[1,2,3,6,7,8-]~~	~~-~~	~~-~~ ~~-~~	~~-~~
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~11~~	~~Number of Non-Detects~~	~~4~~
~~Number of Distinct Detects~~	~~11~~	~~Number of Distinct Non-Detects~~	~~4~~
~~Minimum Detect~~	~~5.22E-07~~	~~Minimum Non-Detect~~	~~4.50E-07~~
~~Maximum Detect~~	~~6.02E-05~~	~~Maximum Non-Detect~~	~~4.81E-07~~
~~Variance Detects~~	~~3.12E-10~~	~~Percent Non-Detects~~	~~26.67%~~
~~Mean Detects~~	~~7.31E-06~~	~~SD Detects~~	~~1.77E-05~~
~~Median Detects~~	~~1.37E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~3.244~~	~~Kurtosis Detects~~	~~10.63~~
~~Mean of Logged Detects~~	~~-13.14~~	~~SD of Logged Detects~~	~~1.396~~
~~Normal GOF Test on Detects Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.43~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.85~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.414~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.251~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Detected Data Not Normal at 5% Significance Level~~			
~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~			
~~KM Mean~~	~~5.48E-06~~	~~KM Standard Error of Mean~~	~~3.99E-06~~
~~KM SD~~	~~1.47E-05~~	~~95% KM (BCA) UCL~~	~~1.33E-05~~
~~95% KM (t) UCL~~	~~1.25E-05~~	~~95% KM (Percentile Bootstrap) UCL~~	~~1.32E-05~~
~~95% KM (z) UCL~~	~~1.20E-05~~	~~95% KM Bootstrap t UCL~~	~~7.59E-05~~
~~90% KM Chebyshev UCL~~	~~1.74E-05~~	~~95% KM Chebyshev UCL~~	~~2.29E-05~~
~~97.5% KM Chebyshev UCL~~	~~3.04E-05~~	~~99% KM Chebyshev UCL~~	~~4.52E-05~~
~~Gamma GOF Tests on Detected Observations Only~~			
~~A-D Test Statistic~~	~~1.502~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.784~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.315~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.27~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~Detected Data Not Gamma Distributed at 5% Significance Level~~			
~~Gamma Statistics on Detected Data Only~~			
~~k hat (MLE)~~	~~0.487~~	~~k star (bias corrected MLE)~~	~~0.415~~
~~Theta hat (MLE)~~	~~1.50E-05~~	~~Theta star (bias corrected MLE)~~	~~1.76E-05~~
~~nu hat (MLE)~~	~~10.72~~	~~nu star (bias corrected)~~	~~9.126~~

~~Mean (detects)~~	~~7.31E-06~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~
~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~
~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~5.22E-07~~	~~Mean~~	~~0.00267~~
~~Maximum~~	~~0.01~~	~~Median~~	~~2.08E-06~~
~~SD~~	~~0.00457~~	~~CV~~	~~1.712~~
~~k hat (MLE)~~	~~0.155~~	~~k star (bias corrected MLE)~~	~~0.168~~
~~Theta hat (MLE)~~	~~0.0172~~	~~Theta star (bias corrected MLE)~~	~~0.0159~~
~~nu hat (MLE)~~	~~4.649~~	~~nu star (bias corrected)~~	~~5.053~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (5.05, α)~~	~~1.177~~	~~Adjusted Chi Square Value (5.05, β)~~	~~0.966~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0115~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.014~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~5.48E-06~~	~~SD (KM)~~	~~1.47E-05~~
~~Variance (KM)~~	~~2.17E-10~~	~~SE of Mean (KM)~~	~~3.99E-06~~
~~k hat (KM)~~	~~0.139~~	~~k star (KM)~~	~~0.155~~
~~nu hat (KM)~~	~~4.156~~	~~nu star (KM)~~	~~4.658~~
~~theta hat (KM)~~	~~3.96E-05~~	~~theta star (KM)~~	~~3.53E-05~~
~~80% gamma percentile (KM)~~	~~6.14E-06~~	~~90% gamma percentile (KM)~~	~~1.63E-05~~
~~95% gamma percentile (KM)~~	~~3.00E-05~~	~~99% gamma percentile (KM)~~	~~6.93E-05~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (4.66, α)~~	~~0.998~~	~~Adjusted Chi Square Value (4.66, β)~~	~~0.809~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~2.56E-05~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~3.16E-05~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.85~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.85~~	~~Detected Data Not Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.212~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.251~~	~~Detected Data appear Lognormal at 5% Significance Level~~	

~~Detected Data appear Approximate Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~5.38E-06~~	~~Mean in Log Scale~~	~~-14~~
~~SD in Original Scale~~	~~1.53E-05~~	~~SD in Log Scale~~	~~1.892~~
~~95% t UCL (assumes normality of ROS data)~~	~~1.23E-05~~	~~95% Percentile Bootstrap UCL~~	~~1.31E-05~~
~~95% BCA Bootstrap UCL~~	~~1.74E-05~~	~~95% Bootstrap t UCL~~	~~6.93E-05~~
~~95% H-UCL (Log ROS)~~	~~4.52E-05~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-13.53~~	~~KM Geo Mean~~	~~1.33E-06~~
~~KM SD (logged)~~	~~1.314~~	~~95% Critical H Value (KM-Log)~~	~~3.276~~
~~KM Standard Error of Mean (logged)~~	~~0.356~~	~~95% H-UCL (KM -Log)~~	~~9.98E-06~~
~~KM SD (logged)~~	~~1.314~~	~~95% Critical H Value (KM-Log)~~	~~3.276~~
~~KM Standard Error of Mean (logged)~~	~~0.356~~		
~~DL/2 Statistics~~			
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~5.42E-06~~	~~Mean in Log Scale~~	~~-13.7~~
~~SD in Original Scale~~	~~1.53E-05~~	~~SD in Log Scale~~	~~1.532~~
~~95% t UCL (Assumes normality)~~	~~1.24E-05~~	~~95% H-Stat UCL~~	~~1.62E-05~~
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			
~~Detected Data appear Approximate Lognormal Distributed at 5% Significance Level~~			
~~Suggested UCL to Use~~			
~~95% KM (Chebyshev) UCL~~	~~2.29E-05~~		
~~Hexachlorodibenzodioxin[1,2,3,7,8,9-]~~	-	-	-
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~11~~	~~Number of Non-Detects~~	~~4~~
~~Number of Distinct Detects~~	~~11~~	~~Number of Distinct Non-Detects~~	~~4~~
~~Minimum Detect~~	~~5.09E-07~~	~~Minimum Non-Detect~~	~~4.69E-07~~
~~Maximum Detect~~	~~7.04E-05~~	~~Maximum Non-Detect~~	~~4.81E-07~~
~~Variance Detects~~	~~4.28E-10~~	~~Percent Non-Detects~~	~~26.67%~~
~~Mean Detects~~	~~8.42E-06~~	~~SD Detects~~	~~2.07E-05~~
~~Median Detects~~	~~1.42E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~3.243~~	~~Kurtosis Detects~~	~~10.62~~
~~Mean of Logged Detects~~	~~-13.07~~	~~SD of Logged Detects~~	~~1.435~~
~~Normal GOF Test on Detects Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.427~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.85~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.408~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.251~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Detected Data Not Normal at 5% Significance Level~~			
~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~			
~~KM Mean~~	~~6.30E-06~~	~~KM Standard Error of Mean~~	~~4.67E-06~~
~~KM SD~~	~~1.73E-05~~	~~95% KM (BCA) UCL~~	~~1.55E-05~~
~~95% KM (t) UCL~~	~~1.45E-05~~	~~95% KM (Percentile Bootstrap) UCL~~	~~1.53E-05~~
~~95% KM (z) UCL~~	~~1.40E-05~~	~~95% KM Bootstrap t UCL~~	~~9.97E-05~~
~~90% KM Chebyshev UCL~~	~~2.03E-05~~	~~95% KM Chebyshev UCL~~	~~2.67E-05~~
~~97.5% KM Chebyshev UCL~~	~~3.55E-05~~	~~99% KM Chebyshev UCL~~	~~5.28E-05~~
~~Gamma GOF Tests on Detected Observations Only~~			

~~A-D Test Statistic~~	~~1.535~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.788~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.32~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.27~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~Detected Data Not Gamma Distributed at 5% Significance Level~~			
~~Gamma Statistics on Detected Data Only~~			
~~k hat (MLE)~~	~~0.465~~	~~k star (bias corrected MLE)~~	~~0.399~~
~~Theta hat (MLE)~~	~~1.81E-05~~	~~Theta star (bias corrected MLE)~~	~~2.11E-05~~
~~nu hat (MLE)~~	~~10.23~~	~~nu star (bias corrected)~~	~~8.775~~
~~Mean (detects)~~	~~8.42E-06~~		
~~Gamma ROS Statistics using Imputed Non-Detects~~			
~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~			
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~			
~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~			
~~This is especially true when the sample size is small.~~			
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~			
~~Minimum~~	~~5.09E-07~~	~~Mean~~	~~0.00267~~
~~Maximum~~	~~0.01~~	~~Median~~	~~2.19E-06~~
~~SD~~	~~0.00457~~	~~CV~~	~~1.711~~
~~k hat (MLE)~~	~~0.156~~	~~k star (bias corrected MLE)~~	~~0.17~~
~~Theta hat (MLE)~~	~~0.0171~~	~~Theta star (bias corrected MLE)~~	~~0.0158~~
~~nu hat (MLE)~~	~~4.691~~	~~nu star (bias corrected)~~	~~5.086~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (5.09, α)~~	~~1.192~~	~~Adjusted Chi Square Value (5.09, β)~~	~~0.979~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0114~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.0139~~
~~Estimates of Gamma Parameters using KM Estimates~~			
~~Mean (KM)~~	~~6.30E-06~~	~~SD (KM)~~	~~1.73E-05~~
~~Variance (KM)~~	~~2.98E-10~~	~~SE of Mean (KM)~~	~~4.67E-06~~
~~k hat (KM)~~	~~0.133~~	~~k star (KM)~~	~~0.151~~
~~nu hat (KM)~~	~~3.998~~	~~nu star (KM)~~	~~4.532~~
~~theta hat (KM)~~	~~4.73E-05~~	~~theta star (KM)~~	~~4.17E-05~~
~~80% gamma percentile (KM)~~	~~6.90E-06~~	~~90% gamma percentile (KM)~~	~~1.87E-05~~
~~95% gamma percentile (KM)~~	~~3.46E-05~~	~~99% gamma percentile (KM)~~	~~8.08E-05~~
~~Gamma Kaplan-Meier (KM) Statistics~~			
~~Approximate Chi Square Value (4.53, α)~~	~~0.942~~	~~Adjusted Chi Square Value (4.53, β)~~	~~0.761~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~3.03E-05~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~3.75E-05~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.852~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.85~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.218~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.251~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			

~~Mean in Original Scale~~	~~6.19E-06~~	~~Mean in Log Scale~~	~~-13.95~~
~~SD in Original Scale~~	~~1.79E-05~~	~~SD in Log Scale~~	~~1.943~~
~~95% t UCL (assumes normality of ROS data)~~	~~1.43E-05~~	~~95% Percentile Bootstrap UCL~~	~~1.53E-05~~
~~95% BCA Bootstrap UCL~~	~~2.03E-05~~	~~95% Bootstrap t UCL~~	~~9.06E-05~~
~~95% H-UCL (Log ROS)~~	~~5.83E-05~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-13.47~~	~~KM Geo Mean~~	~~1.42E-06~~
~~KM SD (logged)~~	~~1.347~~	~~95% Critical H Value (KM-Log)~~	~~3.335~~
~~KM Standard Error of Mean (logged)~~	~~0.365~~	~~95% H-UCL (KM -Log)~~	~~1.17E-05~~
~~KM SD (logged)~~	~~1.347~~	~~95% Critical H Value (KM-Log)~~	~~3.335~~
~~KM Standard Error of Mean (logged)~~	~~0.365~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~6.24E-06~~	~~Mean in Log Scale~~	~~-13.65~~
~~SD in Original Scale~~	~~1.79E-05~~	~~SD in Log Scale~~	~~1.573~~
~~95% t UCL (Assumes normality)~~	~~1.44E-05~~	~~95% H-Stat UCL~~	~~1.96E-05~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~

~~Detected Data appear Lognormal Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~95% KM (Chebyshev) UCL~~	~~2.67E-05~~

~~Hexachlorodibenzofuran[1,2,3,4,7,8-]~~	-	-	-

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~10~~	~~Number of Non-Detects~~	~~5~~
~~Number of Distinct Detects~~	~~10~~	~~Number of Distinct Non-Detects~~	~~5~~
~~Minimum Detect~~	~~6.08E-07~~	~~Minimum Non-Detect~~	~~4.50E-07~~
~~Maximum Detect~~	~~1.70E-05~~	~~Maximum Non-Detect~~	~~4.84E-07~~
~~Variance Detects~~	~~2.47E-11~~	~~Percent Non-Detects~~	~~33.33%~~
~~Mean Detects~~	~~2.99E-06~~	~~SD Detects~~	~~4.97E-06~~
~~Median Detects~~	~~1.35E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~3.048~~	~~Kurtosis Detects~~	~~9.463~~
~~Mean of Logged Detects~~	~~-13.32~~	~~SD of Logged Detects~~	~~0.961~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.491~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.842~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.44~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.262~~	~~Detected Data Not Normal at 5% Significance Level~~	

~~Detected Data Not Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~2.14E-06~~	~~KM Standard Error of Mean~~	~~1.10E-06~~
~~KM SD~~	~~4.03E-06~~	~~95% KM (BCA) UCL~~	~~4.41E-06~~
~~95% KM (t) UCL~~	~~4.07E-06~~	~~95% KM (Percentile Bootstrap) UCL~~	~~4.23E-06~~
~~95% KM (z) UCL~~	~~3.95E-06~~	~~95% KM Bootstrap t UCL~~	~~1.09E-05~~
~~90% KM Chebyshev UCL~~	~~5.43E-06~~	~~95% KM Chebyshev UCL~~	~~6.93E-06~~
~~97.5% KM Chebyshev UCL~~	~~9.00E-06~~	~~99% KM Chebyshev UCL~~	~~1.31E-05~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~1.273~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.749~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.332~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.274~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	

~~Detected Data Not Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.966~~	~~k star (bias corrected MLE)~~	~~0.743~~
~~Theta hat (MLE)~~	~~3.09E-06~~	~~Theta star (bias corrected MLE)~~	~~4.02E-06~~
~~nu hat (MLE)~~	~~19.33~~	~~nu star (bias corrected)~~	~~14.86~~
~~Mean (detects)~~	~~2.99E-06~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~

~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~

~~This is especially true when the sample size is small.~~

~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~6.08E-07~~	~~Mean~~	~~0.00334~~
~~Maximum~~	~~0.01~~	~~Median~~	~~2.44E-06~~
~~SD~~	~~0.00488~~	~~CV~~	~~1.463~~
~~k hat (MLE)~~	~~0.161~~	~~k star (bias corrected MLE)~~	~~0.174~~
~~Theta hat (MLE)~~	~~0.0207~~	~~Theta star (bias corrected MLE)~~	~~0.0192~~
~~nu hat (MLE)~~	~~4.84~~	~~nu star (bias corrected)~~	~~5.206~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (5.21, α)~~	~~1.248~~	~~Adjusted Chi Square Value (5.21, β)~~	~~1.029~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0139~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.0169~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~2.14E-06~~	~~SD (KM)~~	~~4.03E-06~~
~~Variance (KM)~~	~~1.63E-11~~	~~SE of Mean (KM)~~	~~1.10E-06~~
~~k hat (KM)~~	~~0.282~~	~~k star (KM)~~	~~0.27~~
~~nu hat (KM)~~	~~8.446~~	~~nu star (KM)~~	~~8.09~~
~~theta hat (KM)~~	~~7.60E-06~~	~~theta star (KM)~~	~~7.94E-06~~
~~80% gamma percentile (KM)~~	~~3.19E-06~~	~~90% gamma percentile (KM)~~	~~6.38E-06~~
~~95% gamma percentile (KM)~~	~~1.01E-05~~	~~99% gamma percentile (KM)~~	~~2.00E-05~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (8.09, α)~~	~~2.788~~	~~Adjusted Chi Square Value (8.09, β)~~	~~2.418~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~6.21E-06~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~7.16E-06~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.826~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.842~~	~~Detected Data Not Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.233~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.262~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Approximate Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~2.05E-06~~	~~Mean in Log Scale~~	~~-14.07~~
~~SD in Original Scale~~	~~4.22E-06~~	~~SD in Log Scale~~	~~1.342~~
~~95% t UCL (assumes normality of ROS data)~~	~~3.97E-06~~	~~95% Percentile Bootstrap UCL~~	~~4.08E-06~~
~~95% BCA Bootstrap UCL~~	~~5.26E-06~~	~~95% Bootstrap t UCL~~	~~9.67E-06~~
~~95% H-UCL (Log ROS)~~	~~6.28E-06~~		
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			
~~KM Mean (logged)~~	~~-13.75~~	~~KM Geo Mean~~	~~1.07E-06~~
~~KM SD (logged)~~	~~0.962~~	~~95% Critical H Value (KM-Log)~~	~~2.684~~
~~KM Standard Error of Mean (logged)~~	~~0.262~~	~~95% H-UCL (KM -Log)~~	~~3.37E-06~~
~~KM SD (logged)~~	~~0.962~~	~~95% Critical H Value (KM-Log)~~	~~2.684~~
~~KM Standard Error of Mean (logged)~~	~~0.262~~		
~~DL/2 Statistics~~			
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~2.07E-06~~	~~Mean in Log Scale~~	~~-13.97~~
~~SD in Original Scale~~	~~4.21E-06~~	~~SD in Log Scale~~	~~1.223~~
~~95% t UCL (Assumes normality)~~	~~3.98E-06~~	~~95% H-Stat UCL~~	~~5.01E-06~~
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			
~~Detected Data appear Approximate Lognormal Distributed at 5% Significance Level~~			
~~Suggested UCL to Use~~			
~~KM H-UCL~~	~~3.37E-06~~		
~~Hexachlorodibenzofuran[1,2,3,6,7,8-]~~	-	-	-
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~8~~	~~Number of Non-Detects~~	~~7~~
~~Number of Distinct Detects~~	~~8~~	~~Number of Distinct Non-Detects~~	~~7~~
~~Minimum Detect~~	~~7.59E-07~~	~~Minimum Non-Detect~~	~~4.50E-07~~
~~Maximum Detect~~	~~2.54E-05~~	~~Maximum Non-Detect~~	~~4.84E-07~~
~~Variance Detects~~	~~7.26E-11~~	~~Percent Non-Detects~~	~~46.67%~~
~~Mean Detects~~	~~4.36E-06~~	~~SD Detects~~	~~8.52E-06~~
~~Median Detects~~	~~1.29E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~2.801~~	~~Kurtosis Detects~~	~~7.882~~

Mean of Logged Detects	-13.22	SD of Logged Detects	1.142
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.479	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.458	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.283	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	2.53E-06	KM Standard Error of Mean	1.69E-06
KM SD	6.14E-06	95% KM (BCA) UCL	5.70E-06
95% KM (t) UCL	5.52E-06	95% KM (Percentile Bootstrap) UCL	5.74E-06
95% KM (z) UCL	5.32E-06	95% KM Bootstrap t UCL	2.93E-05
90% KM Chebyshev UCL	7.62E-06	95% KM Chebyshev UCL	9.92E-06
97.5% KM Chebyshev UCL	1.31E-05	99% KM Chebyshev UCL	1.94E-05
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	1.469	Anderson-Darling GOF Test	
5% A-D Critical Value	0.749	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.369	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.305	Detected Data Not Gamma Distributed at 5% Significance Level	
Detected Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.689	k star (bias corrected MLE)	0.514
Theta hat (MLE)	6.33E-06	Theta star (bias corrected MLE)	8.48E-06
nu hat (MLE)	11.02	nu star (bias corrected)	8.219
Mean (detects)	4.36E-06		
Gamma ROS Statistics using Imputed Non-Detects			
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates			
Minimum	7.59E-07	Mean	0.00467
Maximum	0.01	Median	2.54E-05
SD	0.00516	CV	1.106
k hat (MLE)	0.193	k star (bias corrected MLE)	0.199
Theta hat (MLE)	0.0242	Theta star (bias corrected MLE)	0.0235
nu hat (MLE)	5.79	nu star (bias corrected)	5.965
Adjusted Level of Significance (β)	0.0324		
Approximate Chi Square Value (5.96, α)	1.622	Adjusted Chi Square Value (5.96, β)	1.36
95% Gamma Approximate UCL (use when n>=50)	0.0172	95% Gamma Adjusted UCL (use when n<50)	0.0205
Estimates of Gamma Parameters using KM Estimates			

~~Mean (KM)~~	~~2.53E-06~~	~~SD (KM)~~	~~6.14E-06~~
~~Variance (KM)~~	~~3.77E-11~~	~~SE of Mean (KM)~~	~~1.69E-06~~
~~k hat (KM)~~	~~0.17~~	~~k star (KM)~~	~~0.181~~
~~nu hat (KM)~~	~~5.111~~	~~nu star (KM)~~	~~5.422~~
~~theta hat (KM)~~	~~1.49E-05~~	~~theta star (KM)~~	~~1.40E-05~~
~~80% gamma percentile (KM)~~	~~3.15E-06~~	~~90% gamma percentile (KM)~~	~~7.64E-06~~
~~95% gamma percentile (KM)~~	~~1.34E-05~~	~~99% gamma percentile (KM)~~	~~2.95E-05~~
~~Gamma Kaplan-Meier (KM) Statistics~~			
~~Approximate Chi Square Value (5.42, α)~~	~~1.352~~	~~Adjusted Chi Square Value (5.42, β)~~	~~1.12~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~1.02E-05~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~1.23E-05~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.735~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.818~~	~~Detected Data Not Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.27~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.283~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Approximate Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~2.37E-06~~	~~Mean in Log Scale~~	~~-14.57~~
~~SD in Original Scale~~	~~6.42E-06~~	~~SD in Log Scale~~	~~1.692~~
~~95% t UCL (assumes normality of ROS data)~~	~~5.29E-06~~	~~95% Percentile Bootstrap UCL~~	~~5.65E-06~~
~~95% BCA Bootstrap UCL~~	~~7.27E-06~~	~~95% Bootstrap t UCL~~	~~2.27E-05~~
~~95% H-UCL (Log ROS)~~	~~1.19E-05~~		
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			
~~KM Mean (logged)~~	~~-13.87~~	~~KM Geo Mean~~	~~9.45E-07~~
~~KM SD (logged)~~	~~1.044~~	~~95% Critical H Value (KM-Log)~~	~~2.815~~
~~KM Standard Error of Mean (logged)~~	~~0.288~~	~~95% H-UCL (KM -Log)~~	~~3.57E-06~~
~~KM SD (logged)~~	~~1.044~~	~~95% Critical H Value (KM-Log)~~	~~2.815~~
~~KM Standard Error of Mean (logged)~~	~~0.288~~		
~~DL/2 Statistics~~			
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~2.43E-06~~	~~Mean in Log Scale~~	~~-14.17~~
~~SD in Original Scale~~	~~6.39E-06~~	~~SD in Log Scale~~	~~1.327~~
~~95% t UCL (Assumes normality)~~	~~5.34E-06~~	~~95% H-Stat UCL~~	~~5.43E-06~~
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			
~~Detected Data appear Approximate Lognormal Distributed at 5% Significance Level~~			
~~Suggested UCL to Use~~			
~~95% KM (Chebyshev) UCL~~	~~9.92E-06~~		
~~Hexachlorodibenzofuran[1,2,3,7,8,9-]~~	~~-~~	~~-~~ ~~-~~	~~-~~
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~14~~
~~Number of Detects~~	~~2~~	~~Number of Non-Detects~~	~~13~~

~~Number of Distinct Detects~~	~~2~~	~~Number of Distinct Non-Detects~~	~~12~~
~~Minimum Detect~~	~~4.96E-07~~	~~Minimum Non-Detect~~	~~4.50E-07~~
~~Maximum Detect~~	~~1.79E-06~~	~~Maximum Non-Detect~~	~~4.87E-07~~
~~Variance Detects~~	~~8.37E-13~~	~~Percent Non-Detects~~	~~86.67%~~
~~Mean Detects~~	~~1.14E-06~~	~~SD Detects~~	~~9.15E-07~~
~~Median Detects~~	~~1.14E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~N/A~~	~~Kurtosis Detects~~	~~N/A~~
~~Mean of Logged Detects~~	~~-13.87~~	~~SD of Logged Detects~~	~~0.907~~

~~Warning: Data set has only 2 Detected Values.~~
~~This is not enough to compute meaningful or reliable statistics and estimates.~~

~~Normal GOF Test on Detects Only~~
~~Not Enough Data to Perform GOF Test~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~5.42E-07~~	~~KM Standard Error of Mean~~	~~1.22E-07~~
~~KM SD~~	~~3.34E-07~~	~~95% KM (BCA) UCL~~	~~N/A~~
~~95% KM (t) UCL~~	~~7.57E-07~~	~~95% KM (Percentile Bootstrap) UCL~~	~~N/A~~
~~95% KM (z) UCL~~	~~7.43E-07~~	~~95% KM Bootstrap t UCL~~	~~N/A~~
~~90% KM Chebyshev UCL~~	~~9.08E-07~~	~~95% KM Chebyshev UCL~~	~~1.07E-06~~
~~97.5% KM Chebyshev UCL~~	~~1.30E-06~~	~~99% KM Chebyshev UCL~~	~~1.75E-06~~

~~Gamma GOF Tests on Detected Observations Only~~
~~Not Enough Data to Perform GOF Test~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~2.744~~	~~k star (bias corrected MLE)~~	~~N/A~~
~~Theta hat (MLE)~~	~~4.17E-07~~	~~Theta star (bias corrected MLE)~~	~~N/A~~
~~nu hat (MLE)~~	~~10.98~~	~~nu star (bias corrected)~~	~~N/A~~
~~Mean (detects)~~	~~1.14E-06~~		

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~5.42E-07~~	~~SD (KM)~~	~~3.34E-07~~
~~Variance (KM)~~	~~1.11E-13~~	~~SE of Mean (KM)~~	~~1.22E-07~~
~~k hat (KM)~~	~~2.643~~	~~k star (KM)~~	~~2.159~~
~~nu hat (KM)~~	~~79.29~~	~~nu star (KM)~~	~~64.77~~
~~theta hat (KM)~~	~~2.05E-07~~	~~theta star (KM)~~	~~2.51E-07~~
~~80% gamma percentile (KM)~~	~~8.05E-07~~	~~90% gamma percentile (KM)~~	~~1.04E-06~~
~~95% gamma percentile (KM)~~	~~1.26E-06~~	~~99% gamma percentile (KM)~~	~~1.74E-06~~

~~Gamma Kaplan-Meier (KM) Statistics~~

		~~Adjusted Level of Significance (β)~~	~~0.0324~~
~~Approximate Chi Square Value (64.77, α)~~	~~47.25~~	~~Adjusted Chi Square Value (64.77, β)~~	~~45.41~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~7.43E-07~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~7.74E-07~~

~~Lognormal GOF Test on Detected Observations Only~~

Not Enough Data to Perform GOF Test

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.54E-07	Mean in Log Scale	-19.2
SD in Original Scale	4.70E-07	SD in Log Scale	2.237
95% t UCL (assumes normality of ROS data)	3.68E-07	95% Percentile Bootstrap UCL	3.61E-07
95% BCA Bootstrap UCL	5.12E-07	95% Bootstrap t UCL	4.72E-05
95% H-UCL (Log ROS)	1.13E-06		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-14.52	KM Geo Mean	4.97E-07
KM SD (logged)	0.344	95% Critical H Value (KM-Log)	1.918
KM Standard Error of Mean (logged)	0.125	95% H-UCL (KM -Log)	6.28E-07
KM SD (logged)	0.344	95% Critical H Value (KM-Log)	1.918
KM Standard Error of Mean (logged)	0.125		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	3.57E-07	Mean in Log Scale	-15.08
SD in Original Scale	4.02E-07	SD in Log Scale	0.545
95% t UCL (Assumes normality)	5.40E-07	95% H-Stat UCL	4.48E-07

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Data do not follow a Discernible Distribution at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	1.07E-06		
Hexachlorodibenzofuran[2,3,4,6,7,8-]	-	-	-

General Statistics

Total Number of Observations	15	Number of Distinct Observations	15
Number of Detects	8	Number of Non-Detects	7
Number of Distinct Detects	8	Number of Distinct Non-Detects	7
Minimum Detect	1.03E-06	Minimum Non-Detect	4.50E-07
Maximum Detect	3.19E-05	Maximum Non-Detect	4.84E-07
Variance Detects	1.14E-10	Percent Non-Detects	46.67%
Mean Detects	5.61E-06	SD Detects	1.07E-05
Median Detects	1.81E-06	CV Detects	N/A
Skewness Detects	2.794	Kurtosis Detects	7.851
Mean of Logged Detects	-12.92	SD of Logged Detects	1.119

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.487	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.451	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.283	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~3.20E-06~~	~~KM Standard Error of Mean~~	~~2.13E-06~~
~~KM SD~~	~~7.72E-06~~	~~95% KM (BCA) UCL~~	~~7.43E-06~~
~~95% KM (t) UCL~~	~~6.96E-06~~	~~95% KM (Percentile Bootstrap) UCL~~	~~7.25E-06~~
~~95% KM (z) UCL~~	~~6.71E-06~~	~~95% KM Bootstrap t UCL~~	~~3.05E-05~~
~~90% KM Chebyshev UCL~~	~~9.60E-06~~	~~95% KM Chebyshev UCL~~	~~1.25E-05~~
~~97.5% KM Chebyshev UCL~~	~~1.65E-05~~	~~99% KM Chebyshev UCL~~	~~2.44E-05~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~1.39~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.747~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.356~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.305~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	

~~Detected Data Not Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~0.724~~	~~k star (bias corrected MLE)~~	~~0.536~~
~~Theta hat (MLE)~~	~~7.75E-06~~	~~Theta star (bias corrected MLE)~~	~~1.05E-05~~
~~nu hat (MLE)~~	~~11.58~~	~~nu star (bias corrected)~~	~~8.574~~
~~Mean (detects)~~	~~5.61E-06~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~

~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~

~~This is especially true when the sample size is small.~~

~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~1.03E-06~~	~~Mean~~	~~0.00467~~
~~Maximum~~	~~0.01~~	~~Median~~	~~3.19E-05~~
~~SD~~	~~0.00516~~	~~CV~~	~~1.105~~
~~k hat (MLE)~~	~~0.2~~	~~k star (bias corrected MLE)~~	~~0.205~~
~~Theta hat (MLE)~~	~~0.0233~~	~~Theta star (bias corrected MLE)~~	~~0.0228~~
~~nu hat (MLE)~~	~~6.008~~	~~nu star (bias corrected)~~	~~6.14~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (6.14, α)~~	~~1.712~~	~~Adjusted Chi Square Value (6.14, β)~~	~~1.441~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0167~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.0199~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~3.20E-06~~	~~SD (KM)~~	~~7.72E-06~~
~~Variance (KM)~~	~~5.96E-11~~	~~SE of Mean (KM)~~	~~2.13E-06~~
~~k hat (KM)~~	~~0.172~~	~~k star (KM)~~	~~0.182~~
~~nu hat (KM)~~	~~5.163~~	~~nu star (KM)~~	~~5.464~~
~~theta hat (KM)~~	~~1.86E-05~~	~~theta star (KM)~~	~~1.76E-05~~
~~80% gamma percentile (KM)~~	~~4.00E-06~~	~~90% gamma percentile (KM)~~	~~9.66E-06~~

95% gamma percentile (KM)	1.69E-05	99% gamma percentile (KM)	3.71E-05
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (5.46, α)	1.372	Adjusted Chi Square Value (5.46, β)	1.138
95% Gamma Approximate KM-UCL (use when n>=50)	1.28E-05	95% Gamma Adjusted KM-UCL (use when n<50)	1.54E-05
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.753	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.818	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.249	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.283	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Approximate Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	3.06E-06	Mean in Log Scale	-14.25
SD in Original Scale	8.05E-06	SD in Log Scale	1.672
95% t UCL (assumes normality of ROS data)	6.72E-06	95% Percentile Bootstrap UCL	7.12E-06
95% BCA Bootstrap UCL	9.28E-06	95% Bootstrap t UCL	2.63E-05
95% H-UCL (Log ROS)	1.51E-05		
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution			
KM Mean (logged)	-13.71	KM Geo Mean	1.11E-06
KM SD (logged)	1.139	95% Critical H Value (KM-Log)	2.971
KM Standard Error of Mean (logged)	0.314	95% H-UCL (KM -Log)	5.25E-06
KM SD (logged)	1.139	95% Critical H Value (KM-Log)	2.971
KM Standard Error of Mean (logged)	0.314		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	3.10E-06	Mean in Log Scale	-14.01
SD in Original Scale	8.03E-06	SD in Log Scale	1.445
95% t UCL (Assumes normality)	6.75E-06	95% H-Stat UCL	9.03E-06
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Approximate Lognormal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (Chebyshev) UCL	1.25E-05		
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	-	- -	-
General Statistics			
Total Number of Observations	14	Number of Distinct Observations	14
		Number of Missing Observations	1
Minimum	2.62E-06	Mean	2.35E-04
Maximum	0.00113	Median	1.27E-04
SD	3.10E-04	Std. Error of Mean	8.29E-05
Coefficient of Variation	1.323	Skewness	2.235
Normal GOF Test			
Shapiro Wilk Test Statistic	0.713	Shapiro Wilk GOF Test	

~~5% Shapiro Wilk Critical Value~~	~~0.874~~	~~Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.28~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.226~~	~~Data Not Normal at 5% Significance Level~~	
~~Data Not Normal at 5% Significance Level~~			
~~Assuming Normal Distribution~~			
~~95% Normal UCL~~		~~95% UCLs (Adjusted for Skewness)~~	
~~95% Student's-t UCL~~	~~3.81E-04~~	~~95% Adjusted-CLT UCL (Chen-1995)~~	~~4.24E-04~~
		~~95% Modified-t UCL (Johnson-1978)~~	~~3.90E-04~~
~~Gamma GOF Test~~			
~~A-D Test Statistic~~	~~0.235~~	~~Anderson-Darling Gamma GOF Test~~	
~~5% A-D Critical Value~~	~~0.772~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.136~~	~~Kolmogorov-Smirnov Gamma GOF Test~~	
~~5% K-S Critical Value~~	~~0.238~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~Detected data appear Gamma Distributed at 5% Significance Level~~			
~~Gamma Statistics~~			
~~k hat (MLE)~~	~~0.735~~	~~k star (bias corrected MLE)~~	~~0.625~~
~~Theta hat (MLE)~~	~~3.19E-04~~	~~Theta star (bias corrected MLE)~~	~~3.75E-04~~
~~nu hat (MLE)~~	~~20.59~~	~~nu star (bias corrected)~~	~~17.51~~
~~MLE Mean (bias corrected)~~	~~2.35E-04~~	~~MLE Sd (bias corrected)~~	~~2.97E-04~~
		~~Approximate Chi Square Value (0.05)~~	~~9.04~~
~~Adjusted Level of Significance~~	~~0.0312~~	~~Adjusted Chi Square Value~~	~~8.243~~
~~Assuming Gamma Distribution~~			
~~95% Approximate Gamma UCL (use when n>=50)~~	~~4.54E-04~~	~~95% Adjusted Gamma UCL (use when n<50)~~	~~4.98E-04~~
~~Lognormal GOF Test~~			
~~Shapiro Wilk Test Statistic~~	~~0.953~~	~~Shapiro Wilk Lognormal GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.874~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.156~~	~~Lilliefors Lognormal GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.226~~	~~Data appear Lognormal at 5% Significance Level~~	
~~Data appear Lognormal at 5% Significance Level~~			
~~Lognormal Statistics~~			
~~Minimum of Logged Data~~	~~-12.85~~	~~Mean of logged Data~~	~~-9.174~~
~~Maximum of Logged Data~~	~~-6.786~~	~~SD of logged Data~~	~~1.539~~
~~Assuming Lognormal Distribution~~			
~~95% H-UCL~~	~~0.00169~~	~~90% Chebyshev (MVUE) UCL~~	~~6.95E-04~~
~~95% Chebyshev (MVUE) UCL~~	~~8.78E-04~~	~~97.5% Chebyshev (MVUE) UCL~~	~~0.00113~~
~~99% Chebyshev (MVUE) UCL~~	~~0.00163~~		
~~Nonparametric Distribution Free UCL Statistics~~			
~~Data appear to follow a Discernible Distribution at 5% Significance Level~~			
~~Nonparametric Distribution Free UCLs~~			
~~95% CLT UCL~~	~~3.71E-04~~	~~95% Jackknife UCL~~	~~3.81E-04~~
~~95% Standard Bootstrap UCL~~	~~3.66E-04~~	~~95% Bootstrap-t UCL~~	~~6.31E-04~~

~~95% Hall's Bootstrap UCL~~	~~9.89E-04~~	~~95% Percentile Bootstrap UCL~~	~~3.84E-04~~
~~95% BCA Bootstrap UCL~~	~~4.13E-04~~		
~~90% Chebyshev(Mean, Sd) UCL~~	~~4.83E-04~~	~~95% Chebyshev(Mean, Sd) UCL~~	~~5.96E-04~~
~~97.5% Chebyshev(Mean, Sd) UCL~~	~~7.52E-04~~	~~99% Chebyshev(Mean, Sd) UCL~~	~~0.00106~~
~~Suggested UCL to Use~~			
~~95% Adjusted Gamma UCL~~	~~4.98E-04~~		
~~Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]~~	-	- -	-
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~14~~	~~Number of Non-Detects~~	~~1~~
~~Number of Distinct Detects~~	~~14~~	~~Number of Distinct Non-Detects~~	~~1~~
~~Minimum Detect~~	~~3.31E-06~~	~~Minimum Non-Detect~~	~~9.45E-07~~
~~Maximum Detect~~	~~8.31E-04~~	~~Maximum Non-Detect~~	~~9.45E-07~~
~~Variance Detects~~	~~4.69E-08~~	~~Percent Non-Detects~~	~~6.67%~~
~~Mean Detects~~	~~8.71E-05~~	~~SD Detects~~	~~2.17E-04~~
~~Median Detects~~	~~1.99E-05~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~3.6~~	~~Kurtosis Detects~~	~~13.21~~
~~Mean of Logged Detects~~	~~-10.67~~	~~SD of Logged Detects~~	~~1.462~~
~~Normal GOF Test on Detects Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.411~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.874~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.374~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.226~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Detected Data Not Normal at 5% Significance Level~~			
~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~			
~~KM Mean~~	~~8.14E-05~~	~~KM Standard Error of Mean~~	~~5.43E-05~~
~~KM SD~~	~~2.03E-04~~	~~95% KM (BCA) UCL~~	~~1.91E-04~~
~~95% KM (t) UCL~~	~~1.77E-04~~	~~95% KM (Percentile Bootstrap) UCL~~	~~1.87E-04~~
~~95% KM (z) UCL~~	~~1.71E-04~~	~~95% KM Bootstrap t UCL~~	~~7.38E-04~~
~~90% KM Chebyshev UCL~~	~~2.44E-04~~	~~95% KM Chebyshev UCL~~	~~3.18E-04~~
~~97.5% KM Chebyshev UCL~~	~~4.21E-04~~	~~99% KM Chebyshev UCL~~	~~6.22E-04~~
~~Gamma GOF Tests on Detected Observations Only~~			
~~A-D Test Statistic~~	~~1.36~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.797~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.257~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.242~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~Detected Data Not Gamma Distributed at 5% Significance Level~~			
~~Gamma Statistics on Detected Data Only~~			
~~k hat (MLE)~~	~~0.483~~	~~k star (bias corrected MLE)~~	~~0.427~~
~~Theta hat (MLE)~~	~~1.80E-04~~	~~Theta star (bias corrected MLE)~~	~~2.04E-04~~

~~nu hat (MLE)~~	~~13.53~~	~~nu star (bias corrected)~~	~~11.96~~
~~Mean (detects)~~	~~8.71E-05~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~

~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~

~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~

~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~

~~This is especially true when the sample size is small.~~

~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~3.31E-06~~	~~Mean~~	~~7.48E-04~~
~~Maximum~~	~~0.01~~	~~Median~~	~~2.05E-05~~
~~SD~~	~~0.00257~~	~~CV~~	~~3.433~~
~~k hat (MLE)~~	~~0.234~~	~~k star (bias corrected MLE)~~	~~0.232~~
~~Theta hat (MLE)~~	~~0.0032~~	~~Theta star (bias corrected MLE)~~	~~0.00323~~
~~nu hat (MLE)~~	~~7.021~~	~~nu star (bias corrected)~~	~~6.95~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (6.95, α)~~	~~2.143~~	~~Adjusted Chi Square Value (6.95, β)~~	~~1.83~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.00243~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.00284~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~8.14E-05~~	~~SD (KM)~~	~~2.03E-04~~
~~Variance (KM)~~	~~4.11E-08~~	~~SE of Mean (KM)~~	~~5.43E-05~~
~~k hat (KM)~~	~~0.161~~	~~k star (KM)~~	~~0.173~~
~~nu hat (KM)~~	~~4.834~~	~~nu star (KM)~~	~~5.2~~
~~theta hat (KM)~~	~~5.05E-04~~	~~theta star (KM)~~	~~4.70E-04~~
~~80% gamma percentile (KM)~~	~~9.86E-05~~	~~90% gamma percentile (KM)~~	~~2.45E-04~~
~~95% gamma percentile (KM)~~	~~4.34E-04~~	~~99% gamma percentile (KM)~~	~~9.69E-04~~

~~Gamma Kaplan-Meier (KM) Statistics~~

~~Approximate Chi Square Value (5.20, α)~~	~~1.246~~	~~Adjusted Chi Square Value (5.20, β)~~	~~1.026~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~3.40E-04~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~4.12E-04~~

~~Lognormal GOF Test on Detected Observations Only~~

~~Shapiro Wilk Test Statistic~~	~~0.935~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.874~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.138~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.226~~	~~Detected Data appear Lognormal at 5% Significance Level~~	

~~Detected Data appear Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~8.14E-05~~	~~Mean in Log Scale~~	~~-10.91~~
~~SD in Original Scale~~	~~2.10E-04~~	~~SD in Log Scale~~	~~1.678~~
~~95% t UCL (assumes normality of ROS data)~~	~~1.77E-04~~	~~95% Percentile Bootstrap UCL~~	~~1.87E-04~~
~~95% BCA Bootstrap UCL~~	~~2.42E-04~~	~~95% Bootstrap t UCL~~	~~7.09E-04~~
~~95% H-UCL (Log ROS)~~	~~4.40E-04~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

KM Mean (logged)	-10.88	KM Geo Mean	1.88E-05
KM SD (logged)	1.578	95% Critical H Value (KM-Log)	3.756
KM Standard Error of Mean (logged)	0.423	95% H-UCL (KM -Log)	3.18E-04
KM SD (logged)	1.578	95% Critical H Value (KM-Log)	3.756
KM Standard Error of Mean (logged)	0.423		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	8.14E-05	Mean in Log Scale	-10.93
SD in Original Scale	2.10E-04	SD in Log Scale	1.731
95% t UCL (Assumes normality)	1.77E-04	95% H-Stat UCL	5.21E-04
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Lognormal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (Chebyshev) UCL	3.18E-04		
Pentachlorodibenzodioxin[1,2,3,7,8-]	-	- -	-
General Statistics			
Total Number of Observations	15	Number of Distinct Observations	14
Number of Detects	5	Number of Non-Detects	10
Number of Distinct Detects	5	Number of Distinct Non-Detects	9
Minimum Detect	4.88E-07	Minimum Non-Detect	4.50E-07
Maximum Detect	1.23E-05	Maximum Non-Detect	4.84E-07
Variance Detects	2.66E-11	Percent Non-Detects	66.67%
Mean Detects	3.11E-06	SD Detects	5.15E-06
Median Detects	6.70E-07	CV Detects	N/A
Skewness Detects	2.2	Kurtosis Detects	4.864
Mean of Logged Detects	-13.56	SD of Logged Detects	1.337
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.615	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.421	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	1.34E-06	KM Standard Error of Mean	8.49E-07
KM SD	2.94E-06	95% KM (BCA) UCL	2.91E-06
95% KM (t) UCL	2.83E-06	95% KM (Percentile Bootstrap) UCL	2.89E-06
95% KM (z) UCL	2.73E-06	95% KM Bootstrap t UCL	3.39E-05
90% KM Chebyshev UCL	3.89E-06	95% KM Chebyshev UCL	5.04E-06
97.5% KM Chebyshev UCL	6.64E-06	99% KM Chebyshev UCL	9.79E-06

~~Gamma GOF Tests on Detected Observations Only~~			
~~A-D Test Statistic~~	~~0.795~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.702~~	~~Detected Data Not Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.341~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.368~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~Detected data follow Appr. Gamma Distribution at 5% Significance Level~~			
~~Gamma Statistics on Detected Data Only~~			
~~k hat (MLE)~~	~~0.686~~	~~k star (bias corrected MLE)~~	~~0.408~~
~~Theta hat (MLE)~~	~~4.54E-06~~	~~Theta star (bias corrected MLE)~~	~~7.63E-06~~
~~nu hat (MLE)~~	~~6.857~~	~~nu star (bias corrected)~~	~~4.076~~
~~Mean (detects)~~	~~3.11E-06~~		
~~Gamma ROS Statistics using Imputed Non-Detects~~			
~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~			
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~			
~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~			
~~This is especially true when the sample size is small.~~			
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~			
~~Minimum~~	~~4.88E-07~~	~~Mean~~	~~0.00667~~
~~Maximum~~	~~0.01~~	~~Median~~	~~0.01~~
~~SD~~	~~0.00488~~	~~CV~~	~~0.732~~
~~k hat (MLE)~~	~~0.272~~	~~k star (bias corrected MLE)~~	~~0.262~~
~~Theta hat (MLE)~~	~~0.0246~~	~~Theta star (bias corrected MLE)~~	~~0.0255~~
~~nu hat (MLE)~~	~~8.146~~	~~nu star (bias corrected)~~	~~7.85~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (7.85, α)~~	~~2.649~~	~~Adjusted Chi Square Value (7.85, β)~~	~~2.291~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0198~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.0228~~
~~Estimates of Gamma Parameters using KM Estimates~~			
~~Mean (KM)~~	~~1.34E-06~~	~~SD (KM)~~	~~2.94E-06~~
~~Variance (KM)~~	~~8.66E-12~~	~~SE of Mean (KM)~~	~~8.49E-07~~
~~k hat (KM)~~	~~0.207~~	~~k star (KM)~~	~~0.21~~
~~nu hat (KM)~~	~~6.198~~	~~nu star (KM)~~	~~6.291~~
~~theta hat (KM)~~	~~6.47E-06~~	~~theta star (KM)~~	~~6.38E-06~~
~~80% gamma percentile (KM)~~	~~1.80E-06~~	~~90% gamma percentile (KM)~~	~~4.04E-06~~
~~95% gamma percentile (KM)~~	~~6.80E-06~~	~~99% gamma percentile (KM)~~	~~1.43E-05~~
~~Gamma Kaplan-Meier (KM) Statistics~~			
~~Approximate Chi Square Value (6.29, α)~~	~~1.791~~	~~Adjusted Chi Square Value (6.29, β)~~	~~1.512~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~4.70E-06~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~5.57E-06~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.794~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.762~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.287~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.343~~	~~Detected Data appear Lognormal at 5% Significance Level~~	

~~Detected Data appear Lognormal at 5% Significance Level~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~1.05E-06~~	~~Mean in Log Scale~~	~~-16.68~~
~~SD in Original Scale~~	~~3.14E-06~~	~~SD in Log Scale~~	~~2.42~~
~~95% t UCL (assumes normality of ROS data)~~	~~2.48E-06~~	~~95% Percentile Bootstrap UCL~~	~~2.62E-06~~
~~95% BCA Bootstrap UCL~~	~~3.33E-06~~	~~95% Bootstrap t UCL~~	~~1.35E-05~~
~~95% H-UCL (Log ROS)~~	~~3.49E-05~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-14.26~~	~~KM Geo Mean~~	~~6.39E-07~~
~~KM SD (logged)~~	~~0.85~~	~~95% Critical H Value (KM-Log)~~	~~2.514~~
~~KM Standard Error of Mean (logged)~~	~~0.245~~	~~95% H-UCL (KM -Log)~~	~~1.62E-06~~
~~KM SD (logged)~~	~~0.85~~	~~95% Critical H Value (KM-Log)~~	~~2.514~~
~~KM Standard Error of Mean (logged)~~	~~0.245~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~1.19E-06~~	~~Mean in Log Scale~~	~~-14.7~~
~~SD in Original Scale~~	~~3.09E-06~~	~~SD in Log Scale~~	~~1.096~~
~~95% t UCL (Assumes normality)~~	~~2.60E-06~~	~~95% H-Stat UCL~~	~~1.76E-06~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~

~~Detected Data appear Approximate Gamma Distributed at 5% Significance Level~~

~~Suggested UCL to Use~~

~~Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)~~	~~5.57E-06~~

~~When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test~~

~~When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL~~

~~Pentachlorodibenzofuran[1,2,3,7,8-]~~	-	-	-

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~8~~	~~Number of Non-Detects~~	~~7~~
~~Number of Distinct Detects~~	~~8~~	~~Number of Distinct Non-Detects~~	~~7~~
~~Minimum Detect~~	~~5.22E-07~~	~~Minimum Non-Detect~~	~~4.50E-07~~
~~Maximum Detect~~	~~2.27E-06~~	~~Maximum Non-Detect~~	~~4.87E-07~~
~~Variance Detects~~	~~4.80E-13~~	~~Percent Non-Detects~~	~~46.67%~~
~~Mean Detects~~	~~1.10E-06~~	~~SD Detects~~	~~6.93E-07~~
~~Median Detects~~	~~7.58E-07~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~1.072~~	~~Kurtosis Detects~~	~~-0.566~~
~~Mean of Logged Detects~~	~~-13.88~~	~~SD of Logged Detects~~	~~0.581~~

~~Normal GOF Test on Detects Only~~

~~Shapiro Wilk Test Statistic~~	~~0.803~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.818~~	~~Detected Data Not Normal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.274~~	~~Lilliefors GOF Test~~	

~~5% Lilliefors Critical Value~~	~~0.283~~	~~Detected Data appear Normal at 5% Significance Level~~	

~~Detected Data appear Approximate Normal at 5% Significance Level~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~7.96E-07~~	~~KM Standard Error of Mean~~	~~1.58E-07~~
~~KM SD~~	~~5.73E-07~~	~~95% KM (BCA) UCL~~	~~1.08E-06~~
~~95% KM (t) UCL~~	~~1.07E-06~~	~~95% KM (Percentile Bootstrap) UCL~~	~~1.06E-06~~
~~95% KM (z) UCL~~	~~1.06E-06~~	~~95% KM Bootstrap t UCL~~	~~1.41E-06~~
~~90% KM Chebyshev UCL~~	~~1.27E-06~~	~~95% KM Chebyshev UCL~~	~~1.49E-06~~
~~97.5% KM Chebyshev UCL~~	~~1.78E-06~~	~~99% KM Chebyshev UCL~~	~~2.37E-06~~

~~Gamma GOF Tests on Detected Observations Only~~

~~A-D Test Statistic~~	~~0.614~~	~~Anderson-Darling GOF Test~~	
~~5% A-D Critical Value~~	~~0.72~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	
~~K-S Test Statistic~~	~~0.241~~	~~Kolmogorov-Smirnov GOF~~	
~~5% K-S Critical Value~~	~~0.296~~	~~Detected data appear Gamma Distributed at 5% Significance Level~~	

~~Detected data appear Gamma Distributed at 5% Significance Level~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~3.344~~	~~k star (bias corrected MLE)~~	~~2.173~~
~~Theta hat (MLE)~~	~~3.29E-07~~	~~Theta star (bias corrected MLE)~~	~~5.06E-07~~
~~nu hat (MLE)~~	~~53.5~~	~~nu star (bias corrected)~~	~~34.77~~
~~Mean (detects)~~	~~1.10E-06~~		

~~Gamma ROS Statistics using Imputed Non-Detects~~
~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~
~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~
~~This is especially true when the sample size is small.~~
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~5.22E-07~~	~~Mean~~	~~0.00467~~
~~Maximum~~	~~0.01~~	~~Median~~	~~2.27E-06~~
~~SD~~	~~0.00516~~	~~CV~~	~~1.106~~
~~k hat (MLE)~~	~~0.179~~	~~k star (bias corrected MLE)~~	~~0.188~~
~~Theta hat (MLE)~~	~~0.0261~~	~~Theta star (bias corrected MLE)~~	~~0.0249~~
~~nu hat (MLE)~~	~~5.368~~	~~nu star (bias corrected)~~	~~5.628~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		
~~Approximate Chi Square Value (5.63, α)~~	~~1.453~~	~~Adjusted Chi Square Value (5.63, β)~~	~~1.21~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0181~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.0217~~

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~7.96E-07~~	~~SD (KM)~~	~~5.73E-07~~
~~Variance (KM)~~	~~3.29E-13~~	~~SE of Mean (KM)~~	~~1.58E-07~~
~~k hat (KM)~~	~~1.926~~	~~k star (KM)~~	~~1.585~~
~~nu hat (KM)~~	~~57.78~~	~~nu star (KM)~~	~~47.56~~

~~theta hat (KM)~~	~~4.13E-07~~	~~theta star (KM)~~	~~5.02E-07~~
~~80% gamma percentile (KM)~~	~~1.22E-06~~	~~90% gamma percentile (KM)~~	~~1.64E-06~~
~~95% gamma percentile (KM)~~	~~2.04E-06~~	~~99% gamma percentile (KM)~~	~~2.93E-06~~
~~Gamma Kaplan-Meier (KM) Statistics~~			
~~Approximate Chi Square Value (47.56, α)~~	~~32.73~~	~~Adjusted Chi Square Value (47.56, β)~~	~~31.22~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~1.16E-06~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~1.21E-06~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.868~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.818~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Lilliefors Test Statistic~~	~~0.21~~	~~Lilliefors GOF Test~~	
~~5% Lilliefors Critical Value~~	~~0.283~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~6.75E-07~~	~~Mean in Log Scale~~	~~-14.62~~
~~SD in Original Scale~~	~~6.78E-07~~	~~SD in Log Scale~~	~~0.918~~
~~95% t UCL (assumes normality of ROS data)~~	~~9.84E-07~~	~~95% Percentile Bootstrap UCL~~	~~9.59E-07~~
~~95% BCA Bootstrap UCL~~	~~1.03E-06~~	~~95% Bootstrap t UCL~~	~~1.25E-06~~
~~95% H-UCL (Log ROS)~~	~~1.29E-06~~		
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			
~~KM Mean (logged)~~	~~-14.22~~	~~KM Geo Mean~~	~~6.66E-07~~
~~KM SD (logged)~~	~~0.54~~	~~95% Critical H Value (KM-Log)~~	~~2.112~~
~~KM Standard Error of Mean (logged)~~	~~0.149~~	~~95% H-UCL (KM -Log)~~	~~1.05E-06~~
~~KM SD (logged)~~	~~0.54~~	~~95% Critical H Value (KM-Log)~~	~~2.112~~
~~KM Standard Error of Mean (logged)~~	~~0.149~~		
~~DL/2 Statistics~~			
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~6.96E-07~~	~~Mean in Log Scale~~	~~-14.52~~
~~SD in Original Scale~~	~~6.62E-07~~	~~SD in Log Scale~~	~~0.823~~
~~95% t UCL (Assumes normality)~~	~~9.97E-07~~	~~95% H-Stat UCL~~	~~1.19E-06~~
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			
~~Detected Data appear Approximate Normal Distributed at 5% Significance Level~~			
~~Suggested UCL to Use~~			
~~95% KM (t) UCL~~	~~1.07E-06~~		
~~When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test~~			
~~When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL~~			
~~**Pentachlorodibenzofuran[2,3,4,7,8-]**~~	~~-~~	~~-~~	~~- -~~
~~General Statistics~~			
~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	
~~Number of Detects~~	~~4~~	~~Number of Non-Detects~~	
~~Number of Distinct Detects~~	~~4~~	~~Number of Distinct Non-Detects~~	

Minimum Detect	1.06E-06	Minimum Non-Detect	
Maximum Detect	3.37E-06	Maximum Non-Detect	
Variance Detects	1.36E-12	Percent Non-Detects	15
Mean Detects	2.24E-06	SD Detects	11
Median Detects	2.27E-06	CV Detects	11
Skewness Detects	-0.0435	Kurtosis Detects	4.50E-07
Mean of Logged Detects	-13.12	SD of Logged Detects	4.87E-07
			73.33%
Normal GOF Test on Detects Only			1.17E-06
Shapiro Wilk Test Statistic	0.856	Shapiro Wilk GOF Test	N/A
5% Shapiro Wilk Critical Value	0.748	Detected Data appear Normal at 5% Significance Level	-5.267
Lilliefors Test Statistic	0.271	Lilliefors GOF Test	0.572
5% Lilliefors Critical Value	0.375	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	9.28E-07	KM Standard Error of Mean	
KM SD	9.49E-07	95% KM (BCA) UCL	
95% KM (t) UCL	1.43E-06	95% KM (Percentile Bootstrap) UCL	
95% KM (z) UCL	1.39E-06	95% KM Bootstrap t UCL	
90% KM Chebyshev UCL	1.78E-06	95% KM Chebyshev UCL	
97.5% KM Chebyshev UCL	2.69E-06	99% KM Chebyshev UCL	2.83E-07
			N/A
Gamma GOF Tests on Detected Observations Only			N/A
A-D Test Statistic	0.446	Anderson-Darling GOF Test	N/A
5% A-D Critical Value	0.659	Detected data appear Gamma Distributed at 5% Significance Level	2.16E-06
K-S Test Statistic	0.312	Kolmogorov-Smirnov GOF	3.74E-06
5% K-S Critical Value	0.396	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	4.462	k star (bias corrected MLE)	
Theta hat (MLE)	5.03E-07	Theta star (bias corrected MLE)	
nu hat (MLE)	35.7	nu star (bias corrected)	
Mean (detects)	2.24E-06		
Gamma ROS Statistics using Imputed Non-Detects			1.282
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs			1.75E-06
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)			10.26
For such situations, GROS method may yield incorrect values of UCLs and BTVs			
This is especially true when the sample size is small.			

~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~

~~Minimum~~	~~1.06E-06~~	~~Mean~~	
~~Maximum~~	~~0.01~~	~~Median~~	
~~SD~~	~~0.00458~~	~~CV~~	
~~k hat (MLE)~~	~~0.344~~	~~k star (bias corrected MLE)~~	
~~Theta hat (MLE)~~	~~0.0213~~	~~Theta star (bias corrected MLE)~~	
~~nu hat (MLE)~~	~~10.31~~	~~nu star (bias corrected)~~	~~0.00733~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		~~0.01~~
~~Approximate Chi Square Value (9.58, α)~~	~~3.684~~	~~Adjusted Chi Square Value (9.58, β)~~	~~0.624~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0191~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.319~~
			~~0.023~~
~~Estimates of Gamma Parameters using KM Estimates~~			~~9.584~~
~~Mean (KM)~~	~~9.28E-07~~	~~SD (KM)~~	
~~Variance (KM)~~	~~9.01E-13~~	~~SE of Mean (KM)~~	~~3.246~~
~~k hat (KM)~~	~~0.956~~	~~k star (KM)~~	~~N/A~~
~~nu hat (KM)~~	~~28.69~~	~~nu star (KM)~~	
~~theta hat (KM)~~	~~9.70E-07~~	~~theta star (KM)~~	
~~80% gamma percentile (KM)~~	~~1.52E-06~~	~~90% gamma percentile (KM)~~	~~9.49E-07~~
~~95% gamma percentile (KM)~~	~~3.00E-06~~	~~99% gamma percentile (KM)~~	~~2.83E-07~~
			~~0.81~~
~~Gamma Kaplan-Meier (KM) Statistics~~			~~24.29~~
~~Approximate Chi Square Value (24.29, α)~~	~~14.07~~	~~Adjusted Chi Square Value (24.29, β)~~	~~1.15E-06~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~1.60E-06~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~2.25E-06~~
			~~4.76E-06~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.871~~	~~Shapiro Wilk GOF Test~~	
~~5% Shapiro Wilk Critical Value~~	~~0.748~~	~~Detected Data appear Lognormal at 5% Significance Level~~	~~13.12~~
~~Lilliefors Test Statistic~~	~~0.281~~	~~Lilliefors GOF Test~~	~~1.72E-06~~
~~5% Lilliefors Critical Value~~	~~0.375~~	~~Detected Data appear Lognormal at 5% Significance Level~~	
~~Detected Data appear Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~7.51E-07~~	~~Mean in Log Scale~~	
~~SD in Original Scale~~	~~1.08E-06~~	~~SD in Log Scale~~	
~~95% t UCL (assumes normality of ROS data)~~	~~1.24E-06~~	~~95% Percentile Bootstrap UCL~~	
~~95% BCA Bootstrap UCL~~	~~1.32E-06~~	~~95% Bootstrap t UCL~~	
~~95% H-UCL (Log ROS)~~	~~1.52E-06~~		
			~~-14.78~~
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			~~1.067~~
~~KM Mean (logged)~~	~~-14.22~~	~~KM Geo Mean~~	~~1.25E-06~~
~~KM SD (logged)~~	~~0.707~~	~~95% Critical H Value (KM-Log)~~	~~1.92E-06~~
~~KM Standard Error of Mean (logged)~~	~~0.211~~	~~95% H-UCL (KM -Log)~~	

KM SD (logged)	0.707	95% Critical H Value (KM-Log)	
KM Standard Error of Mean (logged)	0.211		
			6.70E-07
DL/2 Statistics			2.315
DL/2 Normal		DL/2 Log-Transformed	1.33E-06
Mean in Original Scale	7.71E-07	Mean in Log Scale	2.315
SD in Original Scale	1.07E-06	SD in Log Scale	
95% t UCL (Assumes normality)	1.26E-06	95% H-Stat UCL	
DL/2 is not a recommended method, provided for comparisons and historical reasons			
Nonparametric Distribution Free UCL Statistics			-14.69
Detected Data appear Normal Distributed at 5% Significance Level			1.012
			1.47E-06
Suggested UCL to Use			
95% KM (t) UCL	1.43E-06		
Tetrachlorodibenzodioxin[2,3,7,8-] -	-	-	- -
General Statistics			
Total Number of Observations	15	Number of Distinct Observations	
Number of Detects	4	Number of Non-Detects	
Number of Distinct Detects	4	Number of Distinct Non-Detects	
Minimum Detect	2.03E-07	Minimum Non-Detect	
Maximum Detect	7.57E-07	Maximum Non-Detect	
Variance Detects	7.50E-14	Percent Non-Detects	15
Mean Detects	3.46E-07	SD Detects	11
Median Detects	2.13E-07	CV Detects	11
Skewness Detects	1.998	Kurtosis Detects	9.12E-08
Mean of Logged Detects	-15.06	SD of Logged Detects	1.97E-07
			73.33%
Normal GOF Test on Detects Only			2.74E-07
Shapiro Wilk Test Statistic	0.647	Shapiro Wilk GOF Test	N/A
5% Shapiro Wilk Critical Value	0.748	Detected Data Not Normal at 5% Significance Level	3.994
Lilliefors Test Statistic	0.434	Lilliefors GOF Test	0.643
5% Lilliefors Critical Value	0.375	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs			
KM Mean	1.59E-07	KM Standard Error of Mean	
KM SD	1.67E-07	95% KM (BCA) UCL	
95% KM (t) UCL	2.47E-07	95% KM (Percentile Bootstrap) UCL	
95% KM (z) UCL	2.41E-07	95% KM Bootstrap t UCL	
90% KM Chebyshev UCL	3.08E-07	95% KM Chebyshev UCL	
97.5% KM Chebyshev UCL	4.69E-07	99% KM Chebyshev UCL	4.96E-08
			N/A
Gamma GOF Tests on Detected Observations Only			N/A

~~A-D Test Statistic~~	~~0.896~~	~~Anderson-Darling GOF Test~~	~~N/A~~
		~~Detected Data Not Gamma Distributed at 5%~~	
~~5% A-D Critical Value~~	~~0.66~~	~~Significance Level~~	~~3.76E-07~~
~~K-S Test Statistic~~	~~0.458~~	~~Kolmogorov-Smirnov GOF~~	~~6.53E-07~~
		~~Detected Data Not Gamma Distributed at 5%~~	
~~5% K-S Critical Value~~	~~0.397~~	~~Significance Level~~	
~~Detected Data Not Gamma Distributed at 5% Significance Level~~			
~~Gamma Statistics on Detected Data Only~~			
~~k hat (MLE)~~	~~2.902~~	~~k star (bias corrected MLE)~~	
~~Theta hat (MLE)~~	~~1.19E-07~~	~~Theta star (bias corrected MLE)~~	
~~nu hat (MLE)~~	~~23.22~~	~~nu star (bias corrected)~~	
~~Mean (detects)~~	~~3.46E-07~~		
~~Gamma ROS Statistics using Imputed Non-Detects~~			~~0.892~~
~~GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs~~			~~3.88E-07~~
~~GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)~~			~~7.137~~
~~For such situations, GROS method may yield incorrect values of UCLs and BTVs~~			
~~This is especially true when the sample size is small.~~			
~~For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates~~			
~~Minimum~~	~~2.03E-07~~	~~Mean~~	
~~Maximum~~	~~0.01~~	~~Median~~	
~~SD~~	~~0.00458~~	~~CV~~	
~~k hat (MLE)~~	~~0.281~~	~~k star (bias corrected MLE)~~	
~~Theta hat (MLE)~~	~~0.0261~~	~~Theta star (bias corrected MLE)~~	
~~nu hat (MLE)~~	~~8.439~~	~~nu star (bias corrected)~~	~~0.00733~~
~~Adjusted Level of Significance (β)~~	~~0.0324~~		~~0.01~~
~~Approximate Chi Square Value (8.08, α)~~	~~2.784~~	~~Adjusted Chi Square Value (8.08, β)~~	~~0.624~~
~~95% Gamma Approximate UCL (use when n>=50)~~	~~0.0213~~	~~95% Gamma Adjusted UCL (use when n<50)~~	~~0.269~~
			~~0.0272~~
~~Estimates of Gamma Parameters using KM Estimates~~			~~8.084~~
~~Mean (KM)~~	~~1.59E-07~~	~~SD (KM)~~	
~~Variance (KM)~~	~~2.77E-14~~	~~SE of Mean (KM)~~	~~2.415~~
~~k hat (KM)~~	~~0.914~~	~~k star (KM)~~	~~N/A~~
~~nu hat (KM)~~	~~27.43~~	~~nu star (KM)~~	
~~theta hat (KM)~~	~~1.74E-07~~	~~theta star (KM)~~	
~~80% gamma percentile (KM)~~	~~2.61E-07~~	~~90% gamma percentile (KM)~~	~~1.67E-07~~
~~95% gamma percentile (KM)~~	~~5.22E-07~~	~~99% gamma percentile (KM)~~	~~4.96E-08~~
			~~0.776~~
~~Gamma Kaplan-Meier (KM) Statistics~~			~~23.28~~
~~Approximate Chi Square Value (23.28, α)~~	~~13.3~~	~~Adjusted Chi Square Value (23.28, β)~~	~~2.05E-07~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~2.79E-07~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~3.90E-07~~
			~~8.35E-07~~
~~Lognormal GOF Test on Detected Observations Only~~			
~~Shapiro Wilk Test Statistic~~	~~0.665~~	~~Shapiro Wilk GOF Test~~	
		~~Detected Data Not Lognormal at 5%~~	
~~5% Shapiro Wilk Critical Value~~	~~0.748~~	~~Significance Level~~	~~12.38~~

~~Lilliefors Test Statistic~~	~~0.426~~	~~Lilliefors GOF Test~~	~~2.99E-07~~
~~5% Lilliefors Critical Value~~	~~0.375~~	~~Detected Data Not Lognormal at 5% Significance Level~~	
~~Detected Data Not Lognormal at 5% Significance Level~~			
~~Lognormal ROS Statistics Using Imputed Non-Detects~~			
~~Mean in Original Scale~~	~~1.12E-07~~	~~Mean in Log Scale~~	
~~SD in Original Scale~~	~~1.94E-07~~	~~SD in Log Scale~~	
~~95% t UCL (assumes normality of ROS data)~~	~~2.00E-07~~	~~95% Percentile Bootstrap UCL~~	
~~95% BCA Bootstrap UCL~~	~~2.57E-07~~	~~95% Bootstrap t UCL~~	
~~95% H-UCL (Log ROS)~~	~~2.33E-07~~		~~-16.81~~
~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~			~~1.133~~
~~KM Mean (logged)~~	~~-15.9~~	~~KM Geo Mean~~	~~2.09E-07~~
~~KM SD (logged)~~	~~0.585~~	~~95% Critical H Value (KM-Log)~~	~~2.99E-07~~
~~KM Standard Error of Mean (logged)~~	~~0.174~~	~~95% H-UCL (KM -Log)~~	
~~KM SD (logged)~~	~~0.585~~	~~95% Critical H Value (KM-Log)~~	
~~KM Standard Error of Mean (logged)~~	~~0.174~~		~~1.24E-07~~
~~DL/2 Statistics~~			~~2.163~~
~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	~~2.06E-07~~
~~Mean in Original Scale~~	~~1.46E-07~~	~~Mean in Log Scale~~	~~2.163~~
~~SD in Original Scale~~	~~1.79E-07~~	~~SD in Log Scale~~	
~~95% t UCL (Assumes normality)~~	~~2.27E-07~~	~~95% H-Stat UCL~~	
~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~			
~~Nonparametric Distribution Free UCL Statistics~~			~~-16.09~~
~~Data do not follow a Discernible Distribution at 5% Significance Level~~			~~0.739~~
			~~2.16E-07~~
~~Suggested UCL to Use~~			
~~95% KM (Chebyshev) UCL~~	~~3.76E-07~~		

~~UCL Statistics for Data Sets with Non-Detects~~

~~User Selected Options~~

	~~ProUCL 5.1~~
~~Date/Time of Computation~~	**~~7/27/2019 4:08:18 PM~~**
~~From File~~	**~~ProUCL Dioxin 399.xls~~**
~~Full Precision~~	**~~OFF~~**
~~Confidence Coefficient~~	**~~95%~~**
~~Number of Bootstrap Operations~~	**~~2000~~**

~~Tetrachlorodibenzofuran[2,3,7,8-]~~

~~General Statistics~~

~~Total Number of Observations~~	~~15~~	~~Number of Distinct Observations~~	~~15~~
~~Number of Detects~~	~~2~~	~~Number of Non-Detects~~	~~13~~
~~Number of Distinct Detects~~	~~2~~	~~Number of Distinct Non-Detects~~	~~13~~
~~Minimum Detect~~	~~1.66E-06~~	~~Minimum Non-Detect~~	~~1.91E-07~~
~~Maximum Detect~~	~~2.71E-06~~	~~Maximum Non-Detect~~	~~5.90E-07~~

~~Variance Detects~~	~~5.51E-13~~	~~Percent Non-Detects~~	~~86.67%~~
~~Mean Detects~~	~~2.19E-06~~	~~SD Detects~~	~~7.42E-07~~
~~Median Detects~~	~~2.19E-06~~	~~CV Detects~~	~~N/A~~
~~Skewness Detects~~	~~N/A~~	~~Kurtosis Detects~~	~~N/A~~
~~Mean of Logged Detects~~	~~-13.06~~	~~SD of Logged Detects~~	~~0.347~~

~~Warning: Data set has only 2 Detected Values.~~
~~This is not enough to compute meaningful or reliable statistics and estimates.~~

~~Normal GOF Test on Detects Only~~
~~Not Enough Data to Perform GOF Test~~

~~Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs~~

~~KM Mean~~	~~4.57E-07~~	~~KM Standard Error of Mean~~	~~2.57E-07~~
~~KM SD~~	~~7.04E-07~~	~~95% KM (BCA) UCL~~	~~N/A~~
~~95% KM (t) UCL~~	~~9.10E-07~~	~~95% KM (Percentile Bootstrap) UCL~~	~~N/A~~
~~95% KM (z) UCL~~	~~8.80E-07~~	~~95% KM Bootstrap t UCL~~	~~N/A~~
~~90% KM Chebyshev UCL~~	~~1.23E-06~~	~~95% KM Chebyshev UCL~~	~~1.58E-06~~
~~97.5% KM Chebyshev UCL~~	~~2.06E-06~~	~~99% KM Chebyshev UCL~~	~~3.02E-06~~

~~Gamma GOF Tests on Detected Observations Only~~
~~Not Enough Data to Perform GOF Test~~

~~Gamma Statistics on Detected Data Only~~

~~k hat (MLE)~~	~~16.98~~	~~k star (bias corrected MLE)~~	~~N/A~~
~~Theta hat (MLE)~~	~~1.29E-07~~	~~Theta star (bias corrected MLE)~~	~~N/A~~
~~nu hat (MLE)~~	~~67.93~~	~~nu star (bias corrected)~~	~~N/A~~
~~Mean (detects)~~	~~2.19E-06~~		

~~Estimates of Gamma Parameters using KM Estimates~~

~~Mean (KM)~~	~~4.57E-07~~	~~SD (KM)~~	~~7.04E-07~~
~~Variance (KM)~~	~~4.96E-13~~	~~SE of Mean (KM)~~	~~2.57E-07~~
~~k hat (KM)~~	~~0.421~~	~~k star (KM)~~	~~0.381~~
~~nu hat (KM)~~	~~12.62~~	~~nu star (KM)~~	~~11.43~~
~~theta hat (KM)~~	~~1.09E-06~~	~~theta star (KM)~~	~~1.20E-06~~
~~80% gamma percentile (KM)~~	~~7.33E-07~~	~~90% gamma percentile (KM)~~	~~1.30E-06~~
~~95% gamma percentile (KM)~~	~~1.93E-06~~	~~99% gamma percentile (KM)~~	~~3.52E-06~~

~~Gamma Kaplan-Meier (KM) Statistics~~

		~~Adjusted Level of Significance (β)~~	~~0.0324~~
~~Approximate Chi Square Value (11.43, α)~~	~~4.853~~	~~Adjusted Chi Square Value (11.43, β)~~	~~4.337~~
~~95% Gamma Approximate KM-UCL (use when n>=50)~~	~~1.08E-06~~	~~95% Gamma Adjusted KM-UCL (use when n<50)~~	~~1.20E-06~~

~~Lognormal GOF Test on Detected Observations Only~~
~~Not Enough Data to Perform GOF Test~~

~~Lognormal ROS Statistics Using Imputed Non-Detects~~

~~Mean in Original Scale~~	~~4.67E-07~~	~~Mean in Log Scale~~	~~-15.1~~
~~SD in Original Scale~~	~~7.25E-07~~	~~SD in Log Scale~~	~~0.83~~

~~95% t UCL (assumes normality of ROS data)~~	~~7.97E-07~~	~~95% Percentile Bootstrap UCL~~	~~N/A~~
~~95% BCA Bootstrap UCL~~	~~N/A~~	~~95% Bootstrap t UCL~~	~~N/A~~
~~95% H-UCL (Log ROS)~~	~~6.81E-07~~		

~~Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution~~

~~KM Mean (logged)~~	~~-15.15~~	~~KM Geo Mean~~	~~2.63E-07~~
~~KM SD (logged)~~	~~0.823~~	~~95% Critical H Value (KM-Log)~~	~~2.476~~
~~KM Standard Error of Mean (logged)~~	~~0.301~~	~~95% H-UCL (KM -Log)~~	~~6.37E-07~~
~~KM SD (logged)~~	~~0.823~~	~~95% Critical H Value (KM-Log)~~	~~2.476~~
~~KM Standard Error of Mean (logged)~~	~~0.301~~		

~~DL/2 Statistics~~

~~DL/2 Normal~~		~~DL/2 Log-Transformed~~	
~~Mean in Original Scale~~	~~4.55E-07~~	~~Mean in Log Scale~~	~~-15.23~~
~~SD in Original Scale~~	~~7.33E-07~~	~~SD in Log Scale~~	~~0.967~~
~~95% t UCL (Assumes normality)~~	~~7.88E-07~~	~~95% H-Stat UCL~~	~~7.77E-07~~

~~DL/2 is not a recommended method, provided for comparisons and historical reasons~~

~~Nonparametric Distribution Free UCL Statistics~~

~~Data do not follow a Discernible Distribution at 5% Significance Level~~

~~Suggested UCL to Use~~

~~95% KM (t) UCL~~	~~9.10E-07~~	~~KM H-UCL~~	~~6.37E-07~~
~~95% KM (BCA) UCL~~	~~N/A~~		

~~Warning: One or more Recommended UCL(s) not available!~~

~~Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.~~

~~Recommendations are based upon data size, data distribution, and skewness.~~

~~These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).~~

~~However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.~~

Attachment A.2 ProUCL Output for Upper Confidence Limit Calculations for Samples Within the SWMU Boundary

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	**ProUCL 5.12/6/2021 12:46:42 PM**
From File	**Detect above BV for ProUCL vs 3.xls**
Full Precision	**OFF**
Confidence Coefficient	**95%**
Number of Bootstrap Operations	**2000**

Amino-2,6-dinitrotoluene[4-]

General Statistics

Total Number of Observations	26	Number of Distinct Observations	13
		Number of Missing Observations	7
Number of Detects	7	Number of Non-Detects	19
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.21	Minimum Non-Detect	0.144
Maximum Detect	3.24	Maximum Non-Detect	0.152
Variance Detects	1.107	Percent Non-Detects	73.08%
Mean Detects	1.034	SD Detects	1.052
Median Detects	0.621	CV Detects	1.018
Skewness Detects	1.929	Kurtosis Detects	3.936
Mean of Logged Detects	-0.343	SD of Logged Detects	0.92

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.78	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.234	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Approximate Normal at 5% Significance Level

KM Mean	0.384	KM Standard Error of Mean	0.136
KM SD	0.641	95% KM (BCA) UCL	0.65
95% KM (t) UCL	0.616	95% KM (Percentile Bootstrap) UCL	0.619
95% KM (z) UCL	0.607	95% KM Bootstrap t UCL	0.931
90% KM Chebyshev UCL	0.791	95% KM Chebyshev UCL	0.976
97.5% KM Chebyshev UCL	1.232	99% KM Chebyshev UCL	1.735

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.277	Anderson-Darling GOF Test	
5% A-D Critical Value	0.722	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.183	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.317	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	1.472	k star (bias corrected MLE)	0.936
Theta hat (MLE)	0.702	Theta star (bias corrected MLE)	1.104
nu hat (MLE)	20.61	nu star (bias corrected)	13.11
Mean (detects)	1.034		

Gamma ROS Statistics using Imputed Non-Detects

This is especially true when the sample size is small.

Minimum	0.01	Mean	0.286
Maximum	3.24	Median	0.01
SD	0.693	CV	2.426
k hat (MLE)	0.311	k star (bias corrected MLE)	0.301
Theta hat (MLE)	0.919	Theta star (bias corrected MLE)	0.95
nu hat (MLE)	16.17	nu star (bias corrected)	15.64
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (15.64, α)	7.706	Adjusted Chi Square Value (15.64, β)	7.34
95% Gamma Approximate UCL (use when n>=50)	0.58	95% Gamma Adjusted UCL (use when n<50)	0.609

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.384	SD (KM)	0.641
Variance (KM)	0.411	SE of Mean (KM)	0.136
k hat (KM)	0.358	k star (KM)	0.342
nu hat (KM)	18.6	nu star (KM)	17.79
theta hat (KM)	1.072	theta star (KM)	1.121
80% gamma percentile (KM)	0.605	90% gamma percentile (KM)	1.111
95% gamma percentile (KM)	1.681	99% gamma percentile (KM)	3.137

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (17.79, α)	9.237	Adjusted Chi Square Value (17.79, β)	8.831
95% Gamma Approximate KM-UCL (use when n>=50)	0.739	95% Gamma Adjusted KM-UCL (use when n<50)	0.773
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.984	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.129	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.301	Mean in Log Scale	-3.021
SD in Original Scale	0.687	SD in Log Scale	1.981
95% t UCL (assumes normality of ROS data)	0.531	95% Percentile Bootstrap UCL	0.526
95% BCA Bootstrap UCL	0.672	95% Bootstrap t UCL	0.917
95% H-UCL (Log ROS)	1.677		
KM Mean (logged)	-1.509	KM Geo Mean	0.221
KM SD (logged)	0.834	95% Critical H Value (KM-Log)	2.304
KM Standard Error of Mean (logged)	0.177	95% H-UCL (KM -Log)	0.46
KM SD (logged)	0.834	95% Critical H Value (KM-Log)	2.304
KM Standard Error of Mean (logged)	0.177		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.333	Mean in Log Scale	-1.991
SD in Original Scale	0.674	SD in Log Scale	1.115
95% t UCL (Assumes normality)	0.558	95% H-Stat UCL	0.46
Nonparametric Distribution Free UCL Statistics			
Suggested UCL to Use			
95% KM (t) UCL	0.616		

Amino-4,6-dinitrotoluene[2-]	-	-	-
General Statistics			
Total Number of Observations	26	Number of Distinct Observations	13
		Number of Missing Observations	7
Number of Detects	7	Number of Non-Detects	19
Number of Distinct Detects	7	Number of Distinct Non-Detects	6
Minimum Detect	0.277	Minimum Non-Detect	0.144
Maximum Detect	1.49	Maximum Non-Detect	0.152
Variance Detects	0.276	Percent Non-Detects	73.08%
Mean Detects	0.72	SD Detects	0.525
Median Detects	0.468	CV Detects	0.73
Skewness Detects	0.889	Kurtosis Detects	-1.265
Mean of Logged Detects	-0.553	SD of Logged Detects	0.716
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.801	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.256	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Approximate Normal at 5% Significance Level			
KM Mean	0.299	KM Standard Error of Mean	0.076
KM SD	0.359	95% KM (BCA) UCL	0.429
95% KM (t) UCL	0.429	95% KM (Percentile Bootstrap) UCL	0.423
95% KM (z) UCL	0.424	95% KM Bootstrap t UCL	0.563
90% KM Chebyshev UCL	0.527	95% KM Chebyshev UCL	0.631
97.5% KM Chebyshev UCL	0.774	99% KM Chebyshev UCL	1.056
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.552	Anderson-Darling GOF Test	
5% A-D Critical Value	0.714	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.225	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.315	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	2.379	k star (bias corrected MLE)	1.455
Theta hat (MLE)	0.303	Theta star (bias corrected MLE)	0.495
nu hat (MLE)	33.31	nu star (bias corrected)	20.37
Mean (detects)	0.72		
Gamma ROS Statistics using Imputed Non-Detects			

This is especially true when the sample size is small.

Minimum	0.01	Mean	0.201
Maximum	1.49	Median	0.01
SD	0.411	CV	2.046
k hat (MLE)	0.352	k star (bias corrected MLE)	0.337
Theta hat (MLE)	0.572	Theta star (bias corrected MLE)	0.597
nu hat (MLE)	18.29	nu star (bias corrected)	17.51
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (17.51, α)	9.039	Adjusted Chi Square Value (17.51, β)	8.638
95% Gamma Approximate UCL (use when n>=50)	0.39	95% Gamma Adjusted UCL (use when n<50)	0.408
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.299	SD (KM)	0.359
Variance (KM)	0.129	SE of Mean (KM)	0.076
k hat (KM)	0.694	k star (KM)	0.639
nu hat (KM)	36.08	nu star (KM)	33.25
theta hat (KM)	0.431	theta star (KM)	0.468
80% gamma percentile (KM)	0.493	90% gamma percentile (KM)	0.767
95% gamma percentile (KM)	1.052	99% gamma percentile (KM)	1.737
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (33.25, α)	21.06	Adjusted Chi Square Value (33.25, β)	20.42
95% Gamma Approximate KM-UCL (use when n>=50)	0.472	95% Gamma Adjusted KM-UCL (use when n<50)	0.487
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.865	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.206	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.23	Mean in Log Scale	-2.579
SD in Original Scale	0.399	SD in Log Scale	1.501
95% t UCL (assumes normality of ROS data)	0.364	95% Percentile Bootstrap UCL	0.367
95% BCA Bootstrap UCL	0.391	95% Bootstrap t UCL	0.506
95% H-UCL (Log ROS)	0.615		
KM Mean (logged)	-1.565	KM Geo Mean	0.209
KM SD (logged)	0.704	95% Critical H Value (KM-Log)	2.157
KM Standard Error of Mean (logged)	0.149	95% H-UCL (KM -Log)	0.363
KM SD (logged)	0.704	95% Critical H Value (KM-Log)	2.157
KM Standard Error of Mean (logged)	0.149		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.248	Mean in Log Scale	-2.047
SD in Original Scale	0.389	SD in Log Scale	0.989
95% t UCL (Assumes normality)	0.379	95% H-Stat UCL	0.345
Nonparametric Distribution Free UCL Statistics			
Suggested UCL to Use			
95% KM (t) UCL	0.429		
Anthracene	-	-	
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	14
		Number of Missing Observations	4
Number of Detects	2	Number of Non-Detects	15
Number of Distinct Detects	2	Number of Distinct Non-Detects	12
Minimum Detect	0.0142	Minimum Non-Detect	0.0101
Maximum Detect	0.509	Maximum Non-Detect	0.0122
Variance Detects	0.122	Percent Non-Detects	88.24%
Mean Detects	0.262	SD Detects	0.35
Median Detects	0.262	CV Detects	1.337
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-2.465	SD of Logged Detects	2.531
Warning: Data set has only 2 Detected Values. This is not enough to compute meaningful or reliable statistics and estimates.			
Antimony	-	-	-
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	15
		Number of Missing Observations	4
Number of Detects	5	Number of Non-Detects	12
Number of Distinct Detects	5	Number of Distinct Non-Detects	10
Minimum Detect	0.418	Minimum Non-Detect	0.302

Maximum Detect	1.22	Maximum Non-Detect	0.392
Variance Detects	0.0962	Percent Non-Detects	70.59%
Mean Detects	0.766	SD Detects	0.31
Median Detects	0.752	CV Detects	0.405
Skewness Detects	0.613	Kurtosis Detects	0.00288
Mean of Logged Detects	-0.334	SD of Logged Detects	0.413

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.972	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.153	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

KM Mean	0.438	KM Standard Error of Mean	0.0704
KM SD	0.259	95% KM (BCA) UCL	0.572
95% KM (t) UCL	0.561	95% KM (Percentile Bootstrap) UCL	0.563
95% KM (z) UCL	0.554	95% KM Bootstrap t UCL	0.541
90% KM Chebyshev UCL	0.65	95% KM Chebyshev UCL	0.745
97.5% KM Chebyshev UCL	0.878	99% KM Chebyshev UCL	1.139

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.174	Anderson-Darling GOF Test	
5% A-D Critical Value	0.68	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.162	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.358	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	7.621	k star (bias corrected MLE)	3.182
Theta hat (MLE)	0.101	Theta star (bias corrected MLE)	0.241
nu hat (MLE)	76.21	nu star (bias corrected)	31.82
Mean (detects)	0.766		

Gamma ROS Statistics using Imputed Non-Detects

This is especially true when the sample size is small.

Minimum	0.01	Mean	0.232
Maximum	1.22	Median	0.01
SD	0.387	CV	1.668
k hat (MLE)	0.355	k star (bias corrected MLE)	0.332
Theta hat (MLE)	0.654	Theta star (bias corrected MLE)	0.701
nu hat (MLE)	12.07	nu star (bias corrected)	11.28
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (11.28, α)	4.754	Adjusted Chi Square Value (11.28, β)	4.318
95% Gamma Approximate UCL (use when n>=50)	0.551	95% Gamma Adjusted UCL (use when n<50)	0.607

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.438	SD (KM)	0.259
Variance (KM)	0.0673	SE of Mean (KM)	0.0704
k hat (KM)	2.855	k star (KM)	2.391
nu hat (KM)	97.08	nu star (KM)	81.28
theta hat (KM)	0.154	theta star (KM)	0.183
80% gamma percentile (KM)	0.643	90% gamma percentile (KM)	0.818
95% gamma percentile (KM)	0.984	99% gamma percentile (KM)	1.348

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (81.28, α)	61.51	Adjusted Chi Square Value (81.28, β)	59.71
95% Gamma Approximate KM-UCL (use when n>=50)	0.579	95% Gamma Adjusted KM-UCL (use when n<50)	0.597

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.992	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.147	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.33	Mean in Log Scale	-1.462
SD in Original Scale	0.33	SD in Log Scale	0.798
95% t UCL (assumes normality of ROS data)	0.469	95% Percentile Bootstrap UCL	0.476
95% BCA Bootstrap UCL	0.497	95% Bootstrap t UCL	0.534
95% H-UCL (Log ROS)	0.51		
KM Mean (logged)	-0.943	KM Geo Mean	0.389

KM SD (logged)	0.442	95% Critical H Value (KM-Log)	1.979
KM Standard Error of Mean (logged)	0.12	95% H-UCL (KM -Log)	0.534
KM SD (logged)	0.442	95% Critical H Value (KM-Log)	1.979
KM Standard Error of Mean (logged)	0.12		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.348	Mean in Log Scale	-1.337
SD in Original Scale	0.319	SD in Log Scale	0.701
95% t UCL (Assumes normality)	0.483	95% H-Stat UCL	0.499
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	0.561		
Barium			
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Minimum	69.9	Mean	2627
Maximum	12600	Median	1730
SD	3212	Std. Error of Mean	736.8
Coefficient of Variation	1.222	Skewness	2.187
Normal GOF Test			
Shapiro Wilk Test Statistic	0.703	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.295	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	3905	95% Adjusted-CLT UCL (Chen-1995)	4234
		95% Modified-t UCL (Johnson-1978)	3967
Gamma GOF Test			
A-D Test Statistic	0.479	Anderson-Darling Gamma GOF Test	
		Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.772	5% Significance Level	
K-S Test Statistic	0.157	Kolmogorov-Smirnov Gamma GOF Test	
		Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.205	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.917	k star (bias corrected MLE)	0.807
Theta hat (MLE)	2866	Theta star (bias corrected MLE)	3256
nu hat (MLE)	34.83	nu star (bias corrected)	30.67
MLE Mean (bias corrected)	2627	MLE Sd (bias corrected)	2925
		Approximate Chi Square Value (0.05)	19.02
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	18.22
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	4237	95% Adjusted Gamma UCL (use when n<50)	4423
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Lognormal GOF Test	
		Data appear Lognormal at 5% Significance	
5% Shapiro Wilk Critical Value	0.901	Level	
Lilliefors Test Statistic	0.126	Lilliefors Lognormal GOF Test	
		Data appear Lognormal at 5% Significance	
5% Lilliefors Critical Value	0.197	Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	4.247	Mean of logged Data	7.237
Maximum of Logged Data	9.441	SD of logged Data	1.278
Assuming Lognormal Distribution			
95% H-UCL	7823	90% Chebyshev (MVUE) UCL	5915
95% Chebyshev (MVUE) UCL	7267	97.5% Chebyshev (MVUE) UCL	9143
99% Chebyshev (MVUE) UCL	12828		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	3839	95% Jackknife UCL	3905
95% Standard Bootstrap UCL	3803	95% Bootstrap-t UCL	4747
95% Hall's Bootstrap UCL	4273	95% Percentile Bootstrap UCL	3934
95% BCA Bootstrap UCL	4260		

90% Chebyshev(Mean, Sd) UCL	4838	95% Chebyshev(Mean, Sd) UCL	5839
97.5% Chebyshev(Mean, Sd) UCL	7228	99% Chebyshev(Mean, Sd) UCL	9958
Suggested UCL to Use			
95% Adjusted Gamma UCL	4423		
Bis(2-ethylhexyl)phthalate	-	-	
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	16
		Number of Missing Observations	4
Number of Detects	8	Number of Non-Detects	9
Number of Distinct Detects	8	Number of Distinct Non-Detects	8
Minimum Detect	0.0111	Minimum Non-Detect	0.0107
Maximum Detect	56.6	Maximum Non-Detect	0.108
Variance Detects	388	Percent Non-Detects	0.5294
Mean Detects	7.952	SD Detects	19.7
Median Detects	0.625	CV Detects	2.477
Skewness Detects	2.805	Kurtosis Detects	7.9
Mean of Logged Detects	-1.045	SD of Logged Detects	3.092
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.471	Shapiro Wilk GOF Test	
		Detected Data Not Normal at 5%	
5% Shapiro Wilk Critical Value	0.818	Significance Level	
Lilliefors Test Statistic	0.465	Lilliefors GOF Test	
		Detected Data Not Normal at 5%	
5% Lilliefors Critical Value	0.283	Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	3.749	KM Standard Error of Mean	3.435
KM SD	13.25	95% KM (BCA) UCL	10.27
95% KM (t) UCL	9.745	95% KM (Percentile Bootstrap) UCL	10.26
95% KM (z) UCL	9.398	95% KM Bootstrap t UCL	84.9
90% KM Chebyshev UCL	14.05	95% KM Chebyshev UCL	18.72
97.5% KM Chebyshev UCL	25.2	99% KM Chebyshev UCL	37.92
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.599	Anderson-Darling GOF Test	
		Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.824	5% Significance Level	
K-S Test Statistic	0.241	Kolmogorov-Smirnov GOF	
		Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.321	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.231	k star (bias corrected MLE)	0.228
Theta hat (MLE)	34.46	Theta star (bias corrected MLE)	34.95
nu hat (MLE)	3.692	nu star (bias corrected)	3.641
Mean (detects)	7.952		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	3.747
Maximum	56.6	Median	0.01
SD	13.65	CV	3.644
k hat (MLE)	0.176	k star (bias corrected MLE)	0.185
Theta hat (MLE)	21.23	Theta star (bias corrected MLE)	20.3
nu hat (MLE)	6.001	nu star (bias corrected)	6.275
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (6.28, α)	1.782	Adjusted Chi Square Value (6.28, β)	1.543
		95% Gamma Adjusted UCL (use when	
95% Gamma Approximate UCL (use when n>=50)	13.2	n<50)	15.24
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	3.749	SD (KM)	13.25
Variance (KM)	175.5	SE of Mean (KM)	3.435
k hat (KM)	0.0801	k star (KM)	0.105
nu hat (KM)	2.723	nu star (KM)	3.576
theta hat (KM)	46.81	theta star (KM)	35.64
80% gamma percentile (KM)	2.792	90% gamma percentile (KM)	10.18
95% gamma percentile (KM)	21.68	99% gamma percentile (KM)	58.06
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (3.58, α)	0.562	Adjusted Chi Square Value (3.58, β)	0.455
		95% Gamma Adjusted KM-UCL (use when	
95% Gamma Approximate KM-UCL (use when n>=50)	23.87	n<50)	29.44
95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)			
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.92	Shapiro Wilk GOF Test	

5% Shapiro Wilk Critical Value	0.818	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.191	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.283	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	3.743	Mean in Log Scale	-4.023
SD in Original Scale	13.66	SD in Log Scale	3.691
95% t UCL (assumes normality of ROS data)	9.526	95% Percentile Bootstrap UCL	10.29
95% BCA Bootstrap UCL	14	95% Bootstrap t UCL	93.73
95% H-UCL (Log ROS)	18772		
KM Mean (logged)	-2.833	KM Geo Mean	0.0589
KM SD (logged)	2.608	95% Critical H Value (KM-Log)	5.535
KM Standard Error of Mean (logged)	0.679	95% H-UCL (KM -Log)	65.22
KM SD (logged)	2.608	95% Critical H Value (KM-Log)	5.535
KM Standard Error of Mean (logged)	0.679		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	3.762	Mean in Log Scale	-2.448
SD in Original Scale	13.65	SD in Log Scale	2.583
95% t UCL (Assumes normality)	9.542	95% H-Stat UCL	83.79
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	29.44		
Cadmium	-	-	-
General Statistics			
Total Number of Observations	21	Number of Distinct Observations	17
Number of Detects	2	Number of Non-Detects	19
Number of Distinct Detects	2	Number of Distinct Non-Detects	15
Minimum Detect	0.425	Minimum Non-Detect	0.0916
Maximum Detect	0.453	Maximum Non-Detect	0.119
Variance Detects	3.92E-04	Percent Non-Detects	90.48%
Mean Detects	0.439	SD Detects	0.0198
Median Detects	0.439	CV Detects	0.0451
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.824	SD of Logged Detects	0.0451
Warning: Data set has only 2 Detected Values. This is not enough to compute meaningful or reliable statistics and estimates.			
Calcium	-	-	-
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	17
		Number of Missing Observations	4
Minimum	963	Mean	2662
Maximum	16100	Median	1520
SD	3751	Std. Error of Mean	909.8
Coefficient of Variation	1.409	Skewness	3.331
Normal GOF Test			
Shapiro Wilk Test Statistic	0.476	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.42	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.207	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	4251	95% Adjusted-CLT UCL (Chen-1995)	4944
		95% Modified-t UCL (Johnson-1978)	4373
Gamma GOF Test			
A-D Test Statistic	2.428	Anderson-Darling Gamma GOF Test	
		Data Not Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.758		
K-S Test Statistic	0.333	Kolmogorov-Smirnov Gamma GOF Test	
		Data Not Gamma Distributed at 5% Significance Level	
5% K-S Critical Value	0.213		
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.393	k star (bias corrected MLE)	1.187
Theta hat (MLE)	1911	Theta star (bias corrected MLE)	2243
nu hat (MLE)	47.38	nu star (bias corrected)	40.35
MLE Mean (bias corrected)	2662	MLE Sd (bias corrected)	2444

		Approximate Chi Square Value (0.05)	26.8
Adjusted Level of Significance	0.0346	Adjusted Chi Square Value	25.64
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	4009	95% Adjusted Gamma UCL (use when n<50)	4190
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.743	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.247	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.207	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	6.87	Mean of logged Data	7.487
Maximum of Logged Data	9.687	SD of logged Data	0.745
Assuming Lognormal Distribution			
95% H-UCL	3621	90% Chebyshev (MVUE) UCL	3646
95% Chebyshev (MVUE) UCL	4251	97.5% Chebyshev (MVUE) UCL	5091
99% Chebyshev (MVUE) UCL	6741		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	4159	95% Jackknife UCL	4251
95% Standard Bootstrap UCL	4117	95% Bootstrap-t UCL	13252
95% Hall's Bootstrap UCL	11596	95% Percentile Bootstrap UCL	4288
95% BCA Bootstrap UCL	5452		
90% Chebyshev(Mean, Sd) UCL	5392	95% Chebyshev(Mean, Sd) UCL	6628
97.5% Chebyshev(Mean, Sd) UCL	8344	99% Chebyshev(Mean, Sd) UCL	11714
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	6628		
Copper	-	-	-
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	17
		Number of Missing Observations	4
Number of Detects	16	Number of Non-Detects	1
Number of Distinct Detects	16	Number of Distinct Non-Detects	1
Minimum Detect	6.35	Minimum Non-Detect	0.356
Maximum Detect	113	Maximum Non-Detect	0.356
Variance Detects	707.1	Percent Non-Detects	5.88%
Mean Detects	18.82	SD Detects	26.59
Median Detects	9.025	CV Detects	1.413
Skewness Detects	3.352	Kurtosis Detects	12.02
Mean of Logged Detects	2.509	SD of Logged Detects	0.793
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.502	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.358	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.213	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	17.73	KM Standard Error of Mean	6.351
KM SD	25.35	95% KM (BCA) UCL	30.87
95% KM (t) UCL	28.82	95% KM (Percentile Bootstrap) UCL	29.34
95% KM (z) UCL	28.18	95% KM Bootstrap t UCL	50.06
90% KM Chebyshev UCL	36.78	95% KM Chebyshev UCL	45.41
97.5% KM Chebyshev UCL	57.39	99% KM Chebyshev UCL	80.92
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	2.035	Anderson-Darling GOF Test	
5% A-D Critical Value	0.758	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.336	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.22	Detected Data Not Gamma Distributed at 5% Significance Level	
Detected Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.315	k star (bias corrected MLE)	1.11
Theta hat (MLE)	14.31	Theta star (bias corrected MLE)	16.95
nu hat (MLE)	42.08	nu star (bias corrected)	35.52
Mean (detects)	18.82		
Gamma ROS Statistics using Imputed Non-Detects			

This is especially true when the sample size is small.

Minimum	0.01	Mean	17.71
Maximum	113	Median	8.79
SD	26.15	CV	1.477
k hat (MLE)	0.762	k star (bias corrected MLE)	0.667
Theta hat (MLE)	23.24	Theta star (bias corrected MLE)	26.56
nu hat (MLE)	25.91	nu star (bias corrected)	22.67
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (22.67, α)	12.84	Adjusted Chi Square Value (22.67, β)	12.07
95% Gamma Approximate UCL (use when n>=50)	31.26	95% Gamma Adjusted UCL (use when n<50)	33.26
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	17.73	SD (KM)	25.35
Variance (KM)	642.8	SE of Mean (KM)	6.351
k hat (KM)	0.489	k star (KM)	0.442
nu hat (KM)	16.63	nu star (KM)	15.03
theta hat (KM)	36.26	theta star (KM)	40.12
80% gamma percentile (KM)	28.9	90% gamma percentile (KM)	49.17
95% gamma percentile (KM)	71.15	99% gamma percentile (KM)	125.9
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (15.03, α)	7.279	Adjusted Chi Square Value (15.03, β)	6.72
95% Gamma Approximate KM-UCL (use when n>=50)	36.6	95% Gamma Adjusted KM-UCL (use when n<50)	39.64
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.771	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.283	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.213	Detected Data Not Lognormal at 5% Significance Level	
Detected Data Not Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	17.83	Mean in Log Scale	2.405
SD in Original Scale	26.06	SD in Log Scale	0.878
95% t UCL (assumes normality of ROS data)	28.87	95% Percentile Bootstrap UCL	29.16
95% BCA Bootstrap UCL	36.01	95% Bootstrap t UCL	52.52
95% H-UCL (Log ROS)	28.08		
KM Mean (logged)	2.3	KM Geo Mean	9.976
KM SD (logged)	1.117	95% Critical H Value (KM-Log)	2.849
KM Standard Error of Mean (logged)	0.28	95% H-UCL (KM -Log)	41.28
KM SD (logged)	1.117	95% Critical H Value (KM-Log)	2.849
KM Standard Error of Mean (logged)	0.28		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	17.72	Mean in Log Scale	2.259
SD in Original Scale	26.14	SD in Log Scale	1.282
95% t UCL (Assumes normality)	28.79	95% H-Stat UCL	59.12
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution at 5% Significance Level			
Suggested UCL to Use			
95% KM (Chebyshev) UCL	45.41		
HMX	-	-	-
General Statistics			
Total Number of Observations	26	Number of Distinct Observations	16
		Number of Missing Observations	8
Number of Detects	14	Number of Non-Detects	12
Number of Distinct Detects	14	Number of Distinct Non-Detects	2
Minimum Detect	0.394	Minimum Non-Detect	0.149
Maximum Detect	160	Maximum Non-Detect	0.15
Variance Detects	1760	Percent Non-Detects	46.15%
Mean Detects	14.74	SD Detects	41.95
Median Detects	2.185	CV Detects	2.846
Skewness Detects	3.697	Kurtosis Detects	13.76
Mean of Logged Detects	1.069	SD of Logged Detects	1.571
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.364	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.874	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.45	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.226	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			

KM Mean	8.007	KM Standard Error of Mean	6.216
KM SD	30.54	95% KM (BCA) UCL	20.54
95% KM (t) UCL	18.63	95% KM (Percentile Bootstrap) UCL	20.03
95% KM (z) UCL	18.23	95% KM Bootstrap t UCL	112
90% KM Chebyshev UCL	26.66	95% KM Chebyshev UCL	35.1
97.5% KM Chebyshev UCL	46.83	99% KM Chebyshev UCL	69.86

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.693	Anderson-Darling GOF Test Detected Data Not Gamma Distributed at	
5% A-D Critical Value	0.812	5% Significance Level	
K-S Test Statistic	0.283	Kolmogorov-Smirnov GOF Detected Data Not Gamma Distributed at	
5% K-S Critical Value	0.245	5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.405	k star (bias corrected MLE)	0.366
Theta hat (MLE)	36.4	Theta star (bias corrected MLE)	40.3
nu hat (MLE)	11.34	nu star (bias corrected)	10.24
Mean (detects)	14.74		

Gamma ROS Statistics using Imputed Non-Detects

This is especially true when the sample size is small.

Minimum	0.01	Mean	7.943
Maximum	160	Median	0.437
SD	31.17	CV	3.924
k hat (MLE)	0.203	k star (bias corrected MLE)	0.205
Theta hat (MLE)	39.18	Theta star (bias corrected MLE)	38.75
nu hat (MLE)	10.54	nu star (bias corrected)	10.66
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (10.66, α)	4.358	Adjusted Chi Square Value (10.66, β)	4.094
95% Gamma Approximate UCL (use when n>=50)	19.43	95% Gamma Adjusted UCL (use when n<50)	20.68

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	8.007	SD (KM)	30.54
Variance (KM)	933	SE of Mean (KM)	6.216
k hat (KM)	0.0687	k star (KM)	0.0864
nu hat (KM)	3.574	nu star (KM)	4.495
theta hat (KM)	116.5	theta star (KM)	92.64
80% gamma percentile (KM)	4.399	90% gamma percentile (KM)	19.87
95% gamma percentile (KM)	46.66	99% gamma percentile (KM)	136.7

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (4.49, α)	0.926	Adjusted Chi Square Value (4.49, β)	0.827
95% Gamma Approximate KM-UCL (use when n>=50)	38.85	95% Gamma Adjusted KM-UCL (use when n<50)	43.52

95% Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50)

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test Detected Data appear Lognormal at 5%	
5% Shapiro Wilk Critical Value	0.874	Significance Level	
Lilliefors Test Statistic	0.13	Lilliefors GOF Test Detected Data appear Lognormal at 5%	
5% Lilliefors Critical Value	0.226	Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	7.972	Mean in Log Scale	-0.883
SD in Original Scale	31.16	SD in Log Scale	2.565
95% t UCL (assumes normality of ROS data)	18.41	95% Percentile Bootstrap UCL	20.17
95% BCA Bootstrap UCL	26.46	95% Bootstrap t UCL	110.2
95% H-UCL (Log ROS)	141		

KM Mean (logged)	-0.303	KM Geo Mean	0.739
KM SD (logged)	1.852	95% Critical H Value (KM-Log)	3.768
KM Standard Error of Mean (logged)	0.377	95% H-UCL (KM -Log)	16.57
KM SD (logged)	1.852	95% Critical H Value (KM-Log)	3.768
KM Standard Error of Mean (logged)	0.377		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	7.973	Mean in Log Scale	-0.621
SD in Original Scale	31.16	SD in Log Scale	2.179
95% t UCL (Assumes normality)	18.41	95% H-Stat UCL	37.64

Nonparametric Distribution Free UCL Statistics

Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	35.1

Lead

General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Minimum	5.19	Mean	25.82
Maximum	228	Median	10.1
SD	51.07	Std. Error of Mean	11.72
Coefficient of Variation	1.978	Skewness	3.864
Normal GOF Test			
Shapiro Wilk Test Statistic	0.398	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.387	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	46.13	95% Adjusted-CLT UCL (Chen-1995)	56.18
		95% Modified-t UCL (Johnson-1978)	47.86
Gamma GOF Test			
A-D Test Statistic	3.294	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.773	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.365	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.205	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.909	k star (bias corrected MLE)	0.8
Theta hat (MLE)	28.42	Theta star (bias corrected MLE)	32.26
nu hat (MLE)	34.52	nu star (bias corrected)	30.41
MLE Mean (bias corrected)	25.82	MLE Sd (bias corrected)	28.86
		Approximate Chi Square Value (0.05)	18.81
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	18.02
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	41.73	95% Adjusted Gamma UCL (use when n<50)	43.57
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.719	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.292	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Lognormal at 5% Significance Level	
Data Not Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.647	Mean of logged Data	2.608
Maximum of Logged Data	5.429	SD of logged Data	0.888
Assuming Lognormal Distribution			
95% H-UCL	33.69	90% Chebyshev (MVUE) UCL	32.73
95% Chebyshev (MVUE) UCL	38.67	97.5% Chebyshev (MVUE) UCL	46.93
99% Chebyshev (MVUE) UCL	63.14		
Nonparametric Distribution Free UCL Statistics			
Data do not follow a Discernible Distribution (0.05)			
Nonparametric Distribution Free UCLs			
95% CLT UCL	45.09	95% Jackknife UCL	46.13
95% Standard Bootstrap UCL	44.84	95% Bootstrap-t UCL	188.3
95% Hall's Bootstrap UCL	132.5	95% Percentile Bootstrap UCL	47.13
95% BCA Bootstrap UCL	63.63		
90% Chebyshev(Mean, Sd) UCL	60.96	95% Chebyshev(Mean, Sd) UCL	76.88
97.5% Chebyshev(Mean, Sd) UCL	98.98	99% Chebyshev(Mean, Sd) UCL	142.4
Suggested UCL to Use			
95% Chebyshev (Mean, Sd) UCL	76.88		

General Statistics			
Total Number of Observations	19	Number of Distinct Observations	15
		Number of Missing Observations	3
Number of Detects	2	Number of Non-Detects	17
Number of Distinct Detects	2	Number of Distinct Non-Detects	13
Minimum Detect	0.00262	Minimum Non-Detect	0.00169
Maximum Detect	0.00473	Maximum Non-Detect	0.00216
Variance Detects	2.23E-06	Percent Non-Detects	89.47%
Mean Detects	0.00368	SD Detects	0.00149
Median Detects	0.00368	CV Detects	0.406

Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-5.649	SD of Logged Detects	0.418
Warning: Data set has only 2 Detected Values.			
This is not enough to compute meaningful or reliable statistics and estimates.			
Nitrate	-	-	-
General Statistics			
Total Number of Observations	9	Number of Distinct Observations	9
		Number of Missing Observations	15
Minimum	0.514	Mean	1.777
Maximum	4.02	Median	1.21
SD	1.401	Std. Error of Mean	0.467
Coefficient of Variation	0.788	Skewness	0.812
Normal GOF Test			
Shapiro Wilk Test Statistic	0.811	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.829	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.289	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.274	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	2.645	95% Adjusted-CLT UCL (Chen-1995)	2.68
		95% Modified-t UCL (Johnson-1978)	2.666
Gamma GOF Test			
A-D Test Statistic	0.581	Anderson-Darling Gamma GOF Test	
		Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.731	5% Significance Level	
K-S Test Statistic	0.216	Kolmogorov-Smirnov Gamma GOF Test	
		Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.283	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.907	k star (bias corrected MLE)	1.345
Theta hat (MLE)	0.932	Theta star (bias corrected MLE)	1.321
nu hat (MLE)	34.32	nu star (bias corrected)	24.22
MLE Mean (bias corrected)	1.777	MLE Sd (bias corrected)	1.532
		Approximate Chi Square Value (0.05)	14.01
Adjusted Level of Significance	0.0231	Adjusted Chi Square Value	12.41
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	3.071	95% Adjusted Gamma UCL (use when n<50)	3.468
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.891	Shapiro Wilk Lognormal GOF Test	
		Data appear Lognormal at 5% Significance	
5% Shapiro Wilk Critical Value	0.829	Level	
Lilliefors Test Statistic	0.191	Lilliefors Lognormal GOF Test	
		Data appear Lognormal at 5% Significance	
5% Lilliefors Critical Value	0.274	Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-0.666	Mean of logged Data	0.29
Maximum of Logged Data	1.391	SD of logged Data	0.801
Assuming Lognormal Distribution			
95% H-UCL	4.09	90% Chebyshev (MVUE) UCL	3.219
95% Chebyshev (MVUE) UCL	3.877	97.5% Chebyshev (MVUE) UCL	4.792
99% Chebyshev (MVUE) UCL	6.588		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	2.545	95% Jackknife UCL	2.645
95% Standard Bootstrap UCL	2.504	95% Bootstrap-t UCL	2.949
95% Hall's Bootstrap UCL	2.373	95% Percentile Bootstrap UCL	2.547
95% BCA Bootstrap UCL	2.552		
90% Chebyshev(Mean, Sd) UCL	3.178	95% Chebyshev(Mean, Sd) UCL	3.812
97.5% Chebyshev(Mean, Sd) UCL	4.693	99% Chebyshev(Mean, Sd) UCL	6.423
Suggested UCL to Use			
95% Adjusted Gamma UCL	3.468		
Perchlorate	-	-	-
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	16
		Number of Missing Observations	4

Number of Detects	4	Number of Non-Detects	13
Number of Distinct Detects	4	Number of Distinct Non-Detects	12
Minimum Detect	5.94E-04	Minimum Non-Detect	5.02E-04
Maximum Detect	8.39E-04	Maximum Non-Detect	6.10E-04
Variance Detects	1.39E-08	Percent Non-Detects	76.47%
Mean Detects	7.07E-04	SD Detects	1.18E-04
Median Detects	6.98E-04	CV Detects	0.167
Skewness Detects	0.213	Kurtosis Detects	-4.23
Mean of Logged Detects	-7.265	SD of Logged Detects	0.167
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.9	Shapiro Wilk GOF Test Detected Data appear Normal at 5%	
5% Shapiro Wilk Critical Value	0.748	Significance Level	
Lilliefors Test Statistic	0.263	Lilliefors GOF Test Detected Data appear Normal at 5%	
5% Lilliefors Critical Value	0.375	Significance Level	
Detected Data appear Normal at 5% Significance Level			
KM Mean	5.51E-04	KM Standard Error of Mean	2.81E-05
KM SD	1.00E-04	95% KM (BCA) UCL	N/A
95% KM (t) UCL	6.00E-04	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	5.97E-04	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	6.35E-04	95% KM Chebyshev UCL	6.73E-04
97.5% KM Chebyshev UCL	7.26E-04	99% KM Chebyshev UCL	8.30E-04
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.381	Anderson-Darling GOF Test Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.656	5% Significance Level	
K-S Test Statistic	0.292	Kolmogorov-Smirnov GOF Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.394	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	48.22	k star (bias corrected MLE)	12.22
Theta hat (MLE)	1.47E-05	Theta star (bias corrected MLE)	5.79E-05
nu hat (MLE)	385.7	nu star (bias corrected)	97.77
Mean (detects)	7.07E-04		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	5.94E-04	Mean	0.00781
Maximum	0.01	Median	0.01
SD	0.00406	CV	0.52
k hat (MLE)	1.464	k star (bias corrected MLE)	1.245
Theta hat (MLE)	0.00534	Theta star (bias corrected MLE)	0.00628
nu hat (MLE)	49.76	nu star (bias corrected)	42.31
Adjusted Level of Significance (β)	0.0346		
Approximate Chi Square Value (42.31, α)	28.4	Adjusted Chi Square Value (42.31, β)	27.21
95% Gamma Approximate UCL (use when n>=50)	0.0116	95% Gamma Adjusted UCL (use when n<50)	N/A
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	5.51E-04	SD (KM)	1.00E-04
Variance (KM)	1.00E-08	SE of Mean (KM)	2.81E-05
k hat (KM)	30.25	k star (KM)	24.95
nu hat (KM)	1029	nu star (KM)	848.4
theta hat (KM)	1.82E-05	theta star (KM)	2.21E-05
80% gamma percentile (KM)	6.41E-04	90% gamma percentile (KM)	6.96E-04
95% gamma percentile (KM)	7.44E-04	99% gamma percentile (KM)	8.39E-04
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (848.38, α)	781.8	Adjusted Chi Square Value (848.38, β)	775.1
95% Gamma Approximate KM-UCL (use when n>=50)	5.98E-04	95% Gamma Adjusted KM-UCL (use when n<50)	6.03E-04
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.899	Shapiro Wilk GOF Test Detected Data appear Lognormal at 5%	
5% Shapiro Wilk Critical Value	0.748	Significance Level	
Lilliefors Test Statistic	0.258	Lilliefors GOF Test Detected Data appear Lognormal at 5%	
5% Lilliefors Critical Value	0.375	Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	4.45E-04	Mean in Log Scale	-7.764
SD in Original Scale	1.59E-04	SD in Log Scale	0.299
95% t UCL (assumes normality of ROS data)	5.13E-04	95% Percentile Bootstrap UCL	5.09E-04

95% BCA Bootstrap UCL	5.22E-04	95% Bootstrap t UCL	5.53E-04
95% H-UCL (Log ROS)	5.10E-04		
KM Mean (logged)	-7.518	KM Geo Mean	5.43E-04
KM SD (logged)	0.157	95% Critical H Value (KM-Log)	1.768
KM Standard Error of Mean (logged)	0.0442	95% H-UCL (KM -Log)	5.90E-04
KM SD (logged)	0.157	95% Critical H Value (KM-Log)	1.768
KM Standard Error of Mean (logged)	0.0442		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	3.73E-04	Mean in Log Scale	-7.993
SD in Original Scale	1.98E-04	SD in Log Scale	0.426
95% t UCL (Assumes normality)	4.57E-04	95% H-Stat UCL	4.56E-04
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	6.00E-04		
RDX	-	-	-
General Statistics			
Total Number of Observations	26	Number of Distinct Observations	17
		Number of Missing Observations	7
Number of Detects	15	Number of Non-Detects	11
Number of Distinct Detects	15	Number of Distinct Non-Detects	2
Minimum Detect	0.156	Minimum Non-Detect	0.149
Maximum Detect	72.4	Maximum Non-Detect	0.15
Variance Detects	377.3	Percent Non-Detects	42.31%
Mean Detects	18.18	SD Detects	19.42
Median Detects	14.7	CV Detects	1.068
Skewness Detects	1.682	Kurtosis Detects	3.38
Mean of Logged Detects	2.101	SD of Logged Detects	1.671
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.831	Shapiro Wilk GOF Test	
		Detected Data Not Normal at 5%	
5% Shapiro Wilk Critical Value	0.881	Significance Level	
Lilliefors Test Statistic	0.182	Lilliefors GOF Test	
		Detected Data appear Normal at 5%	
5% Lilliefors Critical Value	0.22	Significance Level	
Detected Data appear Approximate Normal at 5% Significance Level			
KM Mean	10.55	KM Standard Error of Mean	3.412
KM SD	16.81	95% KM (BCA) UCL	16.71
95% KM (t) UCL	16.38	95% KM (Percentile Bootstrap) UCL	16.41
95% KM (z) UCL	16.16	95% KM Bootstrap t UCL	19.37
90% KM Chebyshev UCL	20.79	95% KM Chebyshev UCL	25.42
97.5% KM Chebyshev UCL	31.86	99% KM Chebyshev UCL	44.5
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.166	Anderson-Darling GOF Test	
		Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.775	5% Significance Level	
K-S Test Statistic	0.119	Kolmogorov-Smirnov GOF	
		Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.23	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.749	k star (bias corrected MLE)	0.644
Theta hat (MLE)	24.27	Theta star (bias corrected MLE)	28.24
nu hat (MLE)	22.47	nu star (bias corrected)	19.31
Mean (detects)	18.18		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	10.49
Maximum	72.4	Median	1.54
SD	17.18	CV	1.637
k hat (MLE)	0.233	k star (bias corrected MLE)	0.232
Theta hat (MLE)	45.08	Theta star (bias corrected MLE)	45.32
nu hat (MLE)	12.1	nu star (bias corrected)	12.04
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (12.04, α)	5.253	Adjusted Chi Square Value (12.04, β)	4.959
95% Gamma Approximate UCL (use when n>=50)	24.05	95% Gamma Adjusted UCL (use when n<50)	25.47
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	10.55	SD (KM)	16.81
Variance (KM)	282.5	SE of Mean (KM)	3.412
k hat (KM)	0.394	k star (KM)	0.374

nu hat (KM)	20.49	nu star (KM)	19.46
theta hat (KM)	26.77	theta star (KM)	28.19
80% gamma percentile (KM)	16.88	90% gamma percentile (KM)	30.15
95% gamma percentile (KM)	44.85	99% gamma percentile (KM)	82.1
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (19.46, α)	10.46	Adjusted Chi Square Value (19.46, β)	10.02
95% Gamma Approximate KM-UCL (use when n>=50)	19.64	95% Gamma Adjusted KM-UCL (use when n<50)	20.49
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.881	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.171	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.22	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	10.59	Mean in Log Scale	0.419
SD in Original Scale	17.12	SD in Log Scale	2.461
95% t UCL (assumes normality of ROS data)	16.32	95% Percentile Bootstrap UCL	16.17
95% BCA Bootstrap UCL	17.97	95% Bootstrap t UCL	19.93
95% H-UCL (Log ROS)	329.8		
KM Mean (logged)	0.407	KM Geo Mean	1.502
KM SD (logged)	2.328	95% Critical H Value (KM-Log)	4.55
KM Standard Error of Mean (logged)	0.473	95% H-UCL (KM -Log)	187.4
KM SD (logged)	2.328	95% Critical H Value (KM-Log)	4.55
KM Standard Error of Mean (logged)	0.473		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	10.52	Mean in Log Scale	0.115
SD in Original Scale	17.16	SD in Log Scale	2.675
95% t UCL (Assumes normality)	16.27	95% H-Stat UCL	627.8
Nonparametric Distribution Free UCL Statistics			
Suggested UCL to Use			
95% KM (t) UCL	16.38		
Selenium	-	-	-
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Number of Detects	10	Number of Non-Detects	9
Number of Distinct Detects	10	Number of Distinct Non-Detects	9
Minimum Detect	1.07	Minimum Non-Detect	0.321
Maximum Detect	3.05	Maximum Non-Detect	59.00%
Variance Detects	0.316	Percent Non-Detects	0.4737
Mean Detects	1.735	SD Detects	0.562
Median Detects	1.7	CV Detects	0.324
Skewness Detects	1.355	Kurtosis Detects	3.001
Mean of Logged Detects	0.508	SD of Logged Detects	0.303
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.882	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.2	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
KM Mean	1.065	KM Standard Error of Mean	0.195
KM SD	0.805	95% KM (BCA) UCL	1.379
95% KM (t) UCL	1.403	95% KM (Percentile Bootstrap) UCL	1.374
95% KM (z) UCL	1.385	95% KM Bootstrap t UCL	1.43
90% KM Chebyshev UCL	1.649	95% KM Chebyshev UCL	1.914
97.5% KM Chebyshev UCL	2.281	99% KM Chebyshev UCL	3.002
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.326	Anderson-Darling GOF Test	
5% A-D Critical Value	0.725	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.157	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.267	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	11.87	k star (bias corrected MLE)	8.376

Theta hat (MLE)	0.146	Theta star (bias corrected MLE)	0.207
nu hat (MLE)	237.4	nu star (bias corrected)	167.5
Mean (detects)	1.735		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.449	Mean	1.126
Maximum	3.05	Median	1.07
SD	0.77	CV	0.684
k hat (MLE)	2.321	k star (bias corrected MLE)	1.99
Theta hat (MLE)	0.485	Theta star (bias corrected MLE)	0.566
nu hat (MLE)	88.21	nu star (bias corrected)	75.61
Adjusted Level of Significance (β)	0.0369		
Approximate Chi Square Value (75.61, α)	56.59	Adjusted Chi Square Value (75.61, β)	55.15
95% Gamma Approximate UCL (use when n>=50)	1.504	95% Gamma Adjusted UCL (use when n<50)	1.543
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	1.065	SD (KM)	0.805
Variance (KM)	0.648	SE of Mean (KM)	0.195
k hat (KM)	1.751	k star (KM)	1.51
nu hat (KM)	66.54	nu star (KM)	57.37
theta hat (KM)	0.608	theta star (KM)	0.706
80% gamma percentile (KM)	1.647	90% gamma percentile (KM)	2.216
95% gamma percentile (KM)	2.769	99% gamma percentile (KM)	4.016
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (57.37, α)	40.96	Adjusted Chi Square Value (57.37, β)	39.75
95% Gamma Approximate KM-UCL (use when n>=50)	1.492	95% Gamma Adjusted KM-UCL (use when n<50)	1.537
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.949	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.158	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	1.265	Mean in Log Scale	0.127
SD in Original Scale	0.645	SD in Log Scale	0.465
95% t UCL (assumes normality of ROS data)	1.522	95% Percentile Bootstrap UCL	1.504
95% BCA Bootstrap UCL	1.546	95% Bootstrap t UCL	1.58
95% H-UCL (Log ROS)	1.572		
KM Mean (logged)	-0.271	KM Geo Mean	0.763
KM SD (logged)	0.847	95% Critical H Value (KM-Log)	2.402
KM Standard Error of Mean (logged)	0.205	95% H-UCL (KM -Log)	1.765
KM SD (logged)	0.847	95% Critical H Value (KM-Log)	2.402
KM Standard Error of Mean (logged)	0.205		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.004	Mean in Log Scale	-0.525
SD in Original Scale	0.886	SD in Log Scale	1.15
95% t UCL (Assumes normality)	1.357	95% H-Stat UCL	2.467
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Normal Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM (t) UCL	1.403		
Silver	-	-	-
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Number of Detects	17	Number of Non-Detects	2
Number of Distinct Detects	17	Number of Distinct Non-Detects	2
Minimum Detect	0.3	Minimum Non-Detect	0.104
Maximum Detect	7.95	Maximum Non-Detect	11.20%
Variance Detects	4.475	Percent Non-Detects	0.1053
Mean Detects	1.953	SD Detects	2.116
Median Detects	1.22	CV Detects	1.083
Skewness Detects	1.922	Kurtosis Detects	3.315
Mean of Logged Detects	0.225	SD of Logged Detects	0.947
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.737	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Detected Data Not Normal at 5% Significance Level	

Lilliefors Test Statistic	0.293	Lilliefors GOF Test	
		Detected Data Not Normal at 5%	
5% Lilliefors Critical Value	0.207	Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	1.758	KM Standard Error of Mean	0.478
KM SD	2.023	95% KM (BCA) UCL	2.67
95% KM (t) UCL	2.588	95% KM (Percentile Bootstrap) UCL	2.562
95% KM (z) UCL	2.545	95% KM Bootstrap t UCL	3.173
90% KM Chebyshev UCL	3.193	95% KM Chebyshev UCL	3.843
97.5% KM Chebyshev UCL	4.745	99% KM Chebyshev UCL	6.517
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.66	Anderson-Darling GOF Test	
		Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.761	5% Significance Level	
K-S Test Statistic	0.181	Kolmogorov-Smirnov GOF	
		Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.214	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	1.265	k star (bias corrected MLE)	1.081
Theta hat (MLE)	1.544	Theta star (bias corrected MLE)	1.807
nu hat (MLE)	43.01	nu star (bias corrected)	36.75
Mean (detects)	1.953		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	1.748
Maximum	7.95	Median	1.13
SD	2.086	CV	1.193
k hat (MLE)	0.715	k star (bias corrected MLE)	0.637
Theta hat (MLE)	2.444	Theta star (bias corrected MLE)	2.743
nu hat (MLE)	27.18	nu star (bias corrected)	24.22
Adjusted Level of Significance (β)	0.0369		
Approximate Chi Square Value (24.22, α)	14.02	Adjusted Chi Square Value (24.22, β)	13.34
		95% Gamma Adjusted UCL (use when	
95% Gamma Approximate UCL (use when n>=50)	3.021	n<50)	3.174
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	1.758	SD (KM)	2.023
Variance (KM)	4.091	SE of Mean (KM)	0.478
k hat (KM)	0.756	k star (KM)	0.671
nu hat (KM)	28.72	nu star (KM)	25.51
theta hat (KM)	2.327	theta star (KM)	2.619
80% gamma percentile (KM)	2.893	90% gamma percentile (KM)	4.457
95% gamma percentile (KM)	6.075	99% gamma percentile (KM)	9.952
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (25.51, α)	15.01	Adjusted Chi Square Value (25.51, β)	14.3
		95% Gamma Adjusted KM-UCL (use when	
95% Gamma Approximate KM-UCL (use when n>=50)	2.989	n<50)	3.136
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.95	Shapiro Wilk GOF Test	
		Detected Data appear Lognormal at 5%	
5% Shapiro Wilk Critical Value	0.892	Significance Level	
Lilliefors Test Statistic	0.143	Lilliefors GOF Test	
		Detected Data appear Lognormal at 5%	
5% Lilliefors Critical Value	0.207	Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	1.762	Mean in Log Scale	-0.00906
SD in Original Scale	2.075	SD in Log Scale	1.134
95% t UCL (assumes normality of ROS data)	2.587	95% Percentile Bootstrap UCL	2.61
95% BCA Bootstrap UCL	2.804	95% Bootstrap t UCL	3.305
95% H-UCL (Log ROS)	3.993		
KM Mean (logged)	-0.0374	KM Geo Mean	0.963
KM SD (logged)	1.157	95% Critical H Value (KM-Log)	2.841
KM Standard Error of Mean (logged)	0.274	95% H-UCL (KM -Log)	4.08
KM SD (logged)	1.157	95% Critical H Value (KM-Log)	2.841
KM Standard Error of Mean (logged)	0.274		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	1.753	Mean in Log Scale	-0.106
SD in Original Scale	2.082	SD in Log Scale	1.334
95% t UCL (Assumes normality)	2.581	95% H-Stat UCL	5.833
Nonparametric Distribution Free UCL Statistics			

Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
95% KM Adjusted Gamma UCL	3.136	95% GROS Adjusted Gamma UCL	3.174
TATB	-	-	-
General Statistics			
Total Number of Observations	25	Number of Distinct Observations	22
		Number of Missing Observations	8
Number of Detects	16	Number of Non-Detects	9
Number of Distinct Detects	16	Number of Distinct Non-Detects	6
Minimum Detect	0.365	Minimum Non-Detect	0.293
Maximum Detect	43.2	Maximum Non-Detect	0.3
Variance Detects	193.2	Percent Non-Detects	36.00%
Mean Detects	10.4	SD Detects	13.9
Median Detects	4.14	CV Detects	1.337
Skewness Detects	1.418	Kurtosis Detects	0.777
Mean of Logged Detects	1.278	SD of Logged Detects	1.635
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.742	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.312	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.213	Detected Data Not Normal at 5% Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	6.759	KM Standard Error of Mean	2.439
KM SD	11.81	95% KM (BCA) UCL	11.29
95% KM (t) UCL	10.93	95% KM (Percentile Bootstrap) UCL	10.93
95% KM (z) UCL	10.77	95% KM Bootstrap t UCL	13.83
90% KM Chebyshev UCL	14.08	95% KM Chebyshev UCL	17.39
97.5% KM Chebyshev UCL	21.99	99% KM Chebyshev UCL	31.03
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.643	Anderson-Darling GOF Test	
5% A-D Critical Value	0.789	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.166	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.226	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.584	k star (bias corrected MLE)	0.516
Theta hat (MLE)	17.81	Theta star (bias corrected MLE)	20.15
nu hat (MLE)	18.67	nu star (bias corrected)	16.51
Mean (detects)	10.4		
Gamma ROS Statistics using Imputed Non-Detects			
This is especially true when the sample size is small.			
Minimum	0.01	Mean	6.657
Maximum	43.2	Median	0.824
SD	12.11	CV	1.819
k hat (MLE)	0.258	k star (bias corrected MLE)	0.254
Theta hat (MLE)	25.77	Theta star (bias corrected MLE)	26.21
nu hat (MLE)	12.91	nu star (bias corrected)	12.7
Adjusted Level of Significance (β)	0.0395		
Approximate Chi Square Value (12.70, α)	5.69	Adjusted Chi Square Value (12.70, β)	5.372
95% Gamma Approximate UCL (use when n>=50)	14.85	95% Gamma Adjusted UCL (use when n<50)	15.73
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	6.759	SD (KM)	11.81
Variance (KM)	139.4	SE of Mean (KM)	2.439
k hat (KM)	0.328	k star (KM)	0.315
nu hat (KM)	16.38	nu star (KM)	15.75
theta hat (KM)	20.63	theta star (KM)	21.46
80% gamma percentile (KM)	10.48	90% gamma percentile (KM)	19.81
95% gamma percentile (KM)	30.43	99% gamma percentile (KM)	57.87
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (15.75, α)	7.785	Adjusted Chi Square Value (15.75, β)	7.404
95% Gamma Approximate KM-UCL (use when n>=50)	13.67	95% Gamma Adjusted KM-UCL (use when n<50)	14.37
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.927	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.887	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.151	Lilliefors GOF Test	

5% Lilliefors Critical Value	0.213	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	6.68	Mean in Log Scale	-0.161
SD in Original Scale	12.1	SD in Log Scale	2.37
95% t UCL (assumes normality of ROS data)	10.82	95% Percentile Bootstrap UCL	10.58
95% BCA Bootstrap UCL	12.07	95% Bootstrap t UCL	13.51
95% H-UCL (Log ROS)	129.9		
KM Mean (logged)	0.376	KM Geo Mean	1.457
KM SD (logged)	1.747	95% Critical H Value (KM-Log)	3.574
KM Standard Error of Mean (logged)	0.361	95% H-UCL (KM -Log)	23.93
KM SD (logged)	1.747	95% Critical H Value (KM-Log)	3.574
KM Standard Error of Mean (logged)	0.361		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	6.707	Mean in Log Scale	0.131
SD in Original Scale	12.08	SD in Log Scale	2.027
95% t UCL (Assumes normality)	10.84	95% H-Stat UCL	46.9
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	14.37		
Total Petroleum Hydrocarbons Diesel Range Organics			
General Statistics			
Total Number of Observations	10	Number of Distinct Observations	10
		Number of Missing Observations	11
Minimum	3.54	Mean	16.16
Maximum	79.1	Median	7.81
SD	22.93	Std. Error of Mean	7.251
Coefficient of Variation	1.419	Skewness	2.78
Normal GOF Test			
Shapiro Wilk Test Statistic	0.591	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.842	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.303	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.262	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	29.45	95% Adjusted-CLT UCL (Chen-1995)	34.9
		95% Modified-t UCL (Johnson-1978)	30.51
Gamma GOF Test			
A-D Test Statistic	0.763	Anderson-Darling Gamma GOF Test	
		Data Not Gamma Distributed at 5% Significance Level	
5% A-D Critical Value	0.747		
K-S Test Statistic	0.202	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.273	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data follow Appr. Gamma Distribution at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	1.071	k star (bias corrected MLE)	0.816
Theta hat (MLE)	15.09	Theta star (bias corrected MLE)	19.8
nu hat (MLE)	21.41	nu star (bias corrected)	16.32
MLE Mean (bias corrected)	16.16	MLE Sd (bias corrected)	17.89
		Approximate Chi Square Value (0.05)	8.19
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	7.211
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	32.2	95% Adjusted Gamma UCL (use when n<50)	36.58
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.898	Shapiro Wilk Lognormal GOF Test	
		Data appear Lognormal at 5% Significance Level	
5% Shapiro Wilk Critical Value	0.842		
Lilliefors Test Statistic	0.157	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.262	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	1.264	Mean of logged Data	2.247
Maximum of Logged Data	4.371	SD of logged Data	0.976
Assuming Lognormal Distribution			

95% H-UCL	41.17	90% Chebyshev (MVUE) UCL	28.19
95% Chebyshev (MVUE) UCL	34.47	97.5% Chebyshev (MVUE) UCL	43.2
99% Chebyshev (MVUE) UCL	60.34		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	28.08	95% Jackknife UCL	29.45
95% Standard Bootstrap UCL	26.93	95% Bootstrap-t UCL	65.77
95% Hall's Bootstrap UCL	72.97	95% Percentile Bootstrap UCL	29.62
95% BCA Bootstrap UCL	36.2		
90% Chebyshev(Mean, Sd) UCL	37.91	95% Chebyshev(Mean, Sd) UCL	47.76
97.5% Chebyshev(Mean, Sd) UCL	61.44	99% Chebyshev(Mean, Sd) UCL	88.3
Suggested UCL to Use			
95% Adjusted Gamma UCL	36.58		
Trinitrobenzene[1,3,5-]	-	-	-
General Statistics			
Total Number of Observations	26	Number of Distinct Observations	9
		Number of Missing Observations	7
Number of Detects	2	Number of Non-Detects	24
Number of Distinct Detects	2	Number of Distinct Non-Detects	7
Minimum Detect	0.397	Minimum Non-Detect	0.144
Maximum Detect	0.46	Maximum Non-Detect	0.152
Variance Detects	0.00198	Percent Non-Detects	92.31%
Mean Detects	0.429	SD Detects	0.0445
Median Detects	0.429	CV Detects	0.104
Skewness Detects	N/A	Kurtosis Detects	N/A
Mean of Logged Detects	-0.85	SD of Logged Detects	0.104
Warning: Data set has only 2 Detected Values.			
This is not enough to compute meaningful or reliable statistics and estimates.			
Trinitrotoluene[2,4,6-]	-	-	-
General Statistics			
Total Number of Observations	26	Number of Distinct Observations	13
		Number of Missing Observations	7
Number of Detects	6	Number of Non-Detects	20
Number of Distinct Detects	6	Number of Distinct Non-Detects	7
Minimum Detect	0.242	Minimum Non-Detect	0.144
Maximum Detect	12.7	Maximum Non-Detect	0.152
Variance Detects	22.45	Percent Non-Detects	0.7692
Mean Detects	3.167	SD Detects	473.80%
Median Detects	1.479	CV Detects	1.496
Skewness Detects	2.296	Kurtosis Detects	5.407
Mean of Logged Detects	0.387	SD of Logged Detects	1.335
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.654	Shapiro Wilk GOF Test	
		Detected Data Not Normal at 5%	
5% Shapiro Wilk Critical Value	0.788	Significance Level	
Lilliefors Test Statistic	0.399	Lilliefors GOF Test	
		Detected Data Not Normal at 5%	
5% Lilliefors Critical Value	0.325	Significance Level	
Detected Data Not Normal at 5% Significance Level			
KM Mean	0.842	KM Standard Error of Mean	0.524
KM SD	2.437	95% KM (BCA) UCL	1.774
95% KM (t) UCL	1.736	95% KM (Percentile Bootstrap) UCL	1.776
95% KM (z) UCL	1.703	95% KM Bootstrap t UCL	3.907
90% KM Chebyshev UCL	2.412	95% KM Chebyshev UCL	3.124
97.5% KM Chebyshev UCL	4.111	99% KM Chebyshev UCL	6.051
Gamma GOF Tests on Detected Observations Only			
A-D Test Statistic	0.427	Anderson-Darling GOF Test	
		Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.72	5% Significance Level	
K-S Test Statistic	0.274	Kolmogorov-Smirnov GOF	
		Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.343	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics on Detected Data Only			
k hat (MLE)	0.778	k star (bias corrected MLE)	0.5
Theta hat (MLE)	4.072	Theta star (bias corrected MLE)	6.334
nu hat (MLE)	9.333	nu star (bias corrected)	6
Mean (detects)	3.167		
Gamma ROS Statistics using Imputed Non-Detects			

This is especially true when the sample size is small.

Minimum	0.01	Mean	0.739
Maximum	12.7	Median	0.01
SD	2.516	CV	3.406
k hat (MLE)	0.229	k star (bias corrected MLE)	0.228
Theta hat (MLE)	3.229	Theta star (bias corrected MLE)	3.24
nu hat (MLE)	11.89	nu star (bias corrected)	11.85
Adjusted Level of Significance (β)	0.0398		
Approximate Chi Square Value (11.85, α)	5.131	Adjusted Chi Square Value (11.85, β)	4.841
95% Gamma Approximate UCL (use when n>=50)	1.706	95% Gamma Adjusted UCL (use when n<50)	1.809
Estimates of Gamma Parameters using KM Estimates			
Mean (KM)	0.842	SD (KM)	2.437
Variance (KM)	5.94	SE of Mean (KM)	0.524
k hat (KM)	0.119	k star (KM)	0.131
nu hat (KM)	6.202	nu star (KM)	6.819
theta hat (KM)	7.057	theta star (KM)	6.418
80% gamma percentile (KM)	0.811	90% gamma percentile (KM)	2.437
95% gamma percentile (KM)	4.743	99% gamma percentile (KM)	11.63
Gamma Kaplan-Meier (KM) Statistics			
Approximate Chi Square Value (6.82, α)	2.072	Adjusted Chi Square Value (6.82, β)	1.904
95% Gamma Approximate KM-UCL (use when n>=50)	2.77	95% Gamma Adjusted KM-UCL (use when n<50)	3.015
Lognormal GOF Test on Detected Observations Only			
Shapiro Wilk Test Statistic	0.973	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.788	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.193	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.325	Detected Data appear Lognormal at 5% Significance Level	
Detected Data appear Lognormal at 5% Significance Level			
Lognormal ROS Statistics Using Imputed Non-Detects			
Mean in Original Scale	0.743	Mean in Log Scale	-3.989
SD in Original Scale	2.515	SD in Log Scale	2.958
95% t UCL (assumes normality of ROS data)	1.585	95% Percentile Bootstrap UCL	1.709
95% BCA Bootstrap UCL	2.326	95% Bootstrap t UCL	4.48
95% H-UCL (Log ROS)	41.03		
KM Mean (logged)	-1.401	KM Geo Mean	0.246
KM SD (logged)	1.141	95% Critical H Value (KM-Log)	2.695
KM Standard Error of Mean (logged)	0.245	95% H-UCL (KM -Log)	0.873
KM SD (logged)	1.141	95% Critical H Value (KM-Log)	2.695
KM Standard Error of Mean (logged)	0.245		
DL/2 Statistics			
DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.788	Mean in Log Scale	-1.909
SD in Original Scale	2.501	SD in Log Scale	1.415
95% t UCL (Assumes normality)	1.626	95% H-Stat UCL	0.965
Nonparametric Distribution Free UCL Statistics			
Detected Data appear Gamma Distributed at 5% Significance Level			
Suggested UCL to Use			
Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 50 but k<=1)	3.015		
Zinc			
General Statistics			
Total Number of Observations	17	Number of Distinct Observations	17
		Number of Missing Observations	4
Minimum	26.4	Mean	57.08
Maximum	115	Median	54.1
SD	23.4	Std. Error of Mean	5.675
Coefficient of Variation	0.41	Skewness	1.14
Normal GOF Test			
Shapiro Wilk Test Statistic	0.913	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.892	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.153	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.207	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	66.99	95% Adjusted-CLT UCL (Chen-1995)	68.09
		95% Modified-t UCL (Johnson-1978)	67.25
Gamma GOF Test			

A-D Test Statistic	0.199	Anderson-Darling Gamma GOF Test	
		Detected data appear Gamma Distributed at	
5% A-D Critical Value	0.74	5% Significance Level	
K-S Test Statistic	0.106	Kolmogorov-Smirnov Gamma GOF Test	
		Detected data appear Gamma Distributed at	
5% K-S Critical Value	0.209	5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	6.972	k star (bias corrected MLE)	5.781
Theta hat (MLE)	8.187	Theta star (bias corrected MLE)	9.874
nu hat (MLE)	237	nu star (bias corrected)	196.5
MLE Mean (bias corrected)	57.08	MLE Sd (bias corrected)	23.74
		Approximate Chi Square Value (0.05)	165.1
Adjusted Level of Significance	0.0346	Adjusted Chi Square Value	162.1
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	67.95	95% Adjusted Gamma UCL (use when n<50)	69.22
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.983	Shapiro Wilk Lognormal GOF Test	
		Data appear Lognormal at 5% Significance	
5% Shapiro Wilk Critical Value	0.892	Level	
Lilliefors Test Statistic	0.0945	Lilliefors Lognormal GOF Test	
		Data appear Lognormal at 5% Significance	
5% Lilliefors Critical Value	0.207	Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	3.273	Mean of logged Data	3.971
Maximum of Logged Data	4.745	SD of logged Data	0.393
Assuming Lognormal Distribution			
95% H-UCL	69.29	90% Chebyshev (MVUE) UCL	73.66
95% Chebyshev (MVUE) UCL	81.19	97.5% Chebyshev (MVUE) UCL	91.65
99% Chebyshev (MVUE) UCL	112.2		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	66.42	95% Jackknife UCL	66.99
95% Standard Bootstrap UCL	66.03	95% Bootstrap-t UCL	70.34
95% Hall's Bootstrap UCL	73.31	95% Percentile Bootstrap UCL	66.37
95% BCA Bootstrap UCL	67.92		
90% Chebyshev(Mean, Sd) UCL	74.11	95% Chebyshev(Mean, Sd) UCL	81.82
97.5% Chebyshev(Mean, Sd) UCL	92.52	99% Chebyshev(Mean, Sd) UCL	113.5
Suggested UCL to Use			
95% Student's-t UCL	66.99		
TEQ	-	-	-
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	2
Minimum	8.62E-08	Mean	6.87E-06
Maximum	6.27E-05	Median	1.54E-06
SD	1.58E-05	Std. Error of Mean	3.63E-06
Coefficient of Variation	N/A	Skewness	3.107
Normal GOF Test			
Shapiro Wilk Test Statistic	0.466	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.413	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.32E-05	95% Adjusted-CLT UCL (Chen-1995)	1.56E-05
		95% Modified-t UCL (Johnson-1978)	1.36E-05
Gamma GOF Test			
A-D Test Statistic	1.288	Anderson-Darling Gamma GOF Test	
		Data Not Gamma Distributed at 5%	
5% A-D Critical Value	0.82	Significance Level	
K-S Test Statistic	0.254	Kolmogorov-Smirnov Gamma GOF Test	
		Data Not Gamma Distributed at 5%	
5% K-S Critical Value	0.212	Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.413	k star (bias corrected MLE)	0.383

Theta hat (MLE)	1.66E-05	Theta star (bias corrected MLE)	1.79E-05
nu hat (MLE)	15.7	nu star (bias corrected)	14.56
MLE Mean (bias corrected)	6.87E-06	MLE Sd (bias corrected)	1.11E-05
		Approximate Chi Square Value (0.05)	6.955
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	6.5
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.44E-05	95% Adjusted Gamma UCL (use when n<50)	1.54E-05
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.964	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.119	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-16.27	Mean of logged Data	-13.47
Maximum of Logged Data	-9.677	SD of logged Data	1.789
Assuming Lognormal Distribution			
95% H-UCL	3.58E-05	90% Chebyshev (MVUE) UCL	1.45E-05
95% Chebyshev (MVUE) UCL	1.84E-05	97.5% Chebyshev (MVUE) UCL	2.39E-05
99% Chebyshev (MVUE) UCL	3.46E-05		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	1.28E-05	95% Jackknife UCL	1.32E-05
95% Standard Bootstrap UCL	1.28E-05	95% Bootstrap-t UCL	5.21E-05
95% Hall's Bootstrap UCL	4.23E-05	95% Percentile Bootstrap UCL	1.31E-05
95% BCA Bootstrap UCL	1.57E-05		
90% Chebyshev(Mean, Sd) UCL	1.78E-05	95% Chebyshev(Mean, Sd) UCL	2.27E-05
97.5% Chebyshev(Mean, Sd) UCL	2.95E-05	99% Chebyshev(Mean, Sd) UCL	4.30E-05
Suggested UCL to Use			
99% Chebyshev (Mean, Sd) UCL	4.30E-05		
Mammal TEQ			
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	3
Minimum	8.62E-08	Mean	6.88E-06
Maximum	6.27E-05	Median	1.54E-06
SD	1.58E-05	Std. Error of Mean	3.63E-06
Coefficient of Variation	N/A	Skewness	3.105
Normal GOF Test			
Shapiro Wilk Test Statistic	0.466	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.413	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.32E-05	95% Adjusted-CLT UCL (Chen-1995)	1.56E-05
		95% Modified-t UCL (Johnson-1978)	1.36E-05
Gamma GOF Test			
A-D Test Statistic	1.289	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.82	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.254	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.212	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.413	k star (bias corrected MLE)	0.383
Theta hat (MLE)	1.66E-05	Theta star (bias corrected MLE)	1.80E-05
nu hat (MLE)	15.7	nu star (bias corrected)	14.56
MLE Mean (bias corrected)	6.88E-06	MLE Sd (bias corrected)	1.11E-05
		Approximate Chi Square Value (0.05)	6.954
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	6.499
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50))	1.44E-05	95% Adjusted Gamma UCL (use when n<50)	1.54E-05
Lognormal GOF Test			

Shapiro Wilk Test Statistic	0.964	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.119	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-16.27	Mean of logged Data	-13.47
Maximum of Logged Data	-9.677	SD of logged Data	1.789
Assuming Lognormal Distribution			
95% H-UCL	3.58E-05	90% Chebyshev (MVUE) UCL	1.45E-05
95% Chebyshev (MVUE) UCL	1.84E-05	97.5% Chebyshev (MVUE) UCL	2.39E-05
99% Chebyshev (MVUE) UCL	3.46E-05		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	1.28E-05	95% Jackknife UCL	1.32E-05
95% Standard Bootstrap UCL	1.28E-05	95% Bootstrap-t UCL	5.06E-05
95% Hall's Bootstrap UCL	4.15E-05	95% Percentile Bootstrap UCL	1.34E-05
95% BCA Bootstrap UCL	1.54E-05		
90% Chebyshev(Mean, Sd) UCL	1.78E-05	95% Chebyshev(Mean, Sd) UCL	2.27E-05
97.5% Chebyshev(Mean, Sd) UCL	2.95E-05	99% Chebyshev(Mean, Sd) UCL	4.30E-05
Suggested UCL to Use			
99% Chebyshev (Mean, Sd) UCL	4.30E-05		
Bird TEQ	-	-	-
General Statistics			
Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	3
Minimum	2.35E-08	Mean	6.50E-06
Maximum	5.39E-05	Median	2.19E-06
SD	1.39E-05	Std. Error of Mean	3.20E-06
Coefficient of Variation	N/A	Skewness	2.941
Normal GOF Test			
Shapiro Wilk Test Statistic	0.496	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.401	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			
Assuming Normal Distribution			
95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	1.20E-05	95% Adjusted-CLT UCL (Chen-1995)	1.41E-05
		95% Modified-t UCL (Johnson-1978)	1.24E-05
Gamma GOF Test			
A-D Test Statistic	0.813	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.829	Detected data appear Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.194	Kolmogorov-Smirnov Gamma GOF Test	
5% K-S Critical Value	0.213	Detected data appear Gamma Distributed at 5% Significance Level	
Detected data appear Gamma Distributed at 5% Significance Level			
Gamma Statistics			
k hat (MLE)	0.371	k star (bias corrected MLE)	0.348
Theta hat (MLE)	1.75E-05	Theta star (bias corrected MLE)	1.87E-05
nu hat (MLE)	14.1	nu star (bias corrected)	13.21
MLE Mean (bias corrected)	6.50E-06	MLE Sd (bias corrected)	1.10E-05
		Approximate Chi Square Value (0.05)	6.031
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	5.611
Assuming Gamma Distribution			
95% Approximate Gamma UCL (use when n>=50)	1.42E-05	95% Adjusted Gamma UCL (use when n<50)	1.53E-05
Lognormal GOF Test			
Shapiro Wilk Test Statistic	0.946	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.173	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.197	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			
Lognormal Statistics			
Minimum of Logged Data	-17.57	Mean of logged Data	-13.74

Maximum of Logged Data	-9.828	SD of logged Data	2.209
Assuming Lognormal Distribution			
95% H-UCL	1.38E-04	90% Chebyshev (MVUE) UCL	2.51E-05
95% Chebyshev (MVUE) UCL	3.25E-05	97.5% Chebyshev (MVUE) UCL	4.28E-05
99% Chebyshev (MVUE) UCL	6.30E-05		
Nonparametric Distribution Free UCL Statistics			
Data appear to follow a Discernible Distribution at 5% Significance Level			
Nonparametric Distribution Free UCLs			
95% CLT UCL	1.18E-05	95% Jackknife UCL	1.20E-05
95% Standard Bootstrap UCL	1.16E-05	95% Bootstrap-t UCL	3.91E-05
95% Hall's Bootstrap UCL	4.01E-05	95% Percentile Bootstrap UCL	1.18E-05
95% BCA Bootstrap UCL	1.41E-05		
90% Chebyshev(Mean, Sd) UCL	1.61E-05	95% Chebyshev(Mean, Sd) UCL	2.04E-05
97.5% Chebyshev(Mean, Sd) UCL	2.65E-05	99% Chebyshev(Mean, Sd) UCL	3.83E-05
Suggested UCL to Use			
95% Adjusted Gamma UCL	1.53E-05		

~~Attachment B. LANL Ecorisk Soil ESLs Database, March 2019~~

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1746-01-6~~	~~Deer mouse (Mammalian omnivore)~~	~~0.00000058~~	~~0.0000038~~	~~-~~	~~SOIL_DM(ip)_1746-01-6~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1746-01-6~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~5~~	~~10~~	~~-~~	~~SOIL_EW_1746-01-6~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1746-01-6~~	~~Gray fox (Mammalian top carnivore)~~	~~0.0001~~	~~0.00068~~	~~-~~	~~SOIL_RF(f)_1746-01-6~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1746-01-6~~	~~Montane shrew (Mammalian insectivore)~~	~~0.0000029~~	~~0.0000019~~	~~MINIMUM~~	~~SOIL_MS(i)_1746-01-6~~
~~Tetrachlorodibenzodioxin[2,3,7,8-]~~	~~1746-01-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~0.00004~~	~~0.00027~~	~~-~~	~~SOIL_DC(p)_1746-01-6~~
~~Amino-2,6-dinitrotoluene[4-]~~	~~19406-51-0~~	~~Deer mouse (Mammalian omnivore)~~	~~23~~	~~230~~	~~-~~	~~SOIL_DM(ip)_19406-51-0~~
~~Amino-2,6-dinitrotoluene[4-]~~	~~19406-51-0~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~18~~	~~180~~	~~-~~	~~SOIL_EW_19406-51-0~~
~~Amino-2,6-dinitrotoluene[4-]~~	~~19406-51-0~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~33~~	~~330~~	~~-~~	~~SOIL_GP_19406-51-0~~
~~Amino-2,6-dinitrotoluene[4-]~~	~~19406-51-0~~	~~Gray fox (Mammalian top carnivore)~~	~~6700~~	~~67000~~	~~-~~	~~SOIL_RF(f)_19406-51-0~~
~~Amino-2,6-dinitrotoluene[4-]~~	~~19406-51-0~~	~~Montane shrew (Mammalian insectivore)~~	~~12~~	~~120~~	~~MINIMUM~~	~~SOIL_MS(i)_19406-51-0~~
~~Amino-2,6-dinitrotoluene[4-]~~	~~19406-51-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~320~~	~~3200~~	~~-~~	~~SOIL_DC(p)_19406-51-0~~
~~Amino-4,6-dinitrotoluene[2-]~~	~~35572-78-2~~	~~Deer mouse (Mammalian omnivore)~~	~~23~~	~~230~~	~~-~~	~~SOIL_DM(ip)_35572-78-2~~
~~Amino-4,6-dinitrotoluene[2-]~~	~~35572-78-2~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~43~~	~~430~~	~~-~~	~~SOIL_EW_35572-78-2~~
~~Amino-4,6-dinitrotoluene[2-]~~	~~35572-78-2~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~14~~	~~140~~	~~MINIMUM~~	~~SOIL_GP_35572-78-2~~
~~Amino-4,6-dinitrotoluene[2-]~~	~~35572-78-2~~	~~Gray fox (Mammalian top carnivore)~~	~~9700~~	~~97000~~	~~-~~	~~SOIL_RF(f)_35572-78-2~~
~~Amino-4,6-dinitrotoluene[2-]~~	~~35572-78-2~~	~~Montane shrew (Mammalian insectivore)~~	~~16~~	~~160~~	~~-~~	~~SOIL_MS(i)_35572-78-2~~
~~Amino-4,6-dinitrotoluene[2-]~~	~~35572-78-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~110~~	~~1100~~	~~-~~	~~SOIL_DC(p)_35572-78-2~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~American kestrel (Avian top carnivore)~~	~~120~~	~~1200~~	~~-~~	~~SOIL_AK(f)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~American kestrel (insectivore / carnivore)~~	~~9.3~~	~~93~~	~~-~~	~~SOIL_AK(fi)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~American robin (Avian herbivore)~~	~~0.079~~	~~0.79~~	~~-~~	~~SOIL_AR(p)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~American robin (Avian insectivore)~~	~~1.6~~	~~16~~	~~-~~	~~SOIL_AR(i)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~American robin (Avian omnivore)~~	~~0.15~~	~~1.5~~	~~-~~	~~SOIL_AR(ip)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~Deer mouse (Mammalian omnivore)~~	~~0.072~~	~~0.16~~	~~MINIMUM~~	~~SOIL_DM(ip)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~Gray fox (Mammalian top carnivore)~~	~~82~~	~~190~~	~~-~~	~~SOIL_RF(f)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~Montane shrew (Mammalian insectivore)~~	~~0.95~~	~~2.2~~	~~-~~	~~SOIL_MS(i)_99-65-0~~
~~Dinitrobenzene[1,3-]~~	~~99-65-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~0.091~~	~~0.21~~	~~-~~	~~SOIL_DC(p)_99-65-0~~
~~Dinitrotoluene[2,4-]~~	~~121-14-2~~	~~Deer mouse (Mammalian omnivore)~~	~~20~~	~~200~~	~~-~~	~~SOIL_DM(ip)_121-14-2~~
~~Dinitrotoluene[2,4-]~~	~~121-14-2~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~18~~	~~180~~	~~-~~	~~SOIL_EW_121-14-2~~

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Dinitrotoluene[2,4-]~~	~~121-14-2~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~6~~	~~60~~	~~MINIMUM~~	~~SOIL_GP_121-14-2~~
~~Dinitrotoluene[2,4-]~~	~~121-14-2~~	~~Gray fox (Mammalian top carnivore)~~	~~2000~~	~~20000~~	-	~~SOIL_RF(f)_121-14-2~~
~~Dinitrotoluene[2,4-]~~	~~121-14-2~~	~~Montane shrew (Mammalian insectivore)~~	~~14~~	~~140~~	-	~~SOIL_MS(i)_121-14-2~~
~~Dinitrotoluene[2,4-]~~	~~121-14-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~74~~	~~740~~	-	~~SOIL_DC(p)_121-14-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~American kestrel (Avian top carnivore)~~	~~18000~~	~~180000~~	-	~~SOIL_AK(f)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~American kestrel (insectivore / carnivore)~~	~~680~~	~~6800~~	-	~~SOIL_AK(fi)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~American robin (Avian herbivore)~~	~~52~~	~~520~~	-	~~SOIL_AR(p)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~American robin (Avian insectivore)~~	~~130~~	~~1300~~	-	~~SOIL_AR(i)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~American robin (Avian omnivore)~~	~~74~~	~~740~~	-	~~SOIL_AR(ip)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~Deer mouse (Mammalian omnivore)~~	~~4~~	~~40~~	~~MINIMUM~~	~~SOIL_DM(ip)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~30~~	~~44~~	-	~~SOIL_EW_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~Gray fox (Mammalian top carnivore)~~	~~1300~~	~~13000~~	-	~~SOIL_RF(f)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~Montane shrew (Mammalian insectivore)~~	~~7.6~~	~~76~~	-	~~SOIL_MS(i)_606-20-2~~
~~Dinitrotoluene[2,6-]~~	~~606-20-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~6.7~~	~~67~~	-	~~SOIL_DC(p)_606-20-2~~
~~HMX~~	~~2691-41-0~~	~~Deer mouse (Mammalian omnivore)~~	~~290~~	~~790~~	-	~~SOIL_DM(ip)_2691-41-0~~
~~HMX~~	~~2691-41-0~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~16~~	~~160~~	~~MINIMUM~~	~~SOIL_EW_2691-41-0~~
~~HMX~~	~~2691-41-0~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~2700~~	~~3500~~	-	~~SOIL_GP_2691-41-0~~
~~HMX~~	~~2691-41-0~~	~~Gray fox (Mammalian top carnivore)~~	~~59000~~	~~150000~~	-	~~SOIL_RF(f)_2691-41-0~~
~~HMX~~	~~2691-41-0~~	~~Montane shrew (Mammalian insectivore)~~	~~1100~~	~~2900~~	-	~~SOIL_MS(i)_2691-41-0~~
~~HMX~~	~~2691-41-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~410~~	~~1100~~	-	~~SOIL_DC(p)_2691-41-0~~
~~Nitroglycerine~~	~~55-63-0~~	~~Deer mouse (Mammalian omnivore)~~	~~70~~	~~740~~	-	~~SOIL_DM(ip)_55-63-0~~
~~Nitroglycerine~~	~~55-63-0~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~13~~	~~130~~	~~MINIMUM~~	~~SOIL_EW_55-63-0~~
~~Nitroglycerine~~	~~55-63-0~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~21~~	~~210~~	-	~~SOIL_GP_55-63-0~~
~~Nitroglycerine~~	~~55-63-0~~	~~Gray fox (Mammalian top carnivore)~~	~~69000~~	~~730000~~	-	~~SOIL_RF(f)_55-63-0~~
~~Nitroglycerine~~	~~55-63-0~~	~~Montane shrew (Mammalian insectivore)~~	~~1200~~	~~13000~~	-	~~SOIL_MS(i)_55-63-0~~
~~Nitroglycerine~~	~~55-63-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~88~~	~~930~~	-	~~SOIL_DC(p)_55-63-0~~
~~Nitrotoluene[2-]~~	~~88-72-2~~	~~Deer mouse (Mammalian omnivore)~~	~~9.8~~	~~98~~	~~MINIMUM~~	~~SOIL_DM(ip)_88-72-2~~
~~Nitrotoluene[2-]~~	~~88-72-2~~	~~Gray fox (Mammalian top carnivore)~~	~~6000~~	~~60000~~	-	~~SOIL_RF(f)_88-72-2~~
~~Nitrotoluene[2-]~~	~~88-72-2~~	~~Montane shrew (Mammalian insectivore)~~	~~22~~	~~220~~	-	~~SOIL_MS(i)_88-72-2~~
~~Nitrotoluene[2-]~~	~~88-72-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~15~~	~~150~~	-	~~SOIL_DC(p)_88-72-2~~
~~Nitrotoluene[3-]~~	~~99-08-1~~	~~Deer mouse (Mammalian omnivore)~~	~~12~~	~~120~~	~~MINIMUM~~	~~SOIL_DM(ip)_99-08-1~~
~~Nitrotoluene[3-]~~	~~99-08-1~~	~~Gray fox (Mammalian top carnivore)~~	~~7000~~	~~70000~~	-	~~SOIL_RF(f)_99-08-1~~
~~Nitrotoluene[3-]~~	~~99-08-1~~	~~Montane shrew (Mammalian insectivore)~~	~~19~~	~~190~~	-	~~SOIL_MS(i)_99-08-1~~
~~Nitrotoluene[3-]~~	~~99-08-1~~	~~Mountain cottontail (Mammalian herbivore)~~	~~21~~	~~210~~	-	~~SOIL_DC(p)_99-08-1~~
~~Nitrotoluene[4-]~~	~~99-99-0~~	~~Deer mouse (Mammalian omnivore)~~	~~21~~	~~210~~	~~MINIMUM~~	~~SOIL_DM(ip)_99-99-0~~
~~Nitrotoluene[4-]~~	~~99-99-0~~	~~Gray fox (Mammalian top carnivore)~~	~~13000~~	~~130000~~	-	~~SOIL_RF(f)_99-99-0~~
~~Nitrotoluene[4-]~~	~~99-99-0~~	~~Montane shrew (Mammalian insectivore)~~	~~41~~	~~410~~	-	~~SOIL_MS(i)_99-99-0~~
~~Nitrotoluene[4-]~~	~~99-99-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~36~~	~~360~~	-	~~SOIL_DC(p)_99-99-0~~

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~PETN~~	~~78-11-5~~	~~Deer mouse (Mammalian omnivore)~~	~~100~~	~~1000~~	~~MINIMUM~~	~~SOIL_DM(ip)_78-11-5~~
~~PETN~~	~~78-11-5~~	~~Gray fox (Mammalian top carnivore)~~	~~47000~~	~~470000~~	-	~~SOIL_RF(f)_78-11-5~~
~~PETN~~	~~78-11-5~~	~~Montane shrew (Mammalian insectivore)~~	~~1000~~	~~10000~~	-	~~SOIL_MS(i)_78-11-5~~
~~PETN~~	~~78-11-5~~	~~Mountain cottontail (Mammalian herbivore)~~	~~120~~	~~1200~~	-	~~SOIL_DC(p)_78-11-5~~
~~RDX~~	~~121-82-4~~	~~American kestrel (Avian top carnivore)~~	~~780~~	~~1400~~	-	~~SOIL_AK(f)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~American kestrel (insectivore / carnivore)~~	~~11~~	~~22~~	-	~~SOIL_AK(fi)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~American robin (Avian herbivore)~~	~~2.3~~	~~4.3~~	~~MINIMUM~~	~~SOIL_AR(p)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~American robin (Avian insectivore)~~	~~2.4~~	~~4.5~~	-	~~SOIL_AR(i)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~American robin (Avian omnivore)~~	~~2.3~~	~~4.4~~	~~MINIMUM~~	~~SOIL_AR(ip)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~Deer mouse (Mammalian omnivore)~~	~~16~~	~~51~~	-	~~SOIL_DM(ip)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~8.4~~	~~15~~	-	~~SOIL_EW_121-82-4~~
~~RDX~~	~~121-82-4~~	~~Gray fox (Mammalian top carnivore)~~	~~7000~~	~~22000~~	-	~~SOIL_RF(f)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~Montane shrew (Mammalian insectivore)~~	~~16~~	~~53~~	-	~~SOIL_MS(i)_121-82-4~~
~~RDX~~	~~121-82-4~~	~~Mountain cottontail (Mammalian herbivore)~~	~~38~~	~~120~~	-	~~SOIL_DC(p)_121-82-4~~
~~Tetryl~~	~~479-45-8~~	~~Deer mouse (Mammalian omnivore)~~	~~1.5~~	~~7.2~~	~~MINIMUM~~	~~SOIL_DM(ip)_479-45-8~~
~~Tetryl~~	~~479-45-8~~	~~Gray fox (Mammalian top carnivore)~~	~~960~~	~~4600~~	-	~~SOIL_RF(f)_479-45-8~~
~~Tetryl~~	~~479-45-8~~	~~Montane shrew (Mammalian insectivore)~~	~~60~~	~~280~~	-	~~SOIL_MS(i)_479-45-8~~
~~Tetryl~~	~~479-45-8~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1.8~~	~~8.9~~	-	~~SOIL_DC(p)_479-45-8~~
~~Trinitrobenzene[1,3,5-]~~	~~99-35-4~~	~~Deer mouse (Mammalian omnivore)~~	~~110~~	~~1100~~	-	~~SOIL_DM(ip)_99-35-4~~
~~Trinitrobenzene[1,3,5-]~~	~~99-35-4~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~10~~	~~28~~	~~MINIMUM~~	~~SOIL_EW_99-35-4~~
~~Trinitrobenzene[1,3,5-]~~	~~99-35-4~~	~~Gray fox (Mammalian top carnivore)~~	~~10000~~	~~100000~~	-	~~SOIL_RF(f)_99-35-4~~
~~Trinitrobenzene[1,3,5-]~~	~~99-35-4~~	~~Montane shrew (Mammalian insectivore)~~	~~720~~	~~7200~~	-	~~SOIL_MS(i)_99-35-4~~
~~Trinitrobenzene[1,3,5-]~~	~~99-35-4~~	~~Mountain cottontail (Mammalian herbivore)~~	~~150~~	~~1500~~	-	~~SOIL_DC(p)_99-35-4~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~American kestrel (Avian top carnivore)~~	~~3100~~	~~5700~~	-	~~SOIL_AK(f)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~American kestrel (insectivore / carnivore)~~	~~1300~~	~~2400~~	-	~~SOIL_AK(fi)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~American robin (Avian herbivore)~~	~~7.5~~	~~13~~	~~MINIMUM~~	~~SOIL_AR(p)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~American robin (Avian insectivore)~~	~~120~~	~~220~~	-	~~SOIL_AR(i)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~American robin (Avian omnivore)~~	~~14~~	~~26~~	-	~~SOIL_AR(ip)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~Deer mouse (Mammalian omnivore)~~	~~95~~	~~440~~	-	~~SOIL_DM(ip)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~32~~	~~58~~	-	~~SOIL_EW_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~62~~	~~120~~	-	~~SOIL_GP_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~Gray fox (Mammalian top carnivore)~~	~~26000~~	~~120000~~	-	~~SOIL_RF(f)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~Montane shrew (Mammalian insectivore)~~	~~1900~~	~~9100~~	-	~~SOIL_MS(i)_118-96-7~~
~~Trinitrotoluene[2,4,6-]~~	~~118-96-7~~	~~Mountain cottontail (Mammalian herbivore)~~	~~110~~	~~540~~	-	~~SOIL_DC(p)_118-96-7~~
~~Aluminum~~	~~AL~~	~~American kestrel (Avian top carnivore)~~			-	~~SOIL_AK(f)_AL~~
~~Aluminum~~	~~AL~~	~~American kestrel (insectivore / carnivore)~~			-	~~SOIL_AK(fi)_AL~~
~~Aluminum~~	~~AL~~	~~American robin (Avian herbivore)~~			-	~~SOIL_AR(p)_AL~~
~~Aluminum~~	~~AL~~	~~American robin (Avian insectivore)~~			-	~~SOIL_AR(i)_AL~~
~~Aluminum~~	~~AL~~	~~American robin (Avian omnivore)~~			-	~~SOIL_AR(ip)_AL~~
~~Aluminum~~	~~AL~~	~~Deer mouse (Mammalian omnivore)~~			-	~~SOIL_DM(ip)_AL~~
~~Aluminum~~	~~AL~~	~~Earthworm (Soil-dwelling invertebrate)~~			-	~~SOIL_EW_AL~~
~~Aluminum~~	~~AL~~	~~Generic plant (Terrestrial autotroph - producer)~~			-	~~SOIL_GP_AL~~

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Aluminum	AL	Gray fox (Mammalian top carnivore)			-	SOIL_RF(f)_AL
Aluminum	AL	Montane shrew (Mammalian insectivore)			-	SOIL_MS(i)_AL
Aluminum	AL	Mountain cottontail (Mammalian herbivore)			-	SOIL_DC(p)_AL
Antimony	SB	Deer mouse (Mammalian omnivore)	2.3	23	MINIMUM	SOIL_DM(ip)_SB
Antimony	SB	Earthworm (Soil-dwelling invertebrate)	78	780	-	SOIL_EW_SB
Antimony	SB	Generic plant (Terrestrial autotroph - producer)	11	58	-	SOIL_GP_SB
Antimony	SB	Gray fox (Mammalian top carnivore)	46	460	-	SOIL_RF(f)_SB
Antimony	SB	Montane shrew (Mammalian insectivore)	7.9	79	-	SOIL_MS(i)_SB
Antimony	SB	Mountain cottontail (Mammalian herbivore)	2.7	27	-	SOIL_DC(p)_SB
Arsenic	AS	American kestrel (Avian top carnivore)	740	7400	-	SOIL_AK(f)_AS
Arsenic	AS	American kestrel (insectivore / carnivore)	100	1000	-	SOIL_AK(fi)_AS
Arsenic	AS	American robin (Avian herbivore)	34	340	-	SOIL_AR(p)_AS
Arsenic	AS	American robin (Avian insectivore)	15	150	-	SOIL_AR(i)_AS
Arsenic	AS	American robin (Avian omnivore)	21	210	-	SOIL_AR(ip)_AS
Arsenic	AS	Deer mouse (Mammalian omnivore)	32	51	-	SOIL_DM(ip)_AS
Arsenic	AS	Earthworm (Soil-dwelling invertebrate)	6.8	68	MINIMUM	SOIL_EW_AS
Arsenic	AS	Generic plant (Terrestrial autotroph - producer)	18	91	-	SOIL_GP_AS
Arsenic	AS	Gray fox (Mammalian top carnivore)	820	1300	-	SOIL_RF(f)_AS
Arsenic	AS	Montane shrew (Mammalian insectivore)	19	31	-	SOIL_MS(i)_AS
Arsenic	AS	Mountain cottontail (Mammalian herbivore)	110	180	-	SOIL_DC(p)_AS
Barium	BA	American kestrel (Avian top carnivore)	24000	44000	-	SOIL_AK(f)_BA
Barium	BA	American kestrel (insectivore / carnivore)	7500	13000	-	SOIL_AK(fi)_BA
Barium	BA	American robin (Avian herbivore)	720	1200	-	SOIL_AR(p)_BA
Barium	BA	American robin (Avian insectivore)	820	1400	-	SOIL_AR(i)_BA
Barium	BA	American robin (Avian omnivore)	770	1300	-	SOIL_AR(ip)_BA
Barium	BA	Deer mouse (Mammalian omnivore)	1800	8700	-	SOIL_DM(ip)_BA
Barium	BA	Earthworm (Soil-dwelling invertebrate)	330	3200	-	SOIL_EW_BA
Barium	BA	Generic plant (Terrestrial autotroph - producer)	110	260	MINIMUM	SOIL_GP_BA
Barium	BA	Gray fox (Mammalian top carnivore)	41000	190000	-	SOIL_RF(f)_BA
Barium	BA	Montane shrew (Mammalian insectivore)	2100	10000	-	SOIL_MS(i)_BA
Barium	BA	Mountain cottontail (Mammalian herbivore)	2900	14000	-	SOIL_DC(p)_BA
Beryllium	BE	Deer mouse (Mammalian omnivore)	56	560	-	SOIL_DM(ip)_BE
Beryllium	BE	Earthworm (Soil-dwelling invertebrate)	40	400	-	SOIL_EW_BE
Beryllium	BE	Generic plant (Terrestrial autotroph - producer)	2.5	25	MINIMUM	SOIL_GP_BE
Beryllium	BE	Gray fox (Mammalian top carnivore)	420	4200	-	SOIL_RF(f)_BE
Beryllium	BE	Montane shrew (Mammalian insectivore)	35	350	-	SOIL_MS(i)_BE
Beryllium	BE	Mountain cottontail (Mammalian herbivore)	89	890	-	SOIL_DC(p)_BE
Boron	B	American kestrel (Avian top carnivore)	960	4700	-	SOIL_AK(f)_B
Boron	B	American kestrel (insectivore / carnivore)	37	180	-	SOIL_AK(fi)_B
Boron	B	American robin (Avian herbivore)	2	10	MINIMUM	SOIL_AR(p)_B
Boron	B	American robin (Avian insectivore)	7.1	35	-	SOIL_AR(i)_B
Boron	B	American robin (Avian omnivore)	3.1	15	-	SOIL_AR(ip)_B
Boron	B	Deer mouse (Mammalian omnivore)	55	550	-	SOIL_DM(ip)_B
Boron	B	Generic plant (Terrestrial autotroph - producer)	36	86	-	SOIL_GP_B

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Boron	B	Gray fox (Mammalian top carnivore)	21000	210000	-	SOIL_RF(f)_B
Boron	B	Montane shrew (Mammalian insectivore)	130	1300	-	SOIL_MS(i)_B
Boron	B	Mountain cottontail (Mammalian herbivore)	84	840	-	SOIL_DC(p)_B
Cadmium	CD	American kestrel (Avian top carnivore)	430	2300	-	SOIL_AK(f)_CD
Cadmium	CD	American kestrel (insectivore / carnivore)	1.3	7.7	-	SOIL_AK(fi)_CD
Cadmium	CD	American robin (Avian herbivore)	4.3	23	-	SOIL_AR(p)_CD
Cadmium	CD	American robin (Avian insectivore)	0.29	1.6	-	SOIL_AR(i)_CD
Cadmium	CD	American robin (Avian omnivore)	0.54	3	-	SOIL_AR(ip)_CD
Cadmium	CD	Deer mouse (Mammalian omnivore)	0.5	6.8	-	SOIL_DM(ip)_CD
Cadmium	CD	Earthworm (Soil-dwelling invertebrate)	140	760	-	SOIL_EW_CD
Cadmium	CD	Generic plant (Terrestrial autotroph - producer)	32	160	-	SOIL_GP_CD
Cadmium	CD	Gray fox (Mammalian top carnivore)	550	7400	-	SOIL_RF(f)_CD
Cadmium	CD	Montane shrew (Mammalian insectivore)	0.27	3.6	MINIMUM	SOIL_MS(i)_CD
Cadmium	CD	Mountain cottontail (Mammalian herbivore)	10	140	-	SOIL_DC(p)_CD
Chromium (total)	CR	American kestrel (Avian top carnivore)	860	2700	-	SOIL_AK(f)_CR
Chromium (total)	CR	American kestrel (insectivore / carnivore)	170	560	-	SOIL_AK(fi)_CR
Chromium (total)	CR	American robin (Avian herbivore)	51	160	-	SOIL_AR(p)_CR
Chromium (total)	CR	American robin (Avian insectivore)	23	73	MINIMUM	SOIL_AR(i)_CR
Chromium (total)	CR	American robin (Avian omnivore)	32	100	-	SOIL_AR(ip)_CR
Chromium (total)	CR	Deer mouse (Mammalian omnivore)	110	11000	-	SOIL_DM(ip)_CR
Chromium (total)	CR	Gray fox (Mammalian top carnivore)	1800	180000	-	SOIL_RF(f)_CR
Chromium (total)	CR	Montane shrew (Mammalian insectivore)	63	6300	-	SOIL_MS(i)_CR
Chromium (total)	CR	Mountain cottontail (Mammalian herbivore)	410	41000	-	SOIL_DC(p)_CR
Chromium(+6)	CR(+6)	American kestrel (Avian top carnivore)	3600	36000	-	SOIL_AK(f)_CR(+6)
Chromium(+6)	CR(+6)	American kestrel (insectivore / carnivore)	1400	14000	-	SOIL_AK(fi)_CR(+6)
Chromium(+6)	CR(+6)	American robin (Avian herbivore)	210	2100	-	SOIL_AR(p)_CR(+6)
Chromium(+6)	CR(+6)	American robin (Avian insectivore)	140	1400	-	SOIL_AR(i)_CR(+6)
Chromium(+6)	CR(+6)	American robin (Avian omnivore)	160	1600	-	SOIL_AR(ip)_CR(+6)
Chromium(+6)	CR(+6)	Deer mouse (Mammalian omnivore)	850	5500	-	SOIL_DM(ip)_CR(+6)
Chromium(+6)	CR(+6)	Earthworm (Soil-dwelling invertebrate)	0.34	3.4	MINIMUM	SOIL_EW_CR(+6)
Chromium(+6)	CR(+6)	Generic plant (Terrestrial autotroph - producer)	0.35	4	-	SOIL_GP_CR(+6)
Chromium(+6)	CR(+6)	Gray fox (Mammalian top carnivore)	7200	46000	-	SOIL_RF(f)_CR(+6)
Chromium(+6)	CR(+6)	Montane shrew (Mammalian insectivore)	510	3300	-	SOIL_MS(i)_CR(+6)
Chromium(+6)	CR(+6)	Mountain cottontail (Mammalian herbivore)	1600	10000	-	SOIL_DC(p)_CR(+6)
Cobalt	CO	American kestrel (Avian top carnivore)	2300	5200	-	SOIL_AK(f)_CO
Cobalt	CO	American kestrel (insectivore / carnivore)	620	1400	-	SOIL_AK(fi)_CO
Cobalt	CO	American robin (Avian herbivore)	130	300	-	SOIL_AR(p)_CO
Cobalt	CO	American robin (Avian insectivore)	76	170	-	SOIL_AR(i)_CO
Cobalt	CO	American robin (Avian omnivore)	97	210	-	SOIL_AR(ip)_CO
Cobalt	CO	Deer mouse (Mammalian omnivore)	400	1000	-	SOIL_DM(ip)_CO
Cobalt	CO	Generic plant (Terrestrial autotroph - producer)	13	130	MINIMUM	SOIL_GP_CO
Cobalt	CO	Gray fox (Mammalian top carnivore)	5400	14000	-	SOIL_RF(f)_CO
Cobalt	CO	Montane shrew (Mammalian insectivore)	240	640	-	SOIL_MS(i)_CO
Cobalt	CO	Mountain cottontail (Mammalian herbivore)	1000	2800	-	SOIL_DC(p)_CO

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Copper	CU	American kestrel (Avian top carnivore)	1100	3500	-	SOIL_AK(f)_CU
Copper	CU	American kestrel (insectivore / carnivore)	80	240	-	SOIL_AK(fi)_CU
Copper	CU	American robin (Avian herbivore)	34	100	-	SOIL_AR(p)_CU
Copper	CU	American robin (Avian insectivore)	14	43	MINIMUM	SOIL_AR(i)_CU
Copper	CU	American robin (Avian omnivore)	20	60	-	SOIL_AR(ip)_CU
Copper	CU	Deer mouse (Mammalian omnivore)	63	100	-	SOIL_DM(ip)_CU
Copper	CU	Earthworm (Soil-dwelling invertebrate)	80	530	-	SOIL_EW_CU
Copper	CU	Generic plant (Terrestrial autotroph - producer)	70	490	-	SOIL_GP_CU
Copper	CU	Gray fox (Mammalian top carnivore)	4000	6700	-	SOIL_RF(f)_CU
Copper	CU	Montane shrew (Mammalian insectivore)	42	70	-	SOIL_MS(i)_CU
Copper	CU	Mountain cottontail (Mammalian herbivore)	260	430	-	SOIL_DC(p)_CU
Cyanide (total)	CN(-1)	American kestrel (Avian top carnivore)	0.59	5.9	-	SOIL_AK(f)_CN(-1)
Cyanide (total)	CN(-1)	American kestrel (insectivore / carnivore)	0.36	3.6	-	SOIL_AK(fi)_CN(-1)
Cyanide (total)	CN(-1)	American robin (Avian herbivore)	0.1	1	-	SOIL_AR(p)_CN(-1)
Cyanide (total)	CN(-1)	American robin (Avian insectivore)	0.098	0.98	MINIMUM	SOIL_AR(i)_CN(-1)
Cyanide (total)	CN(-1)	American robin (Avian omnivore)	0.099	0.99	-	SOIL_AR(ip)_CN(-1)
Cyanide (total)	CN(-1)	Deer mouse (Mammalian omnivore)	330	3300	-	SOIL_DM(ip)_CN(-1)
Cyanide (total)	CN(-1)	Gray fox (Mammalian top carnivore)	3300	33000	-	SOIL_RF(f)_CN(-1)
Cyanide (total)	CN(-1)	Montane shrew (Mammalian insectivore)	330	3300	-	SOIL_MS(i)_CN(-1)
Cyanide (total)	CN(-1)	Mountain cottontail (Mammalian herbivore)	790	7900	-	SOIL_DC(p)_CN(-1)
Fluoride	F(-1)	American kestrel (Avian top carnivore)	2200	22000	-	SOIL_AK(f)_F(-1)
Fluoride	F(-1)	American kestrel (insectivore / carnivore)	910	9100	-	SOIL_AK(fi)_F(-1)
Fluoride	F(-1)	American robin (Avian herbivore)	170	1700	-	SOIL_AR(p)_F(-1)
Fluoride	F(-1)	American robin (Avian insectivore)	120	1200	MINIMUM	SOIL_AR(i)_F(-1)
Fluoride	F(-1)	American robin (Avian omnivore)	140	1400	-	SOIL_AR(ip)_F(-1)
Fluoride	F(-1)	Deer mouse (Mammalian omnivore)	1100	2100	-	SOIL_DM(ip)_F(-1)
Fluoride	F(-1)	Gray fox (Mammalian top carnivore)	13000	24000	-	SOIL_RF(f)_F(-1)
Fluoride	F(-1)	Montane shrew (Mammalian insectivore)	870	1600	-	SOIL_MS(i)_F(-1)
Fluoride	F(-1)	Mountain cottontail (Mammalian herbivore)	2600	4800	-	SOIL_DC(p)_F(-1)
Lead	PB	American kestrel (Avian top carnivore)	540	1000	-	SOIL_AK(f)_PB
Lead	PB	American kestrel (insectivore / carnivore)	83	160	-	SOIL_AK(fi)_PB
Lead	PB	American robin (Avian herbivore)	18	36	-	SOIL_AR(p)_PB
Lead	PB	American robin (Avian insectivore)	11	23	MINIMUM	SOIL_AR(i)_PB
Lead	PB	American robin (Avian omnivore)	14	28	-	SOIL_AR(ip)_PB
Lead	PB	Deer mouse (Mammalian omnivore)	120	230	-	SOIL_DM(ip)_PB
Lead	PB	Earthworm (Soil-dwelling invertebrate)	1700	8400	-	SOIL_EW_PB
Lead	PB	Generic plant (Terrestrial autotroph - producer)	120	570	-	SOIL_GP_PB
Lead	PB	Gray fox (Mammalian top carnivore)	3700	7000	-	SOIL_RF(f)_PB
Lead	PB	Montane shrew (Mammalian insectivore)	93	170	-	SOIL_MS(i)_PB
Lead	PB	Mountain cottontail (Mammalian herbivore)	310	600	-	SOIL_DC(p)_PB
Lithium	LI	Deer mouse (Mammalian omnivore)	100	480	-	SOIL_DM(ip)_LI
Lithium	LI	Gray fox (Mammalian top carnivore)	870	4100	-	SOIL_RF(f)_LI
Lithium	LI	Montane shrew (Mammalian insectivore)	75	350	MINIMUM	SOIL_MS(i)_LI
Lithium	LI	Mountain cottontail (Mammalian herbivore)	150	750	-	SOIL_DC(p)_LI

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Manganese	MN	American kestrel (Avian top carnivore)	60000	120000	-	SOIL_AK(f)_MN
Manganese	MN	American kestrel (insectivore / carnivore)	24000	50000	-	SOIL_AK(fi)_MN
Manganese	MN	American robin (Avian herbivore)	1300	2700	-	SOIL_AR(p)_MN
Manganese	MN	American robin (Avian insectivore)	2200	4700	-	SOIL_AR(i)_MN
Manganese	MN	American robin (Avian omnivore)	1600	3500	-	SOIL_AR(ip)_MN
Manganese	MN	Deer mouse (Mammalian omnivore)	1400	5400	-	SOIL_DM(ip)_MN
Manganese	MN	Earthworm (Soil-dwelling invertebrate)	450	4500	-	SOIL_EW_MN
Manganese	MN	Generic plant (Terrestrial autotroph - producer)	220	1100	MINIMUM	SOIL_GP_MN
Manganese	MN	Gray fox (Mammalian top carnivore)	40000	150000	-	SOIL_RF(f)_MN
Manganese	MN	Montane shrew (Mammalian insectivore)	2800	10000	-	SOIL_MS(i)_MN
Manganese	MN	Mountain cottontail (Mammalian herbivore)	2000	7500	-	SOIL_DC(p)_MN
Mercury (inorganic)	HG	American kestrel (Avian top carnivore)	0.32	3.2	-	SOIL_AK(f)_HGI
Mercury (inorganic)	HG	American kestrel (insectivore / carnivore)	0.058	0.58	-	SOIL_AK(fi)_HGI
Mercury (inorganic)	HG	American robin (Avian herbivore)	0.067	0.67	-	SOIL_AR(p)_HGI
Mercury (inorganic)	HG	American robin (Avian insectivore)	0.013	0.13	MINIMUM	SOIL_AR(i)_HGI
Mercury (inorganic)	HG	American robin (Avian omnivore)	0.022	0.22	-	SOIL_AR(ip)_HGI
Mercury (inorganic)	HG	Deer mouse (Mammalian omnivore)	3	30	-	SOIL_DM(ip)_HGI
Mercury (inorganic)	HG	Earthworm (Soil-dwelling invertebrate)	0.05	0.5	-	SOIL_EW_HGI
Mercury (inorganic)	HG	Generic plant (Terrestrial autotroph - producer)	34	64	-	SOIL_GP_HGI
Mercury (inorganic)	HG	Gray fox (Mammalian top carnivore)	76	760	-	SOIL_RF(f)_HGI
Mercury (inorganic)	HG	Montane shrew (Mammalian insectivore)	1.7	17	-	SOIL_MS(i)_HGI
Mercury (inorganic)	HG	Mountain cottontail (Mammalian herbivore)	23	230	-	SOIL_DC(p)_HGI
Mercury (methyl)	HGM	American kestrel (Avian top carnivore)	0.009	0.09	-	SOIL_AK(f)_HGM
Mercury (methyl)	HGM	American kestrel (insectivore / carnivore)	0.0015	0.015	-	SOIL_AK(fi)_HGM
Mercury (methyl)	HGM	American robin (Avian herbivore)	0.066	0.66	-	SOIL_AR(p)_HGM
Mercury (methyl)	HGM	American robin (Avian insectivore)	0.00035	0.0035	MINIMUM	SOIL_AR(i)_HGM
Mercury (methyl)	HGM	American robin (Avian omnivore)	0.00071	0.0071	-	SOIL_AR(ip)_HGM
Mercury (methyl)	HGM	Deer mouse (Mammalian omnivore)	0.0062	0.031	-	SOIL_DM(ip)_HGM
Mercury (methyl)	HGM	Earthworm (Soil-dwelling invertebrate)	2.5	12	-	SOIL_EW_HGM
Mercury (methyl)	HGM	Gray fox (Mammalian top carnivore)	0.14	0.74	-	SOIL_RF(f)_HGM
Mercury (methyl)	HGM	Montane shrew (Mammalian insectivore)	0.0031	0.015	-	SOIL_MS(i)_HGM
Mercury (methyl)	HGM	Mountain cottontail (Mammalian herbivore)	1.9	9.8	-	SOIL_DC(p)_HGM
Molybdenum	MO	American kestrel (Avian top carnivore)	1100	11000	-	SOIL_AK(f)_MO
Molybdenum	MO	American kestrel (insectivore / carnivore)	90	900	-	SOIL_AK(fi)_MO
Molybdenum	MO	American robin (Avian herbivore)	18	180	-	SOIL_AR(p)_MO
Molybdenum	MO	American robin (Avian insectivore)	15	150	MINIMUM	SOIL_AR(i)_MO
Molybdenum	MO	American robin (Avian omnivore)	16	160	-	SOIL_AR(ip)_MO
Nickel	NI	American kestrel (Avian top carnivore)	2000	8100	-	SOIL_AK(f)_NI
Nickel	NI	American kestrel (insectivore / carnivore)	110	440	-	SOIL_AK(fi)_NI
Nickel	NI	American robin (Avian herbivore)	120	500	-	SOIL_AR(p)_NI
Nickel	NI	American robin (Avian insectivore)	20	81	-	SOIL_AR(i)_NI
Nickel	NI	American robin (Avian omnivore)	35	130	-	SOIL_AR(ip)_NI
Nickel	NI	Deer mouse (Mammalian omnivore)	20	40	-	SOIL_DM(ip)_NI
Nickel	NI	Earthworm (Soil-dwelling invertebrate)	280	1300	-	SOIL_EW_NI
Nickel	NI	Generic plant (Terrestrial autotroph - producer)	38	270	-	SOIL_GP_NI

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Nickel	NI	Gray fox (Mammalian top carnivore)	1200	2500	-	SOIL_RF(f)_NI
Nickel	NI	Montane shrew (Mammalian insectivore)	10	21	MINIMUM	SOIL_MS(i)_NI
Nickel	NI	Mountain cottontail (Mammalian herbivore)	270	540	-	SOIL_DC(p)_NI
Perchlorate Ion	ClO4	American kestrel (Avian top carnivore)	2	4	-	SOIL_AK(f)_ClO4(-1)
Perchlorate Ion	ClO4	American kestrel (insectivore / carnivore)	3.9	8	-	SOIL_AK(fi)_ClO4(-1)
Perchlorate Ion	ClO4	American robin (Avian herbivore)	0.12	0.24	MINIMUM	SOIL_AR(p)_ClO4(-1)
Perchlorate Ion	ClO4	American robin (Avian insectivore)	31	64	-	SOIL_AR(i)_ClO4(-1)
Perchlorate Ion	ClO4	American robin (Avian omnivore)	0.24	0.49	-	SOIL_AR(ip)_ClO4(-1)
Perchlorate Ion	ClO4	Deer mouse (Mammalian omnivore)	0.21	1	-	SOIL_DM(ip)_ClO4(-1)
Perchlorate Ion	ClO4	Earthworm (Soil-dwelling invertebrate)	3.5	35	-	SOIL_EW_ClO4(-1)
Perchlorate Ion	ClO4	Generic plant (Terrestrial autotroph - producer)	40	80	-	SOIL_GP_ClO4(-1)
Perchlorate Ion	ClO4	Gray fox (Mammalian top carnivore)	3.3	16	-	SOIL_RF(f)_ClO4(-1)
Perchlorate Ion	ClO4	Montane shrew (Mammalian insectivore)	31	150	-	SOIL_MS(i)_ClO4(-1)
Perchlorate Ion	ClO4	Mountain cottontail (Mammalian herbivore)	0.26	1.3	-	SOIL_DC(p)_ClO4(-1)
Selenium	SE	American kestrel (Avian top carnivore)	74	140	-	SOIL_AK(f)_SE
Selenium	SE	American kestrel (insectivore / carnivore)	3.7	7.5	-	SOIL_AK(fi)_SE
Selenium	SE	American robin (Avian herbivore)	0.98	1.9	-	SOIL_AR(p)_SE
Selenium	SE	American robin (Avian insectivore)	0.71	1.4	-	SOIL_AR(i)_SE
Selenium	SE	American robin (Avian omnivore)	0.83	1.6	-	SOIL_AR(ip)_SE
Selenium	SE	Deer mouse (Mammalian omnivore)	0.82	1.2	-	SOIL_DM(ip)_SE
Selenium	SE	Earthworm (Soil-dwelling invertebrate)	4.1	41	-	SOIL_EW_SE
Selenium	SE	Generic plant (Terrestrial autotroph - producer)	0.52	3	MINIMUM	SOIL_GP_SE
Selenium	SE	Gray fox (Mammalian top carnivore)	92	130	-	SOIL_RF(f)_SE
Selenium	SE	Montane shrew (Mammalian insectivore)	0.7	1	-	SOIL_MS(i)_SE
Selenium	SE	Mountain cottontail (Mammalian herbivore)	2.2	3.4	-	SOIL_DC(p)_SE
Silver	AG	American kestrel (Avian top carnivore)	600	6000	-	SOIL_AK(f)_AG
Silver	AG	American kestrel (insectivore / carnivore)	13	130	-	SOIL_AK(fi)_AG
Silver	AG	American robin (Avian herbivore)	10	100	-	SOIL_AR(p)_AG
Silver	AG	American robin (Avian insectivore)	2.6	26	MINIMUM	SOIL_AR(i)_AG
Silver	AG	American robin (Avian omnivore)	4.1	41	-	SOIL_AR(ip)_AG
Silver	AG	Deer mouse (Mammalian omnivore)	24	240	-	SOIL_DM(ip)_AG
Silver	AG	Generic plant (Terrestrial autotroph - producer)	560	2800	-	SOIL_GP_AG
Silver	AG	Gray fox (Mammalian top carnivore)	4400	44000	-	SOIL_RF(f)_AG
Silver	AG	Montane shrew (Mammalian insectivore)	14	140	-	SOIL_MS(i)_AG
Silver	AG	Mountain cottontail (Mammalian herbivore)	150	1500	-	SOIL_DC(p)_AG
Strontium (stable)	SR	Deer mouse (Mammalian omnivore)	95	950	MINIMUM	SOIL_DM(ip)_SR
Strontium (stable)	SR	Gray fox (Mammalian top carnivore)	19000	190000	-	SOIL_RF(f)_SR
Strontium (stable)	SR	Montane shrew (Mammalian insectivore)	1000	10000	-	SOIL_MS(i)_SR
Strontium (stable)	SR	Mountain cottontail (Mammalian herbivore)	110	1100	-	SOIL_DC(p)_SR
Thallium	TL	American kestrel (Avian top carnivore)	100	1000	-	SOIL_AK(f)_TL
Thallium	TL	American kestrel (insectivore / carnivore)	48	480	-	SOIL_AK(fi)_TL
Thallium	TL	American robin (Avian herbivore)	6.9	69	-	SOIL_AR(p)_TL
Thallium	TL	American robin (Avian insectivore)	4.5	45	-	SOIL_AR(i)_TL
Thallium	TL	American robin (Avian omnivore)	5.5	55	-	SOIL_AR(ip)_TL

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Thallium~~	~~TL~~	~~Deer mouse (Mammalian omnivore)~~	~~0.72~~	~~7.2~~	~~-~~	~~SOIL_DM(ip)_TL~~
~~Thallium~~	~~TL~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~0.05~~	~~0.5~~	~~MINIMUM~~	~~SOIL_GP_TL~~
~~Thallium~~	~~TL~~	~~Gray fox (Mammalian top carnivore)~~	~~5~~	~~50~~	~~-~~	~~SOIL_RF(f)_TL~~
~~Thallium~~	~~TL~~	~~Montane shrew (Mammalian insectivore)~~	~~0.42~~	~~4.2~~	~~-~~	~~SOIL_MS(i)_TL~~
~~Thallium~~	~~TL~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1.2~~	~~12~~	~~-~~	~~SOIL_DC(p)_TL~~
~~Titanium~~	~~TI~~	~~Deer mouse (Mammalian omnivore)~~	~~150~~	~~1500~~	~~-~~	~~SOIL_DM(ip)_TI~~
~~Titanium~~	~~TI~~	~~Gray fox (Mammalian top carnivore)~~	~~8600~~	~~86000~~	~~-~~	~~SOIL_RF(f)_TI~~
~~Titanium~~	~~TI~~	~~Montane shrew (Mammalian insectivore)~~	~~77~~	~~770~~	~~MINIMUM~~	~~SOIL_MS(i)_TI~~
~~Titanium~~	~~TI~~	~~Mountain cottontail (Mammalian herbivore)~~	~~2800~~	~~28000~~	~~-~~	~~SOIL_DC(p)_TI~~
~~Uranium~~	~~U~~	~~American kestrel (Avian top carnivore)~~	~~26000~~	~~260000~~	~~-~~	~~SOIL_AK(f)_U~~
~~Uranium~~	~~U~~	~~American kestrel (insectivore / carnivore)~~	~~14000~~	~~140000~~	~~-~~	~~SOIL_AK(fi)_U~~
~~Uranium~~	~~U~~	~~American robin (Avian herbivore)~~	~~1500~~	~~15000~~	~~-~~	~~SOIL_AR(p)_U~~
~~Uranium~~	~~U~~	~~American robin (Avian insectivore)~~	~~1100~~	~~11000~~	~~-~~	~~SOIL_AR(i)_U~~
~~Uranium~~	~~U~~	~~American robin (Avian omnivore)~~	~~1200~~	~~12000~~	~~-~~	~~SOIL_AR(ip)_U~~
~~Uranium~~	~~U~~	~~Deer mouse (Mammalian omnivore)~~	~~740~~	~~1800~~	~~-~~	~~SOIL_DM(ip)_U~~
~~Uranium~~	~~U~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~25~~	~~250~~	~~MINIMUM~~	~~SOIL_GP_U~~
~~Uranium~~	~~U~~	~~Gray fox (Mammalian top carnivore)~~	~~4800~~	~~12000~~	~~-~~	~~SOIL_RF(f)_U~~
~~Uranium~~	~~U~~	~~Montane shrew (Mammalian insectivore)~~	~~480~~	~~1200~~	~~-~~	~~SOIL_MS(i)_U~~
~~Uranium~~	~~U~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1000~~	~~2600~~	~~-~~	~~SOIL_DC(p)_U~~
~~Vanadium~~	~~V~~	~~American kestrel (Avian top carnivore)~~	~~110~~	~~230~~	~~-~~	~~SOIL_AK(f)_V~~
~~Vanadium~~	~~V~~	~~American kestrel (insectivore / carnivore)~~	~~56~~	~~110~~	~~-~~	~~SOIL_AK(fi)_V~~
~~Vanadium~~	~~V~~	~~American robin (Avian herbivore)~~	~~6.8~~	~~13~~	~~-~~	~~SOIL_AR(p)_V~~
~~Vanadium~~	~~V~~	~~American robin (Avian insectivore)~~	~~4.7~~	~~9.5~~	~~MINIMUM~~	~~SOIL_AR(i)_V~~
~~Vanadium~~	~~V~~	~~American robin (Avian omnivore)~~	~~5.5~~	~~11~~	~~-~~	~~SOIL_AR(ip)_V~~
~~Vanadium~~	~~V~~	~~Deer mouse (Mammalian omnivore)~~	~~470~~	~~1000~~	~~-~~	~~SOIL_DM(ip)_V~~
~~Vanadium~~	~~V~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~60~~	~~80~~	~~-~~	~~SOIL_GP_V~~
~~Vanadium~~	~~V~~	~~Gray fox (Mammalian top carnivore)~~	~~3200~~	~~6900~~	~~-~~	~~SOIL_RF(f)_V~~
~~Vanadium~~	~~V~~	~~Montane shrew (Mammalian insectivore)~~	~~290~~	~~610~~	~~-~~	~~SOIL_MS(i)_V~~
~~Vanadium~~	~~V~~	~~Mountain cottontail (Mammalian herbivore)~~	~~740~~	~~1500~~	~~-~~	~~SOIL_DC(p)_V~~
~~Zinc~~	~~ZN~~	~~American kestrel (Avian top carnivore)~~	~~2600~~	~~7000~~	~~-~~	~~SOIL_AK(f)_ZN~~
~~Zinc~~	~~ZN~~	~~American kestrel (insectivore / carnivore)~~	~~220~~	~~590~~	~~-~~	~~SOIL_AK(fi)_ZN~~
~~Zinc~~	~~ZN~~	~~American robin (Avian herbivore)~~	~~330~~	~~120~~	~~-~~	~~SOIL_AR(p)_ZN~~
~~Zinc~~	~~ZN~~	~~American robin (Avian insectivore)~~	~~47~~	~~120~~	~~MINIMUM~~	~~SOIL_AR(i)_ZN~~
~~Zinc~~	~~ZN~~	~~American robin (Avian omnivore)~~	~~83~~	~~220~~	~~-~~	~~SOIL_AR(ip)_ZN~~
~~Zinc~~	~~ZN~~	~~Deer mouse (Mammalian omnivore)~~	~~170~~	~~1700~~	~~-~~	~~SOIL_DM(ip)_ZN~~
~~Zinc~~	~~ZN~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~120~~	~~930~~	~~-~~	~~SOIL_EW_ZN~~
~~Zinc~~	~~ZN~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~160~~	~~810~~	~~-~~	~~SOIL_GP_ZN~~
~~Zinc~~	~~ZN~~	~~Gray fox (Mammalian top carnivore)~~	~~9600~~	~~94000~~	~~-~~	~~SOIL_RF(f)_ZN~~
~~Zinc~~	~~ZN~~	~~Montane shrew (Mammalian insectivore)~~	~~99~~	~~980~~	~~-~~	~~SOIL_MS(i)_ZN~~
~~Zinc~~	~~ZN~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1800~~	~~18000~~	~~-~~	~~SOIL_DC(p)_ZN~~
~~Acenaphthene~~	~~83-32-9~~	~~Deer mouse (Mammalian omnivore)~~	~~160~~	~~1600~~	~~-~~	~~SOIL_DM(ip)_83-32-9~~
~~Acenaphthene~~	~~83-32-9~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~0.25~~	~~2~~	~~MINIMUM~~	~~SOIL_GP_83-32-9~~
~~Acenaphthene~~	~~83-32-9~~	~~Gray fox (Mammalian top carnivore)~~	~~29000~~	~~290000~~	~~-~~	~~SOIL_RF(f)_83-32-9~~

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~~Acenaphthene~~	~~83-32-9~~	~~Montane shrew (Mammalian insectivore)~~	~~130~~	~~1300~~	-	~~SOIL_MS(i)_83-32-9~~
~~Acenaphthene~~	~~83-32-9~~	~~Mountain cottontail (Mammalian herbivore)~~	~~530~~	~~5300~~	-	~~SOIL_DC(p)_83-32-9~~
~~Acenaphthylene~~	~~208-96-8~~	~~Deer mouse (Mammalian omnivore)~~	~~160~~	~~1600~~	-	~~SOIL_DM(ip)_208-96-8~~
~~Acenaphthylene~~	~~208-96-8~~	~~Gray fox (Mammalian top carnivore)~~	~~28000~~	~~280000~~	-	~~SOIL_RF(f)_208-96-8~~
~~Acenaphthylene~~	~~208-96-8~~	~~Montane shrew (Mammalian insectivore)~~	~~120~~	~~1200~~	~~MINIMUM~~	~~SOIL_MS(i)_208-96-8~~
~~Acenaphthylene~~	~~208-96-8~~	~~Mountain cottontail (Mammalian herbivore)~~	~~540~~	~~5400~~	-	~~SOIL_DC(p)_208-96-8~~
~~Anthracene~~	~~120-12-7~~	~~Deer mouse (Mammalian omnivore)~~	~~300~~	~~3000~~	-	~~SOIL_DM(ip)_120-12-7~~
~~Anthracene~~	~~120-12-7~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~6.8~~	~~9~~	~~MINIMUM~~	~~SOIL_GP_120-12-7~~
~~Anthracene~~	~~120-12-7~~	~~Gray fox (Mammalian top carnivore)~~	~~38000~~	~~380000~~	-	~~SOIL_RF(f)_120-12-7~~
~~Anthracene~~	~~120-12-7~~	~~Montane shrew (Mammalian insectivore)~~	~~210~~	~~2100~~	-	~~SOIL_MS(i)_120-12-7~~
~~Anthracene~~	~~120-12-7~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1200~~	~~12000~~	-	~~SOIL_DC(p)_120-12-7~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~American kestrel (Avian top carnivore)~~	~~28~~	~~280~~	-	~~SOIL_AK(f)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~American kestrel (insectivore / carnivore)~~	~~6.4~~	~~64~~	-	~~SOIL_AK(fi)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~American robin (Avian herbivore)~~	~~0.73~~	~~7.3~~	~~MINIMUM~~	~~SOIL_AR(p)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~American robin (Avian insectivore)~~	~~0.88~~	~~8.8~~	-	~~SOIL_AR(i)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~American robin (Avian omnivore)~~	~~0.8~~	~~8~~	-	~~SOIL_AR(ip)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~Deer mouse (Mammalian omnivore)~~	~~3.4~~	~~34~~	-	~~SOIL_DM(ip)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~18~~	~~180~~	-	~~SOIL_GP_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~Gray fox (Mammalian top carnivore)~~	~~110~~	~~1100~~	-	~~SOIL_RF(f)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~Montane shrew (Mammalian insectivore)~~	~~4~~	~~40~~	-	~~SOIL_MS(i)_56-55-3~~
~~Benzo(a)anthracene~~	~~56-55-3~~	~~Mountain cottontail (Mammalian herbivore)~~	~~6.1~~	~~61~~	-	~~SOIL_DC(p)_56-55-3~~
~~Benzo(a)pyrene~~	~~50-32-8~~	~~Deer mouse (Mammalian omnivore)~~	~~84~~	~~260~~	-	~~SOIL_DM(ip)_50-32-8~~
~~Benzo(a)pyrene~~	~~50-32-8~~	~~Gray fox (Mammalian top carnivore)~~	~~3400~~	~~11000~~	-	~~SOIL_RF(f)_50-32-8~~
~~Benzo(a)pyrene~~	~~50-32-8~~	~~Montane shrew (Mammalian insectivore)~~	~~62~~	~~190~~	~~MINIMUM~~	~~SOIL_MS(i)_50-32-8~~
~~Benzo(a)pyrene~~	~~50-32-8~~	~~Mountain cottontail (Mammalian herbivore)~~	~~260~~	~~830~~	-	~~SOIL_DC(p)_50-32-8~~
~~Benzo(b)fluoranthene~~	~~205-99-2~~	~~Deer mouse (Mammalian omnivore)~~	~~51~~	~~510~~	-	~~SOIL_DM(ip)_205-99-2~~
~~Benzo(b)fluoranthene~~	~~205-99-2~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~18~~	~~180~~	~~MINIMUM~~	~~SOIL_GP_205-99-2~~
~~Benzo(b)fluoranthene~~	~~205-99-2~~	~~Gray fox (Mammalian top carnivore)~~	~~2400~~	~~24000~~	-	~~SOIL_RF(f)_205-99-2~~
~~Benzo(b)fluoranthene~~	~~205-99-2~~	~~Montane shrew (Mammalian insectivore)~~	~~44~~	~~440~~	-	~~SOIL_MS(i)_205-99-2~~
~~Benzo(b)fluoranthene~~	~~205-99-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~130~~	~~1300~~	-	~~SOIL_DC(p)_205-99-2~~
~~Benzo(g,h,i)perylene~~	~~191-24-2~~	~~Deer mouse (Mammalian omnivore)~~	~~46~~	~~460~~	-	~~SOIL_DM(ip)_191-24-2~~
~~Benzo(g,h,i)perylene~~	~~191-24-2~~	~~Gray fox (Mammalian top carnivore)~~	~~3600~~	~~36000~~	-	~~SOIL_RF(f)_191-24-2~~
~~Benzo(g,h,i)perylene~~	~~191-24-2~~	~~Montane shrew (Mammalian insectivore)~~	~~25~~	~~250~~	~~MINIMUM~~	~~SOIL_MS(i)_191-24-2~~
~~Benzo(g,h,i)perylene~~	~~191-24-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~470~~	~~4700~~	-	~~SOIL_DC(p)_191-24-2~~
~~Benzo(k)fluoranthene~~	~~207-08-9~~	~~Deer mouse (Mammalian omnivore)~~	~~99~~	~~990~~	-	~~SOIL_DM(ip)_207-08-9~~
~~Benzo(k)fluoranthene~~	~~207-08-9~~	~~Gray fox (Mammalian top carnivore)~~	~~4300~~	~~43000~~	-	~~SOIL_RF(f)_207-08-9~~
~~Benzo(k)fluoranthene~~	~~207-08-9~~	~~Montane shrew (Mammalian insectivore)~~	~~71~~	~~710~~	~~MINIMUM~~	~~SOIL_MS(i)_207-08-9~~
~~Benzo(k)fluoranthene~~	~~207-08-9~~	~~Mountain cottontail (Mammalian herbivore)~~	~~330~~	~~3300~~	-	~~SOIL_DC(p)_207-08-9~~
~~Chrysene~~	~~218-01-9~~	~~Deer mouse (Mammalian omnivore)~~	~~3.1~~	~~31~~	-	~~SOIL_DM(ip)_218-01-9~~
~~Chrysene~~	~~218-01-9~~	~~Gray fox (Mammalian top carnivore)~~	~~110~~	~~1100~~	-	~~SOIL_RF(f)_218-01-9~~
~~Chrysene~~	~~218-01-9~~	~~Montane shrew (Mammalian insectivore)~~	~~3.1~~	~~31~~	~~MINIMUM~~	~~SOIL_MS(i)_218-01-9~~

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~~Chrysene~~	~~218-01-9~~	~~Mountain cottontail (Mammalian herbivore)~~	~~6.3~~	~~63~~	-	~~SOIL_DC(p)_218-01-9~~
~~Dibenzo(a,h)anthracene~~	~~53-70-3~~	~~Deer mouse (Mammalian omnivore)~~	~~22~~	~~220~~	-	~~SOIL_DM(ip)_53-70-3~~
~~Dibenzo(a,h)anthracene~~	~~53-70-3~~	~~Gray fox (Mammalian top carnivore)~~	~~850~~	~~8500~~	-	~~SOIL_RF(f)_53-70-3~~
~~Dibenzo(a,h)anthracene~~	~~53-70-3~~	~~Montane shrew (Mammalian insectivore)~~	~~14~~	~~140~~	~~MINIMUM~~	~~SOIL_MS(i)_53-70-3~~
~~Dibenzo(a,h)anthracene~~	~~53-70-3~~	~~Mountain cottontail (Mammalian herbivore)~~	~~84~~	~~840~~	-	~~SOIL_DC(p)_53-70-3~~
~~Fluoranthene~~	~~206-44-0~~	~~Deer mouse (Mammalian omnivore)~~	~~38~~	~~380~~	-	~~SOIL_DM(ip)_206-44-0~~
~~Fluoranthene~~	~~206-44-0~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~10~~	~~23~~	~~MINIMUM~~	~~SOIL_EW_206-44-0~~
~~Fluoranthene~~	~~206-44-0~~	~~Gray fox (Mammalian top carnivore)~~	~~3900~~	~~39000~~	-	~~SOIL_RF(f)_206-44-0~~
~~Fluoranthene~~	~~206-44-0~~	~~Montane shrew (Mammalian insectivore)~~	~~22~~	~~220~~	-	~~SOIL_MS(i)_206-44-0~~
~~Fluoranthene~~	~~206-44-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~270~~	~~2700~~	-	~~SOIL_DC(p)_206-44-0~~
~~Fluorene~~	~~86-73-7~~	~~Deer mouse (Mammalian omnivore)~~	~~340~~	~~680~~	-	~~SOIL_DM(ip)_86-73-7~~
~~Fluorene~~	~~86-73-7~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~3.7~~	~~19~~	~~MINIMUM~~	~~SOIL_EW_86-73-7~~
~~Fluorene~~	~~86-73-7~~	~~Gray fox (Mammalian top carnivore)~~	~~50000~~	~~100000~~	-	~~SOIL_RF(f)_86-73-7~~
~~Fluorene~~	~~86-73-7~~	~~Montane shrew (Mammalian insectivore)~~	~~250~~	~~510~~	-	~~SOIL_MS(i)_86-73-7~~
~~Fluorene~~	~~86-73-7~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1100~~	~~2300~~	-	~~SOIL_DC(p)_86-73-7~~
~~Indeno(1,2,3-cd)pyrene~~	~~193-39-5~~	~~Deer mouse (Mammalian omnivore)~~	~~110~~	~~1100~~	-	~~SOIL_DM(ip)_193-39-5~~
~~Indeno(1,2,3-cd)pyrene~~	~~193-39-5~~	~~Gray fox (Mammalian top carnivore)~~	~~4600~~	~~46000~~	-	~~SOIL_RF(f)_193-39-5~~
~~Indeno(1,2,3-cd)pyrene~~	~~193-39-5~~	~~Montane shrew (Mammalian insectivore)~~	~~71~~	~~710~~	~~MINIMUM~~	~~SOIL_MS(i)_193-39-5~~
~~Indeno(1,2,3-cd)pyrene~~	~~193-39-5~~	~~Mountain cottontail (Mammalian herbivore)~~	~~510~~	~~5100~~	-	~~SOIL_DC(p)_193-39-5~~
~~Methylnaphthalene[2-]~~	~~91-57-6~~	~~Deer mouse (Mammalian omnivore)~~	~~24~~	~~240~~	-	~~SOIL_DM(ip)_91-57-6~~
~~Methylnaphthalene[2-]~~	~~91-57-6~~	~~Gray fox (Mammalian top carnivore)~~	~~4900~~	~~49000~~	-	~~SOIL_RF(f)_91-57-6~~
~~Methylnaphthalene[2-]~~	~~91-57-6~~	~~Montane shrew (Mammalian insectivore)~~	~~16~~	~~160~~	~~MINIMUM~~	~~SOIL_MS(i)_91-57-6~~
~~Methylnaphthalene[2-]~~	~~91-57-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~110~~	~~1100~~	-	~~SOIL_DC(p)_91-57-6~~
~~Naphthalene~~	~~91-20-3~~	~~American kestrel (Avian top carnivore)~~	~~2100~~	~~21000~~	-	~~SOIL_AK(f)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~American kestrel (insectivore / carnivore)~~	~~78~~	~~780~~	-	~~SOIL_AK(fi)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~American robin (Avian herbivore)~~	~~3.4~~	~~34~~	-	~~SOIL_AR(p)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~American robin (Avian insectivore)~~	~~15~~	~~150~~	-	~~SOIL_AR(i)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~American robin (Avian omnivore)~~	~~5.7~~	~~57~~	-	~~SOIL_AR(ip)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~Deer mouse (Mammalian omnivore)~~	~~9.6~~	~~27~~	-	~~SOIL_DM(ip)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~1~~	~~10~~	~~MINIMUM~~	~~SOIL_GP_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~Gray fox (Mammalian top carnivore)~~	~~5800~~	~~16000~~	-	~~SOIL_RF(f)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~Montane shrew (Mammalian insectivore)~~	~~28~~	~~79~~	-	~~SOIL_MS(i)_91-20-3~~
~~Naphthalene~~	~~91-20-3~~	~~Mountain cottontail (Mammalian herbivore)~~	~~14~~	~~40~~	-	~~SOIL_DC(p)_91-20-3~~
~~Phenanthrene~~	~~85-01-8~~	~~Deer mouse (Mammalian omnivore)~~	~~15~~	~~150~~	-	~~SOIL_DM(ip)_85-01-8~~
~~Phenanthrene~~	~~85-01-8~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~5.5~~	~~12~~	~~MINIMUM~~	~~SOIL_EW_85-01-8~~
~~Phenanthrene~~	~~85-01-8~~	~~Gray fox (Mammalian top carnivore)~~	~~1900~~	~~19000~~	-	~~SOIL_RF(f)_85-01-8~~
~~Phenanthrene~~	~~85-01-8~~	~~Montane shrew (Mammalian insectivore)~~	~~11~~	~~110~~	-	~~SOIL_MS(i)_85-01-8~~
~~Phenanthrene~~	~~85-01-8~~	~~Mountain cottontail (Mammalian herbivore)~~	~~62~~	~~620~~	-	~~SOIL_DC(p)_85-01-8~~
~~Pyrene~~	~~129-00-0~~	~~American kestrel (Avian top carnivore)~~	~~3000~~	~~30000~~	-	~~SOIL_AK(f)_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~American kestrel (insectivore / carnivore)~~	~~160~~	~~1600~~	-	~~SOIL_AK(fi)_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~American robin (Avian herbivore)~~	~~68~~	~~680~~	-	~~SOIL_AR(p)_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~American robin (Avian insectivore)~~	~~33~~	~~330~~	-	~~SOIL_AR(i)_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~American robin (Avian omnivore)~~	~~44~~	~~440~~	-	~~SOIL_AR(ip)_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~Deer mouse (Mammalian omnivore)~~	~~31~~	~~310~~	-	~~SOIL_DM(ip)_129-00-0~~

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Pyrene~~	~~129-00-0~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~10~~	~~20~~	~~MINIMUM~~	~~SOIL_EW_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~Gray fox (Mammalian top carnivore)~~	~~3100~~	~~31000~~	~~-~~	~~SOIL_RF(f)_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~Montane shrew (Mammalian insectivore)~~	~~23~~	~~230~~	~~-~~	~~SOIL_MS(i)_129-00-0~~
~~Pyrene~~	~~129-00-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~110~~	~~1100~~	~~-~~	~~SOIL_DC(p)_129-00-0~~
~~Aroclor-1016~~	~~12674-11-2~~	~~Deer mouse (Mammalian omnivore)~~	~~2~~	~~5.9~~	~~-~~	~~SOIL_DM(ip)_12674-11-2~~
~~Aroclor-1016~~	~~12674-11-2~~	~~Gray fox (Mammalian top carnivore)~~	~~250~~	~~720~~	~~-~~	~~SOIL_RF(f)_12674-11-2~~
~~Aroclor-1016~~	~~12674-11-2~~	~~Montane shrew (Mammalian insectivore)~~	~~1.1~~	~~3.1~~	~~MINIMUM~~	~~SOIL_MS(i)_12674-11-2~~
~~Aroclor-1016~~	~~12674-11-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~48~~	~~130~~	~~-~~	~~SOIL_DC(p)_12674-11-2~~
~~Aroclor-1242~~	~~53469-21-9~~	~~American kestrel (Avian top carnivore)~~	~~6.2~~	~~62~~	~~-~~	~~SOIL_AK(f)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~American kestrel (insectivore / carnivore)~~	~~0.19~~	~~1.9~~	~~-~~	~~SOIL_AK(fi)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~American robin (Avian herbivore)~~	~~0.92~~	~~9.2~~	~~-~~	~~SOIL_AR(p)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~American robin (Avian insectivore)~~	~~0.041~~	~~0.41~~	~~MINIMUM~~	~~SOIL_AR(i)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~American robin (Avian omnivore)~~	~~0.078~~	~~0.78~~	~~-~~	~~SOIL_AR(ip)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~Deer mouse (Mammalian omnivore)~~	~~0.75~~	~~3~~	~~-~~	~~SOIL_DM(ip)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~Gray fox (Mammalian top carnivore)~~	~~100~~	~~400~~	~~-~~	~~SOIL_RF(f)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~Montane shrew (Mammalian insectivore)~~	~~0.39~~	~~1.5~~	~~-~~	~~SOIL_MS(i)_53469-21-9~~
~~Aroclor-1242~~	~~53469-21-9~~	~~Mountain cottontail (Mammalian herbivore)~~	~~27~~	~~110~~	~~-~~	~~SOIL_DC(p)_53469-21-9~~
~~Aroclor-1248~~	~~12672-29-6~~	~~American kestrel (Avian top carnivore)~~	~~6.3~~	~~63~~	~~-~~	~~SOIL_AK(f)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~American kestrel (insectivore / carnivore)~~	~~0.19~~	~~1.9~~	~~-~~	~~SOIL_AK(fi)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~American robin (Avian herbivore)~~	~~0.94~~	~~9.4~~	~~-~~	~~SOIL_AR(p)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~American robin (Avian insectivore)~~	~~0.041~~	~~0.41~~	~~-~~	~~SOIL_AR(i)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~American robin (Avian omnivore)~~	~~0.078~~	~~0.78~~	~~-~~	~~SOIL_AR(ip)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~Deer mouse (Mammalian omnivore)~~	~~0.014~~	~~0.14~~	~~-~~	~~SOIL_DM(ip)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~Gray fox (Mammalian top carnivore)~~	~~1.9~~	~~19~~	~~-~~	~~SOIL_RF(f)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~Montane shrew (Mammalian insectivore)~~	~~0.0073~~	~~0.073~~	~~MINIMUM~~	~~SOIL_MS(i)_12672-29-6~~
~~Aroclor-1248~~	~~12672-29-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~0.53~~	~~5.3~~	~~-~~	~~SOIL_DC(p)_12672-29-6~~
~~Aroclor-1254~~	~~11097-69-1~~	~~American kestrel (Avian top carnivore)~~	~~7.6~~	~~76~~	~~-~~	~~SOIL_AK(f)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~American kestrel (insectivore / carnivore)~~	~~0.19~~	~~1.9~~	~~-~~	~~SOIL_AK(fi)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~American robin (Avian herbivore)~~	~~1.1~~	~~11~~	~~-~~	~~SOIL_AR(p)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~American robin (Avian insectivore)~~	~~0.041~~	~~0.41~~	~~MINIMUM~~	~~SOIL_AR(i)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~American robin (Avian omnivore)~~	~~0.079~~	~~0.79~~	~~-~~	~~SOIL_AR(ip)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~Deer mouse (Mammalian omnivore)~~	~~0.87~~	~~4.8~~	~~-~~	~~SOIL_DM(ip)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~160~~	~~620~~	~~-~~	~~SOIL_GP_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~Gray fox (Mammalian top carnivore)~~	~~7.2~~	~~72~~	~~-~~	~~SOIL_RF(f)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~Montane shrew (Mammalian insectivore)~~	~~0.45~~	~~2.4~~	~~-~~	~~SOIL_MS(i)_11097-69-1~~
~~Aroclor-1254~~	~~11097-69-1~~	~~Mountain cottontail (Mammalian herbivore)~~	~~44~~	~~240~~	~~-~~	~~SOIL_DC(p)_11097-69-1~~
~~Aroclor-1260~~	~~11096-82-5~~	~~American kestrel (Avian top carnivore)~~	~~400~~	~~560~~	~~-~~	~~SOIL_AK(f)_11096-82-5~~
~~Aroclor-1260~~	~~11096-82-5~~	~~American kestrel (insectivore / carnivore)~~	~~4.2~~	~~5.9~~	~~-~~	~~SOIL_AK(fi)_11096-82-5~~
~~Aroclor-1260~~	~~11096-82-5~~	~~American robin (Avian herbivore)~~	~~37~~	~~52~~	~~-~~	~~SOIL_AR(p)_11096-82-5~~
~~Aroclor-1260~~	~~11096-82-5~~	~~American robin (Avian insectivore)~~	~~0.88~~	~~1.2~~	~~MINIMUM~~	~~SOIL_AR(i)_11096-82-5~~

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Aroclor-1260~~	~~11096-82-5~~	~~American robin (Avian omnivore)~~	~~1.7~~	~~2.4~~	~~-~~	~~SOIL_AR(ip)_11096-82-5~~
~~Aroclor-1260~~	~~11096-82-5~~	~~Deer mouse (Mammalian omnivore)~~	~~20~~	~~48~~	~~-~~	~~SOIL_DM(ip)_11096-82-5~~
~~Aroclor-1260~~	~~11096-82-5~~	~~Gray fox (Mammalian top carnivore)~~	~~15~~	~~150~~	~~-~~	~~SOIL_RF(f)_11096-82-5~~
~~Aroclor-1260~~	~~11096-82-5~~	~~Montane shrew (Mammalian insectivore)~~	~~10~~	~~24~~	~~-~~	~~SOIL_MS(i)_11096-82-5~~
~~Aroclor-1260~~	~~11096-82-5~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1800~~	~~4500~~	~~-~~	~~SOIL_DC(p)_11096-82-5~~
~~Aldrin~~	~~309-00-2~~	~~Deer mouse (Mammalian omnivore)~~	~~0.074~~	~~0.37~~	~~-~~	~~SOIL_DM(ip)_309-00-2~~
~~Aldrin~~	~~309-00-2~~	~~Gray fox (Mammalian top carnivore)~~	~~13~~	~~66~~	~~-~~	~~SOIL_RF(f)_309-00-2~~
~~Aldrin~~	~~309-00-2~~	~~Montane shrew (Mammalian insectivore)~~	~~0.037~~	~~0.18~~	~~MINIMUM~~	~~SOIL_MS(i)_309-00-2~~
~~Aldrin~~	~~309-00-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~12~~	~~60~~	~~-~~	~~SOIL_DC(p)_309-00-2~~
~~BHC[alpha-]~~	~~319-84-6~~	~~Deer mouse (Mammalian omnivore)~~	~~100~~	~~1000~~	~~-~~	~~SOIL_DM(ip)_319-84-6~~
~~BHC[alpha-]~~	~~319-84-6~~	~~Gray fox (Mammalian top carnivore)~~	~~18000~~	~~180000~~	~~-~~	~~SOIL_RF(f)_319-84-6~~
~~BHC[alpha-]~~	~~319-84-6~~	~~Montane shrew (Mammalian insectivore)~~	~~59~~	~~590~~	~~MINIMUM~~	~~SOIL_MS(i)_319-84-6~~
~~BHC[alpha-]~~	~~319-84-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~800~~	~~8000~~	~~-~~	~~SOIL_DC(p)_319-84-6~~
~~BHC[beta-]~~	~~319-85-7~~	~~American kestrel (Avian top carnivore)~~	~~2600~~	~~26000~~	~~-~~	~~SOIL_AK(f)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~American kestrel (insectivore / carnivore)~~	~~69~~	~~690~~	~~-~~	~~SOIL_AK(fi)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~American robin (Avian herbivore)~~	~~78~~	~~780~~	~~-~~	~~SOIL_AR(p)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~American robin (Avian insectivore)~~	~~14~~	~~140~~	~~-~~	~~SOIL_AR(i)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~American robin (Avian omnivore)~~	~~24~~	~~240~~	~~-~~	~~SOIL_AR(ip)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~Deer mouse (Mammalian omnivore)~~	~~0.46~~	~~2.3~~	~~-~~	~~SOIL_DM(ip)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~Gray fox (Mammalian top carnivore)~~	~~83~~	~~410~~	~~-~~	~~SOIL_RF(f)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~Montane shrew (Mammalian insectivore)~~	~~0.27~~	~~1.3~~	~~MINIMUM~~	~~SOIL_MS(i)_319-85-7~~
~~BHC[beta-]~~	~~319-85-7~~	~~Mountain cottontail (Mammalian herbivore)~~	~~3.7~~	~~18~~	~~-~~	~~SOIL_DC(p)_319-85-7~~
~~BHC[gamma-]~~	~~58-89-9~~	~~American kestrel (Avian top carnivore)~~	~~38~~	~~150~~	~~-~~	~~SOIL_AK(f)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~American kestrel (insectivore / carnivore)~~	~~1~~	~~4~~	~~-~~	~~SOIL_AK(fi)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~American robin (Avian herbivore)~~	~~1.1~~	~~4.5~~	~~-~~	~~SOIL_AR(p)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~American robin (Avian insectivore)~~	~~0.21~~	~~0.85~~	~~-~~	~~SOIL_AR(i)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~American robin (Avian omnivore)~~	~~0.35~~	~~1.4~~	~~-~~	~~SOIL_AR(ip)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~Deer mouse (Mammalian omnivore)~~	~~0.016~~	~~0.16~~	~~-~~	~~SOIL_DM(ip)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~0.1~~	~~1~~	~~-~~	~~SOIL_GP_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~Gray fox (Mammalian top carnivore)~~	~~2.9~~	~~29~~	~~-~~	~~SOIL_RF(f)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~Montane shrew (Mammalian insectivore)~~	~~0.0095~~	~~0.095~~	~~MINIMUM~~	~~SOIL_MS(i)_58-89-9~~
~~BHC[gamma-]~~	~~58-89-9~~	~~Mountain cottontail (Mammalian herbivore)~~	~~0.12~~	~~1.2~~	~~-~~	~~SOIL_DC(p)_58-89-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~American kestrel (Avian top carnivore)~~	~~45~~	~~220~~	~~-~~	~~SOIL_AK(f)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~American kestrel (insectivore / carnivore)~~	~~1.3~~	~~6.5~~	~~-~~	~~SOIL_AK(fi)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~American robin (Avian herbivore)~~	~~17~~	~~89~~	~~-~~	~~SOIL_AR(p)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~American robin (Avian insectivore)~~	~~0.27~~	~~1.3~~	~~MINIMUM~~	~~SOIL_AR(i)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~American robin (Avian omnivore)~~	~~0.55~~	~~2.7~~	~~-~~	~~SOIL_AR(ip)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~Deer mouse (Mammalian omnivore)~~	~~0.53~~	~~5.3~~	~~-~~	~~SOIL_DM(ip)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~2.2~~	~~22~~	~~-~~	~~SOIL_GP_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~Gray fox (Mammalian top carnivore)~~	~~80~~	~~810~~	~~-~~	~~SOIL_RF(f)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~Montane shrew (Mammalian insectivore)~~	~~0.27~~	~~2.7~~	~~MINIMUM~~	~~SOIL_MS(i)_5103-71-9~~
~~Chlordane[alpha-]~~	~~5103-71-9~~	~~Mountain cottontail (Mammalian herbivore)~~	~~54~~	~~540~~	~~-~~	~~SOIL_DC(p)_5103-71-9~~
~~Chlordane[gamma-]~~	~~5103-74-2~~	~~American kestrel (Avian top carnivore)~~	~~270~~	~~1300~~	~~-~~	~~SOIL_AK(f)_5103-74-2~~
~~Chlordane[gamma-]~~	~~5103-74-2~~	~~American kestrel (insectivore / carnivore)~~	~~11~~	~~56~~	~~-~~	~~SOIL_AK(fi)_5103-74-2~~

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Chlordane[gamma-]	5103-74-2	American robin (Avian herbivore)	20	100	-	SOIL_AR(p)_5103-74-2
Chlordane[gamma-]	5103-74-2	American robin (Avian insectivore)	2.2	11	-	SOIL_AR(i)_5103-74-2
Chlordane[gamma-]	5103-74-2	American robin (Avian omnivore)	4.1	20	-	SOIL_AR(ip)_5103-74-2
Chlordane[gamma-]	5103-74-2	Deer mouse (Mammalian omnivore)	4.3	43	-	SOIL_DM(ip)_5103-74-2
Chlordane[gamma-]	5103-74-2	Generic plant (Terrestrial autotroph - producer)	2.2	22	MINIMUM	SOIL_GP_5103-74-2
Chlordane[gamma-]	5103-74-2	Gray fox (Mammalian top carnivore)	420	4200	-	SOIL_RF(f)_5103-74-2
Chlordane[gamma-]	5103-74-2	Montane shrew (Mammalian insectivore)	2.3	23	MINIMUM	SOIL_MS(i)_5103-74-2
Chlordane[gamma-]	5103-74-2	Mountain cottontail (Mammalian herbivore)	63	630	-	SOIL_DC(p)_5103-74-2
DDD[4,4'-]	72-54-8	American kestrel (Avian top carnivore)	0.9	4.6	-	SOIL_AK(f)_72-54-8
DDD[4,4'-]	72-54-8	American kestrel (insectivore / carnivore)	0.03	0.15	-	SOIL_AK(fi)_72-54-8
DDD[4,4'-]	72-54-8	American robin (Avian herbivore)	0.12	0.66	-	SOIL_AR(p)_72-54-8
DDD[4,4'-]	72-54-8	American robin (Avian insectivore)	0.0063	0.032	MINIMUM	SOIL_AR(i)_72-54-8
DDD[4,4'-]	72-54-8	American robin (Avian omnivore)	0.012	0.062	-	SOIL_AR(ip)_72-54-8
DDD[4,4'-]	72-54-8	Deer mouse (Mammalian omnivore)	7.9	15	-	SOIL_DM(ip)_72-54-8
DDD[4,4'-]	72-54-8	Gray fox (Mammalian top carnivore)	1000	2000	-	SOIL_RF(f)_72-54-8
DDD[4,4'-]	72-54-8	Montane shrew (Mammalian insectivore)	4.1	8.3	-	SOIL_MS(i)_72-54-8
DDD[4,4'-]	72-54-8	Mountain cottontail (Mammalian herbivore)	250	510	-	SOIL_DC(p)_72-54-8
DDE[4,4'-]	72-55-9	American kestrel (Avian top carnivore)	20	100	-	SOIL_AK(f)_72-55-9
DDE[4,4'-]	72-55-9	American kestrel (insectivore / carnivore)	0.52	2.6	-	SOIL_AK(fi)_72-55-9
DDE[4,4'-]	72-55-9	American robin (Avian herbivore)	4.9	24	-	SOIL_AR(p)_72-55-9
DDE[4,4'-]	72-55-9	American robin (Avian insectivore)	0.11	0.55	MINIMUM	SOIL_AR(i)_72-55-9
DDE[4,4'-]	72-55-9	American robin (Avian omnivore)	0.21	1	-	SOIL_AR(ip)_72-55-9
DDE[4,4'-]	72-55-9	Deer mouse (Mammalian omnivore)	7.2	18	-	SOIL_DM(ip)_72-55-9
DDE[4,4'-]	72-55-9	Gray fox (Mammalian top carnivore)	1100	2900	-	SOIL_RF(f)_72-55-9
DDE[4,4'-]	72-55-9	Montane shrew (Mammalian insectivore)	3.7	9.3	-	SOIL_MS(i)_72-55-9
DDE[4,4'-]	72-55-9	Mountain cottontail (Mammalian herbivore)	540	1300	-	SOIL_DC(p)_72-55-9
DDT[4,4'-]	50-29-3	American kestrel (Avian top carnivore)	83	240	-	SOIL_AK(f)_50-29-3
DDT[4,4'-]	50-29-3	American kestrel (insectivore / carnivore)	1.7	5.1	-	SOIL_AK(fi)_50-29-3
DDT[4,4'-]	50-29-3	American robin (Avian herbivore)	24	72	-	SOIL_AR(p)_50-29-3
DDT[4,4'-]	50-29-3	American robin (Avian insectivore)	0.36	1	-	SOIL_AR(i)_50-29-3
DDT[4,4'-]	50-29-3	American robin (Avian omnivore)	0.71	2.1	-	SOIL_AR(ip)_50-29-3
DDT[4,4'-]	50-29-3	Deer mouse (Mammalian omnivore)	0.088	0.44	-	SOIL_DM(ip)_50-29-3
DDT[4,4'-]	50-29-3	Generic plant (Terrestrial autotroph - producer)	4.1	6	-	SOIL_GP_50-29-3
DDT[4,4'-]	50-29-3	Gray fox (Mammalian top carnivore)	18	91	-	SOIL_RF(f)_50-29-3
DDT[4,4'-]	50-29-3	Montane shrew (Mammalian insectivore)	0.044	0.22	MINIMUM	SOIL_MS(i)_50-29-3
DDT[4,4'-]	50-29-3	Mountain cottontail (Mammalian herbivore)	10	53	-	SOIL_DC(p)_50-29-3
Dieldrin	60-57-1	American kestrel (Avian top carnivore)	1.7	93	-	SOIL_AK(f)_60-57-1
Dieldrin	60-57-1	American kestrel (insectivore / carnivore)	0.056	3	-	SOIL_AK(fi)_60-57-1
Dieldrin	60-57-1	American robin (Avian herbivore)	0.33	17	-	SOIL_AR(p)_60-57-1
Dieldrin	60-57-1	American robin (Avian insectivore)	0.012	0.64	-	SOIL_AR(i)_60-57-1
Dieldrin	60-57-1	American robin (Avian omnivore)	0.023	1.2	-	SOIL_AR(ip)_60-57-1
Dieldrin	60-57-1	Deer mouse (Mammalian omnivore)	0.0087	0.017	-	SOIL_DM(ip)_60-57-1
Dieldrin	60-57-1	Generic plant (Terrestrial autotroph - producer)	10	100	-	SOIL_GP_60-57-1
Dieldrin	60-57-1	Gray fox (Mammalian top carnivore)	1.1	2.3	-	SOIL_RF(f)_60-57-1
Dieldrin	60-57-1	Montane shrew (Mammalian insectivore)	0.0045	0.009	MINIMUM	SOIL_MS(i)_60-57-1
Dieldrin	60-57-1	Mountain cottontail (Mammalian herbivore)	0.34	0.69	-	SOIL_DC(p)_60-57-1

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Endosulfan~~	~~115-29-7~~	~~American kestrel (Avian top carnivore)~~	~~2500~~	~~25000~~	~~-~~	~~SOIL_AK(f)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~American kestrel (insectivore / carnivore)~~	~~200~~	~~2000~~	~~-~~	~~SOIL_AK(fi)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~American robin (Avian herbivore)~~	~~15~~	~~150~~	~~-~~	~~SOIL_AR(p)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~American robin (Avian insectivore)~~	~~37~~	~~370~~	~~-~~	~~SOIL_AR(i)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~American robin (Avian omnivore)~~	~~21~~	~~210~~	~~-~~	~~SOIL_AR(ip)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~Deer mouse (Mammalian omnivore)~~	~~0.64~~	~~6.4~~	~~MINIMUM~~	~~SOIL_DM(ip)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~Gray fox (Mammalian top carnivore)~~	~~95~~	~~950~~	~~-~~	~~SOIL_RF(f)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~Montane shrew (Mammalian insectivore)~~	~~1.1~~	~~11~~	~~-~~	~~SOIL_MS(i)_115-29-7~~
~~Endosulfan~~	~~115-29-7~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1~~	~~10~~	~~-~~	~~SOIL_DC(p)_115-29-7~~
~~Endrin~~	~~72-20-8~~	~~American kestrel (Avian top carnivore)~~	~~0.21~~	~~2.1~~	~~-~~	~~SOIL_AK(f)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~American kestrel (insectivore / carnivore)~~	~~0.0068~~	~~0.068~~	~~-~~	~~SOIL_AK(fi)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~American robin (Avian herbivore)~~	~~0.046~~	~~0.46~~	~~-~~	~~SOIL_AR(p)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~American robin (Avian insectivore)~~	~~0.0014~~	~~0.014~~	~~MINIMUM~~	~~SOIL_AR(i)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~American robin (Avian omnivore)~~	~~0.0028~~	~~0.028~~	~~-~~	~~SOIL_AR(ip)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~Deer mouse (Mammalian omnivore)~~	~~0.045~~	~~0.45~~	~~-~~	~~SOIL_DM(ip)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~0.0034~~	~~0.034~~	~~-~~	~~SOIL_GP_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~Gray fox (Mammalian top carnivore)~~	~~6.3~~	~~63~~	~~-~~	~~SOIL_RF(f)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~Montane shrew (Mammalian insectivore)~~	~~0.023~~	~~0.23~~	~~-~~	~~SOIL_MS(i)_72-20-8~~
~~Endrin~~	~~72-20-8~~	~~Mountain cottontail (Mammalian herbivore)~~	~~2.1~~	~~21~~	~~-~~	~~SOIL_DC(p)_72-20-8~~
~~Heptachlor~~	~~76-44-8~~	~~American kestrel (Avian top carnivore)~~	~~45~~	~~450~~	~~-~~	~~SOIL_AK(f)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~American kestrel (insectivore / carnivore)~~	~~1.4~~	~~14~~	~~-~~	~~SOIL_AK(fi)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~American robin (Avian herbivore)~~	~~7.7~~	~~77~~	~~-~~	~~SOIL_AR(p)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~American robin (Avian insectivore)~~	~~0.3~~	~~3~~	~~-~~	~~SOIL_AR(i)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~American robin (Avian omnivore)~~	~~0.59~~	~~5.9~~	~~-~~	~~SOIL_AR(ip)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~Deer mouse (Mammalian omnivore)~~	~~0.11~~	~~1.1~~	~~-~~	~~SOIL_DM(ip)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~0.4~~	~~4~~	~~-~~	~~SOIL_GP_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~Gray fox (Mammalian top carnivore)~~	~~15~~	~~150~~	~~-~~	~~SOIL_RF(f)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~Montane shrew (Mammalian insectivore)~~	~~0.059~~	~~0.59~~	~~MINIMUM~~	~~SOIL_MS(i)_76-44-8~~
~~Heptachlor~~	~~76-44-8~~	~~Mountain cottontail (Mammalian herbivore)~~	~~4.6~~	~~46~~	~~-~~	~~SOIL_DC(p)_76-44-8~~
~~Kepone~~	~~143-50-0~~	~~American kestrel (Avian top carnivore)~~	~~190~~	~~380~~	~~-~~	~~SOIL_AK(f)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~American kestrel (insectivore / carnivore)~~	~~6.1~~	~~12~~	~~-~~	~~SOIL_AK(fi)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~American robin (Avian herbivore)~~	~~46~~	~~92~~	~~-~~	~~SOIL_AR(p)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~American robin (Avian insectivore)~~	~~1.3~~	~~2.6~~	~~-~~	~~SOIL_AR(i)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~American robin (Avian omnivore)~~	~~2.5~~	~~5.1~~	~~-~~	~~SOIL_AR(ip)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~Deer mouse (Mammalian omnivore)~~	~~0.042~~	~~0.21~~	~~-~~	~~SOIL_DM(ip)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~Gray fox (Mammalian top carnivore)~~	~~5.8~~	~~29~~	~~-~~	~~SOIL_RF(f)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~Montane shrew (Mammalian insectivore)~~	~~0.022~~	~~0.11~~	~~MINIMUM~~	~~SOIL_MS(i)_143-50-0~~
~~Kepone~~	~~143-50-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~2.1~~	~~10~~	~~-~~	~~SOIL_DC(p)_143-50-0~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~American kestrel (Avian top carnivore)~~	~~2100~~	~~21000~~	~~-~~	~~SOIL_AK(f)_72-43-5~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~American kestrel (insectivore / carnivore)~~	~~87~~	~~880~~	~~-~~	~~SOIL_AK(fi)_72-43-5~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~American robin (Avian herbivore)~~	~~110~~	~~1100~~	~~-~~	~~SOIL_AR(p)_72-43-5~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~American robin (Avian insectivore)~~	~~18~~	~~180~~	~~-~~	~~SOIL_AR(i)_72-43-5~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~American robin (Avian omnivore)~~	~~31~~	~~310~~	~~-~~	~~SOIL_AR(ip)_72-43-5~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~Deer mouse (Mammalian omnivore)~~	~~9~~	~~18~~	~~-~~	~~SOIL_DM(ip)_72-43-5~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~Gray fox (Mammalian top carnivore)~~	~~1000~~	~~2000~~	~~-~~	~~SOIL_RF(f)_72-43-5~~
~~Methoxychlor[4,4'-]~~	~~72-43-5~~	~~Montane shrew (Mammalian insectivore)~~	~~5.1~~	~~10~~	~~MINIMUM~~	~~SOIL_MS(i)_72-43-5~~

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Methoxychlor[4,4'-]	72-43-5	Mountain cottontail (Mammalian herbivore)	83	160	-	SOIL_DC(p)_72-43-5
Toxaphene (Technical Grade)	8001-35-2	American kestrel (Avian top carnivore)	550	5500	-	SOIL_AK(f)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	American kestrel (insectivore / carnivore)	19	190	-	SOIL_AK(fi)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	American robin (Avian herbivore)	69	690	-	SOIL_AR(p)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	American robin (Avian insectivore)	4.1	41	MINIMUM	SOIL_AR(i)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	American robin (Avian omnivore)	7.8	78	-	SOIL_AR(ip)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	Deer mouse (Mammalian omnivore)	11	110	-	SOIL_DM(ip)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	Gray fox (Mammalian top carnivore)	1300	13000	-	SOIL_RF(f)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	Montane shrew (Mammalian insectivore)	5.9	59	-	SOIL_MS(i)_8001-35-2
Toxaphene (Technical Grade)	8001-35-2	Mountain cottontail (Mammalian herbivore)	290	2900	-	SOIL_DC(p)_8001-35-2
Benzoic Acid	65-85-0	Deer mouse (Mammalian omnivore)	1.3	13	-	SOIL_DM(ip)_65-85-0
Benzoic Acid	65-85-0	Gray fox (Mammalian top carnivore)	2000	20000	-	SOIL_RF(f)_65-85-0
Benzoic Acid	65-85-0	Montane shrew (Mammalian insectivore)	1	10	MINIMUM	SOIL_MS(i)_65-85-0
Benzoic Acid	65-85-0	Mountain cottontail (Mammalian herbivore)	4.6	46	-	SOIL_DC(p)_65-85-0
Bis(2-ethylhexyl)phthalate	117-81-7	American kestrel (Avian top carnivore)	9.3	93	-	SOIL_AK(f)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	American kestrel (insectivore / carnivore)	0.096	0.96	-	SOIL_AK(fi)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	American robin (Avian herbivore)	16	160	-	SOIL_AR(p)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	American robin (Avian insectivore)	0.02	0.2	MINIMUM	SOIL_AR(i)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	American robin (Avian omnivore)	0.04	0.4	-	SOIL_AR(ip)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	Deer mouse (Mammalian omnivore)	1.1	11	-	SOIL_DM(ip)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	Gray fox (Mammalian top carnivore)	500	5000	-	SOIL_RF(f)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	Montane shrew (Mammalian insectivore)	0.6	6	-	SOIL_MS(i)_117-81-7
Bis(2-ethylhexyl)phthalate	117-81-7	Mountain cottontail (Mammalian herbivore)	1900	19000	-	SOIL_DC(p)_117-81-7
Butyl Benzyl Phthalate	85-68-7	Deer mouse (Mammalian omnivore)	160	1600	-	SOIL_DM(ip)_85-68-7
Butyl Benzyl Phthalate	85-68-7	Gray fox (Mammalian top carnivore)	23000	230000	-	SOIL_RF(f)_85-68-7
Butyl Benzyl Phthalate	85-68-7	Montane shrew (Mammalian insectivore)	90	900	MINIMUM	SOIL_MS(i)_85-68-7
Butyl Benzyl Phthalate	85-68-7	Mountain cottontail (Mammalian herbivore)	2400	24000	-	SOIL_DC(p)_85-68-7
Carbazole	86-74-8	Deer mouse (Mammalian omnivore)	79	790	MINIMUM	SOIL_DM(ip)_86-74-8
Carbazole	86-74-8	Gray fox (Mammalian top carnivore)	13000	130000	-	SOIL_RF(f)_86-74-8
Carbazole	86-74-8	Montane shrew (Mammalian insectivore)	110	1100	-	SOIL_MS(i)_86-74-8
Carbazole	86-74-8	Mountain cottontail (Mammalian herbivore)	140	1400	-	SOIL_DC(p)_86-74-8
Chlorobenzene	108-90-7	Deer mouse (Mammalian omnivore)	53	530	-	SOIL_DM(ip)_108-90-7
Chlorobenzene	108-90-7	Earthworm (Soil-dwelling invertebrate)	2.4	24	MINIMUM	SOIL_EW_108-90-7
Chlorobenzene	108-90-7	Gray fox (Mammalian top carnivore)	25000	250000	-	SOIL_RF(f)_108-90-7
Chlorobenzene	108-90-7	Montane shrew (Mammalian insectivore)	43	430	-	SOIL_MS(i)_108-90-7
Chlorobenzene	108-90-7	Mountain cottontail (Mammalian herbivore)	170	1700	-	SOIL_DC(p)_108-90-7
Chlorophenol[2-]	95-57-8	American kestrel (Avian top carnivore)	310	3100	-	SOIL_AK(f)_95-57-8
Chlorophenol[2-]	95-57-8	American kestrel (insectivore / carnivore)	14	140	-	SOIL_AK(fi)_95-57-8

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Chlorophenol[2-]	95-57-8	American robin (Avian herbivore)	0.39	3.9	MINIMUM	SOIL_AR(p)_95-57-8
Chlorophenol[2-]	95-57-8	American robin (Avian insectivore)	2.6	26	-	SOIL_AR(i)_95-57-8
Chlorophenol[2-]	95-57-8	American robin (Avian omnivore)	0.68	6.8	-	SOIL_AR(ip)_95-57-8
Chlorophenol[2-]	95-57-8	Deer mouse (Mammalian omnivore)	0.54	5.4	-	SOIL_DM(ip)_95-57-8
Chlorophenol[2-]	95-57-8	Gray fox (Mammalian top carnivore)	340	3400	-	SOIL_RF(f)_95-57-8
Chlorophenol[2-]	95-57-8	Montane shrew (Mammalian insectivore)	2.3	23	-	SOIL_MS(i)_95-57-8
Chlorophenol[2-]	95-57-8	Mountain cottontail (Mammalian herbivore)	0.74	7.4	-	SOIL_DC(p)_95-57-8
Dibenzofuran	132-64-9	Generic plant (Terrestrial autotroph - producer)	6.1	61	MINIMUM	SOIL_GP_132-64-9
Diethyl Phthalate	84-66-2	Deer mouse (Mammalian omnivore)	3600	36000	-	SOIL_DM(ip)_84-66-2
Diethyl Phthalate	84-66-2	Generic plant (Terrestrial autotroph - producer)	100	1000	MINIMUM	SOIL_GP_84-66-2
Diethyl Phthalate	84-66-2	Gray fox (Mammalian top carnivore)	2500000	25000000	-	SOIL_RF(f)_84-66-2
Diethyl Phthalate	84-66-2	Montane shrew (Mammalian insectivore)	3600	36000	-	SOIL_MS(i)_84-66-2
Diethyl Phthalate	84-66-2	Mountain cottontail (Mammalian herbivore)	8800	88000	-	SOIL_DC(p)_84-66-2
Dimethyl Phthalate	131-11-3	Deer mouse (Mammalian omnivore)	38	460	-	SOIL_DM(ip)_131-11-3
Dimethyl Phthalate	131-11-3	Earthworm (Soil-dwelling invertebrate)	10	100	MINIMUM	SOIL_EW_131-11-3
Dimethyl Phthalate	131-11-3	Gray fox (Mammalian top carnivore)	48000	590000	-	SOIL_RF(f)_131-11-3
Dimethyl Phthalate	131-11-3	Montane shrew (Mammalian insectivore)	80	980	-	SOIL_MS(i)_131-11-3
Dimethyl Phthalate	131-11-3	Mountain cottontail (Mammalian herbivore)	60	740	-	SOIL_DC(p)_131-11-3
Di-n-Butyl Phthalate	84-74-2	American kestrel (Avian top carnivore)	2	20	-	SOIL_AK(f)_84-74-2
Di-n-Butyl Phthalate	84-74-2	American kestrel (insectivore / carnivore)	0.052	0.52	-	SOIL_AK(fi)_84-74-2
Di-n-Butyl Phthalate	84-74-2	American robin (Avian herbivore)	0.38	3.8	-	SOIL_AR(p)_84-74-2
Di-n-Butyl Phthalate	84-74-2	American robin (Avian insectivore)	0.011	0.11	MINIMUM	SOIL_AR(i)_84-74-2
Di-n-Butyl Phthalate	84-74-2	American robin (Avian omnivore)	0.021	0.21	-	SOIL_AR(ip)_84-74-2
Di-n-Butyl Phthalate	84-74-2	Deer mouse (Mammalian omnivore)	360	860	-	SOIL_DM(ip)_84-74-2
Di-n-Butyl Phthalate	84-74-2	Generic plant (Terrestrial autotroph - producer)	160	600	-	SOIL_GP_84-74-2
Di-n-Butyl Phthalate	84-74-2	Gray fox (Mammalian top carnivore)	62000	140000	-	SOIL_RF(f)_84-74-2
Di-n-Butyl Phthalate	84-74-2	Montane shrew (Mammalian insectivore)	180	450	-	SOIL_MS(i)_84-74-2
Di-n-Butyl Phthalate	84-74-2	Mountain cottontail (Mammalian herbivore)	17000	40000	-	SOIL_DC(p)_84-74-2
Di-n-octylphthalate	117-84-0	Deer mouse (Mammalian omnivore)	1.8	18	-	SOIL_DM(ip)_117-84-0
Di-n-octylphthalate	117-84-0	Gray fox (Mammalian top carnivore)	1300	13000	-	SOIL_RF(f)_117-84-0
Di-n-octylphthalate	117-84-0	Montane shrew (Mammalian insectivore)	0.91	9.1	MINIMUM	SOIL_MS(i)_117-84-0
Di-n-octylphthalate	117-84-0	Mountain cottontail (Mammalian herbivore)	8400	84000	-	SOIL_DC(p)_117-84-0
Methylphenol[2-]	95-48-7	Deer mouse (Mammalian omnivore)	580	5800	-	SOIL_DM(ip)_95-48-7
Methylphenol[2-]	95-48-7	Generic plant (Terrestrial autotroph - producer)	0.67	7	MINIMUM	SOIL_GP_95-48-7
Methylphenol[2-]	95-48-7	Gray fox (Mammalian top carnivore)	160000	1600000	-	SOIL_RF(f)_95-48-7
Methylphenol[2-]	95-48-7	Montane shrew (Mammalian insectivore)	1500	15000	-	SOIL_MS(i)_95-48-7
Methylphenol[2-]	95-48-7	Mountain cottontail (Mammalian herbivore)	880	8800	-	SOIL_DC(p)_95-48-7
Methylphenol[3-]	108-39-4	Generic plant (Terrestrial autotroph - producer)	0.69	7	MINIMUM	SOIL_GP_108-39-4
Nitroaniline[2-]	88-74-4	Deer mouse (Mammalian omnivore)	5.3	10	MINIMUM	SOIL_DM(ip)_88-74-4
Nitroaniline[2-]	88-74-4	Gray fox (Mammalian top carnivore)	2200	4400	-	SOIL_RF(f)_88-74-4

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Nitroaniline[2-]	88-74-4	Montane shrew (Mammalian insectivore)	6.5	13	-	SOIL_MS(i)_88-74-4
Nitroaniline[2-]	88-74-4	Mountain cottontail (Mammalian herbivore)	11	22	-	SOIL_DC(p)_88-74-4
Nitrobenzene	98-95-3	Deer mouse (Mammalian omnivore)	4.8	48	-	SOIL_DM(ip)_98-95-3
Nitrobenzene	98-95-3	Earthworm (Soil-dwelling invertebrate)	2.2	22	MINIMUM	SOIL_EW_98-95-3
Nitrobenzene	98-95-3	Gray fox (Mammalian top carnivore)	4100	41000	-	SOIL_RF(f)_98-95-3
Nitrobenzene	98-95-3	Montane shrew (Mammalian insectivore)	21	210	-	SOIL_MS(i)_98-95-3
Nitrobenzene	98-95-3	Mountain cottontail (Mammalian herbivore)	6.7	67	-	SOIL_DC(p)_98-95-3
Pentachloronitrobenzene	82-68-8	American kestrel (Avian top carnivore)	110	1100	-	SOIL_AK(f)_82-68-8
Pentachloronitrobenzene	82-68-8	American kestrel (insectivore / carnivore)	3.3	33	-	SOIL_AK(fi)_82-68-8
Pentachloronitrobenzene	82-68-8	American robin (Avian herbivore)	21	210	-	SOIL_AR(p)_82-68-8
Pentachloronitrobenzene	82-68-8	American robin (Avian insectivore)	0.7	7	MINIMUM	SOIL_AR(i)_82-68-8
Pentachloronitrobenzene	82-68-8	American robin (Avian omnivore)	1.3	13	-	SOIL_AR(ip)_82-68-8
Pentachloronitrobenzene	82-68-8	Deer mouse (Mammalian omnivore)	22	220	-	SOIL_DM(ip)_82-68-8
Pentachloronitrobenzene	82-68-8	Gray fox (Mammalian top carnivore)	3500	35000	-	SOIL_RF(f)_82-68-8
Pentachloronitrobenzene	82-68-8	Montane shrew (Mammalian insectivore)	11	110	-	SOIL_MS(i)_82-68-8
Pentachloronitrobenzene	82-68-8	Mountain cottontail (Mammalian herbivore)	930	9300	-	SOIL_DC(p)_82-68-8
Pentachlorophenol	87-86-5	American kestrel (Avian top carnivore)	57	570	-	SOIL_AK(f)_87-86-5
Pentachlorophenol	87-86-5	American kestrel (insectivore / carnivore)	1.7	17	-	SOIL_AK(fi)_87-86-5
Pentachlorophenol	87-86-5	American robin (Avian herbivore)	29	290	-	SOIL_AR(p)_87-86-5
Pentachlorophenol	87-86-5	American robin (Avian insectivore)	0.36	3.6	MINIMUM	SOIL_AR(i)_87-86-5
Pentachlorophenol	87-86-5	American robin (Avian omnivore)	0.72	7.2	-	SOIL_AR(ip)_87-86-5
Pentachlorophenol	87-86-5	Deer mouse (Mammalian omnivore)	1.5	15	-	SOIL_DM(ip)_87-86-5
Pentachlorophenol	87-86-5	Earthworm (Soil-dwelling invertebrate)	31	150	-	SOIL_EW_87-86-5
Pentachlorophenol	87-86-5	Generic plant (Terrestrial autotroph - producer)	5	50	-	SOIL_GP_87-86-5
Pentachlorophenol	87-86-5	Gray fox (Mammalian top carnivore)	230	2300	-	SOIL_RF(f)_87-86-5
Pentachlorophenol	87-86-5	Montane shrew (Mammalian insectivore)	0.81	8.1	-	SOIL_MS(i)_87-86-5
Pentachlorophenol	87-86-5	Mountain cottontail (Mammalian herbivore)	180	1800	-	SOIL_DC(p)_87-86-5
Phenol	108-95-2	Deer mouse (Mammalian omnivore)	37	370	-	SOIL_DM(ip)_108-95-2
Phenol	108-95-2	Earthworm (Soil-dwelling invertebrate)	1.8	18	-	SOIL_EW_108-95-2
Phenol	108-95-2	Generic plant (Terrestrial autotroph - producer)	0.79	8	MINIMUM	SOIL_GP_108-95-2
Phenol	108-95-2	Gray fox (Mammalian top carnivore)	43000	430000	-	SOIL_RF(f)_108-95-2
Phenol	108-95-2	Montane shrew (Mammalian insectivore)	640	6400	-	SOIL_MS(i)_108-95-2
Phenol	108-95-2	Mountain cottontail (Mammalian herbivore)	47	470	-	SOIL_DC(p)_108-95-2
Acetone	67-64-1	American kestrel (Avian top carnivore)	66000	660000	-	SOIL_AK(f)_67-64-1
Acetone	67-64-1	American kestrel (insectivore / carnivore)	840	8400	-	SOIL_AK(fi)_67-64-1
Acetone	67-64-1	American robin (Avian herbivore)	7.5	75	-	SOIL_AR(p)_67-64-1
Acetone	67-64-1	American robin (Avian insectivore)	170	1700	-	SOIL_AR(i)_67-64-1
Acetone	67-64-1	American robin (Avian omnivore)	14	140	-	SOIL_AR(ip)_67-64-1
Acetone	67-64-1	Deer mouse (Mammalian omnivore)	1.2	6.3	MINIMUM	SOIL_DM(ip)_67-64-1
Acetone	67-64-1	Gray fox (Mammalian top carnivore)	7800	39000	-	SOIL_RF(f)_67-64-1
Acetone	67-64-1	Montane shrew (Mammalian insectivore)	15	79	-	SOIL_MS(i)_67-64-1
Acetone	67-64-1	Mountain cottontail (Mammalian herbivore)	1.6	8	-	SOIL_DC(p)_67-64-1

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Benzene~~	~~71-43-2~~	~~Deer mouse (Mammalian omnivore)~~	~~24~~	~~240~~	~~MINIMUM~~	~~SOIL_DM(ip)_71-43-2~~
~~Benzene~~	~~71-43-2~~	~~Gray fox (Mammalian top carnivore)~~	~~18000~~	~~180000~~	-	~~SOIL_RF(f)_71-43-2~~
~~Benzene~~	~~71-43-2~~	~~Montane shrew (Mammalian insectivore)~~	~~49~~	~~490~~	-	~~SOIL_MS(i)_71-43-2~~
~~Benzene~~	~~71-43-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~38~~	~~380~~	-	~~SOIL_DC(p)_71-43-2~~
~~Benzyl Alcohol~~	~~100-51-6~~	~~Deer mouse (Mammalian omnivore)~~	~~120~~	~~1200~~	~~MINIMUM~~	~~SOIL_DM(ip)_100-51-6~~
~~Benzyl Alcohol~~	~~100-51-6~~	~~Gray fox (Mammalian top carnivore)~~	~~110000~~	~~1100000~~	-	~~SOIL_RF(f)_100-51-6~~
~~Benzyl Alcohol~~	~~100-51-6~~	~~Montane shrew (Mammalian insectivore)~~	~~270~~	~~2700~~	-	~~SOIL_MS(i)_100-51-6~~
~~Benzyl Alcohol~~	~~100-51-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~190~~	~~1900~~	-	~~SOIL_DC(p)_100-51-6~~
~~Butanone[2-]~~	~~78-93-3~~	~~Deer mouse (Mammalian omnivore)~~	~~350~~	~~920~~	~~MINIMUM~~	~~SOIL_DM(ip)_78-93-3~~
~~Butanone[2-]~~	~~78-93-3~~	~~Gray fox (Mammalian top carnivore)~~	~~1300000~~	~~3500000~~	-	~~SOIL_RF(f)_78-93-3~~
~~Butanone[2-]~~	~~78-93-3~~	~~Montane shrew (Mammalian insectivore)~~	~~2700~~	~~6900~~	-	~~SOIL_MS(i)_78-93-3~~
~~Butanone[2-]~~	~~78-93-3~~	~~Mountain cottontail (Mammalian herbivore)~~	~~470~~	~~1200~~	-	~~SOIL_DC(p)_78-93-3~~
~~Carbon Disulfide~~	~~75-15-0~~	~~Deer mouse (Mammalian omnivore)~~	~~0.81~~	~~8.1~~	~~MINIMUM~~	~~SOIL_DM(ip)_75-15-0~~
~~Carbon Disulfide~~	~~75-15-0~~	~~Gray fox (Mammalian top carnivore)~~	~~190~~	~~1900~~	-	~~SOIL_RF(f)_75-15-0~~
~~Carbon Disulfide~~	~~75-15-0~~	~~Montane shrew (Mammalian insectivore)~~	~~1.2~~	~~12~~	-	~~SOIL_MS(i)_75-15-0~~
~~Carbon Disulfide~~	~~75-15-0~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1.4~~	~~14~~	-	~~SOIL_DC(p)_75-15-0~~
~~Chloroaniline[4-]~~	~~106-47-8~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~1.8~~	~~18~~	-	~~SOIL_EW_106-47-8~~
~~Chloroaniline[4-]~~	~~106-47-8~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~1~~	~~10~~	~~MINIMUM~~	~~SOIL_GP_106-47-8~~
~~Chloroform~~	~~67-66-3~~	~~Deer mouse (Mammalian omnivore)~~	~~8~~	~~21~~	~~MINIMUM~~	~~SOIL_DM(ip)_67-66-3~~
~~Chloroform~~	~~67-66-3~~	~~Gray fox (Mammalian top carnivore)~~	~~8900~~	~~24000~~	-	~~SOIL_RF(f)_67-66-3~~
~~Chloroform~~	~~67-66-3~~	~~Montane shrew (Mammalian insectivore)~~	~~8.2~~	~~22~~	-	~~SOIL_MS(i)_67-66-3~~
~~Chloroform~~	~~67-66-3~~	~~Mountain cottontail (Mammalian herbivore)~~	~~19~~	~~52~~	-	~~SOIL_DC(p)_67-66-3~~
~~Dichlorobenzene[1,2-]~~	~~95-50-1~~	~~Deer mouse (Mammalian omnivore)~~	~~1.5~~	~~15~~	-	~~SOIL_DM(ip)_95-50-1~~
~~Dichlorobenzene[1,2-]~~	~~95-50-1~~	~~Gray fox (Mammalian top carnivore)~~	~~480~~	~~4800~~	-	~~SOIL_RF(f)_95-50-1~~
~~Dichlorobenzene[1,2-]~~	~~95-50-1~~	~~Montane shrew (Mammalian insectivore)~~	~~0.92~~	~~9.2~~	~~MINIMUM~~	~~SOIL_MS(i)_95-50-1~~
~~Dichlorobenzene[1,2-]~~	~~95-50-1~~	~~Mountain cottontail (Mammalian herbivore)~~	~~12~~	~~120~~	-	~~SOIL_DC(p)_95-50-1~~
~~Dichlorobenzene[1,3-]~~	~~541-73-1~~	~~Deer mouse (Mammalian omnivore)~~	~~1.2~~	~~12~~	-	~~SOIL_DM(ip)_541-73-1~~
~~Dichlorobenzene[1,3-]~~	~~541-73-1~~	~~Gray fox (Mammalian top carnivore)~~	~~380~~	~~3800~~	-	~~SOIL_RF(f)_541-73-1~~
~~Dichlorobenzene[1,3-]~~	~~541-73-1~~	~~Montane shrew (Mammalian insectivore)~~	~~0.74~~	~~7.4~~	~~MINIMUM~~	~~SOIL_MS(i)_541-73-1~~
~~Dichlorobenzene[1,3-]~~	~~541-73-1~~	~~Mountain cottontail (Mammalian herbivore)~~	~~13~~	~~130~~	-	~~SOIL_DC(p)_541-73-1~~
~~Dichlorobenzene[1,4-]~~	~~106-46-7~~	~~Deer mouse (Mammalian omnivore)~~	~~1.5~~	~~6~~	-	~~SOIL_DM(ip)_106-46-7~~
~~Dichlorobenzene[1,4-]~~	~~106-46-7~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~1.2~~	~~12~~	-	~~SOIL_EW_106-46-7~~
~~Dichlorobenzene[1,4-]~~	~~106-46-7~~	~~Gray fox (Mammalian top carnivore)~~	~~470~~	~~1800~~	-	~~SOIL_RF(f)_106-46-7~~
~~Dichlorobenzene[1,4-]~~	~~106-46-7~~	~~Montane shrew (Mammalian insectivore)~~	~~0.89~~	~~3.5~~	~~MINIMUM~~	~~SOIL_MS(i)_106-46-7~~
~~Dichlorobenzene[1,4-]~~	~~106-46-7~~	~~Mountain cottontail (Mammalian herbivore)~~	~~12~~	~~49~~	-	~~SOIL_DC(p)_106-46-7~~
~~Dichloroethane[1,1-]~~	~~75-34-3~~	~~Deer mouse (Mammalian omnivore)~~	~~210~~	~~2100~~	~~MINIMUM~~	~~SOIL_DM(ip)_75-34-3~~
~~Dichloroethane[1,1-]~~	~~75-34-3~~	~~Gray fox (Mammalian top carnivore)~~	~~250000~~	~~2500000~~	-	~~SOIL_RF(f)_75-34-3~~
~~Dichloroethane[1,1-]~~	~~75-34-3~~	~~Montane shrew (Mammalian insectivore)~~	~~290~~	~~2900~~	-	~~SOIL_MS(i)_75-34-3~~

Analyte Name	Analyte Code	ESL Receptor	No Effect ESL	Low Effect ESL	Minimum ESL	ESL ID
Dichloroethane[1,1-]	75-34-3	Mountain cottontail (Mammalian herbivore)	410	4100	-	SOIL_DC(p)_75-34-3
Dichloroethane[1,2-]	107-06-2	American kestrel (Avian top carnivore)	1300	2700	-	SOIL_AK(f)_107-06-2
Dichloroethane[1,2-]	107-06-2	American kestrel (insectivore / carnivore)	22	44	-	SOIL_AK(fi)_107-06-2
Dichloroethane[1,2-]	107-06-2	American robin (Avian herbivore)	0.85	1.6	MINIMUM	SOIL_AR(p)_107-06-2
Dichloroethane[1,2-]	107-06-2	American robin (Avian insectivore)	4.5	9	-	SOIL_AR(i)_107-06-2
Dichloroethane[1,2-]	107-06-2	American robin (Avian omnivore)	1.4	2.8	-	SOIL_AR(ip)_107-06-2
Dichloroethane[1,2-]	107-06-2	Deer mouse (Mammalian omnivore)	27	270	-	SOIL_DM(ip)_107-06-2
Dichloroethane[1,2-]	107-06-2	Gray fox (Mammalian top carnivore)	36000	360000	-	SOIL_RF(f)_107-06-2
Dichloroethane[1,2-]	107-06-2	Montane shrew (Mammalian insectivore)	91	910	-	SOIL_MS(i)_107-06-2
Dichloroethane[1,2-]	107-06-2	Mountain cottontail (Mammalian herbivore)	39	390	-	SOIL_DC(p)_107-06-2
Dichloroethene[1,1-]	75-35-4	Deer mouse (Mammalian omnivore)	14	140	-	SOIL_DM(ip)_75-35-4
Dichloroethene[1,1-]	75-35-4	Gray fox (Mammalian top carnivore)	14000	140000	-	SOIL_RF(f)_75-35-4
Dichloroethene[1,1-]	75-35-4	Montane shrew (Mammalian insectivore)	11	110	MINIMUM	SOIL_MS(i)_75-35-4
Dichloroethene[1,1-]	75-35-4	Mountain cottontail (Mammalian herbivore)	44	440	-	SOIL_DC(p)_75-35-4
Dichloroethene[cis/trans-1,2-]	540-59-0	Deer mouse (Mammalian omnivore)	25	250	-	SOIL_DM(ip)_540-59-0
Dichloroethene[cis/trans-1,2-]	540-59-0	Gray fox (Mammalian top carnivore)	25000	250000	-	SOIL_RF(f)_540-59-0
Dichloroethene[cis/trans-1,2-]	540-59-0	Montane shrew (Mammalian insectivore)	24	240	MINIMUM	SOIL_MS(i)_540-59-0
Dichloroethene[cis/trans-1,2-]	540-59-0	Mountain cottontail (Mammalian herbivore)	64	640	-	SOIL_DC(p)_540-59-0
Diphenylamine	122-39-4	American kestrel (Avian top carnivore)	3900	6500	-	SOIL_AK(f)_122-39-4
Diphenylamine	122-39-4	American kestrel (insectivore / carnivore)	49	81	-	SOIL_AK(fi)_122-39-4
Diphenylamine	122-39-4	American robin (Avian herbivore)	78	130	-	SOIL_AR(p)_122-39-4
Diphenylamine	122-39-4	American robin (Avian insectivore)	10	16	MINIMUM	SOIL_AR(i)_122-39-4
Diphenylamine	122-39-4	American robin (Avian omnivore)	17	29	-	SOIL_AR(ip)_122-39-4
Hexachlorobenzene	118-74-1	American kestrel (Avian top carnivore)	12	120	-	SOIL_AK(f)_118-74-1
Hexachlorobenzene	118-74-1	American kestrel (insectivore / carnivore)	0.37	3.7	-	SOIL_AK(fi)_118-74-1
Hexachlorobenzene	118-74-1	American robin (Avian herbivore)	83	830	-	SOIL_AR(p)_118-74-1
Hexachlorobenzene	118-74-1	American robin (Avian insectivore)	0.079	0.79	MINIMUM	SOIL_AR(i)_118-74-1
Hexachlorobenzene	118-74-1	American robin (Avian omnivore)	0.15	1.5	-	SOIL_AR(ip)_118-74-1
Hexachlorobenzene	118-74-1	Deer mouse (Mammalian omnivore)	0.39	3.9	-	SOIL_DM(ip)_118-74-1
Hexachlorobenzene	118-74-1	Earthworm (Soil-dwelling invertebrate)	10	100	-	SOIL_EW_118-74-1
Hexachlorobenzene	118-74-1	Generic plant (Terrestrial autotroph - producer)	10	100	-	SOIL_GP_118-74-1
Hexachlorobenzene	118-74-1	Gray fox (Mammalian top carnivore)	59	590	-	SOIL_RF(f)_118-74-1
Hexachlorobenzene	118-74-1	Montane shrew (Mammalian insectivore)	0.2	2	-	SOIL_MS(i)_118-74-1
Hexachlorobenzene	118-74-1	Mountain cottontail (Mammalian herbivore)	910	9100	-	SOIL_DC(p)_118-74-1
Hexanone[2-]	591-78-6	American kestrel (Avian top carnivore)	290	2900	-	SOIL_AK(f)_591-78-6
Hexanone[2-]	591-78-6	American kestrel (insectivore / carnivore)	1.7	17	-	SOIL_AK(fi)_591-78-6
Hexanone[2-]	591-78-6	American robin (Avian herbivore)	0.47	4.7	-	SOIL_AR(p)_591-78-6
Hexanone[2-]	591-78-6	American robin (Avian insectivore)	0.36	3.6	MINIMUM	SOIL_AR(i)_591-78-6
Hexanone[2-]	591-78-6	American robin (Avian omnivore)	0.41	4.1	-	SOIL_AR(ip)_591-78-6
Hexanone[2-]	591-78-6	Deer mouse (Mammalian omnivore)	6.1	23	-	SOIL_DM(ip)_591-78-6
Hexanone[2-]	591-78-6	Gray fox (Mammalian top carnivore)	5900	22000	-	SOIL_RF(f)_591-78-6
Hexanone[2-]	591-78-6	Montane shrew (Mammalian insectivore)	5.4	20	-	SOIL_MS(i)_591-78-6

~~Analyte Name~~	~~Analyte Code~~	~~ESL Receptor~~	~~No Effect ESL~~	~~Low Effect ESL~~	~~Minimum ESL~~	~~ESL ID~~
~~Hexanone[2-]~~	~~591-78-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~17~~	~~65~~	~~-~~	~~SOIL_DC(p)_591-78-6~~
~~Iodomethane~~	~~74-88-4~~	~~American kestrel (Avian top carnivore)~~	~~46~~	~~92~~	~~-~~	~~SOIL_AK(f)_74-88-4~~
~~Iodomethane~~	~~74-88-4~~	~~American kestrel (insectivore / carnivore)~~	~~0.29~~	~~0.59~~	~~-~~	~~SOIL_AK(fi)_74-88-4~~
~~Iodomethane~~	~~74-88-4~~	~~American robin (Avian herbivore)~~	~~0.038~~	~~0.076~~	~~MINIMUM~~	~~SOIL_AR(p)_74-88-4~~
~~Iodomethane~~	~~74-88-4~~	~~American robin (Avian insectivore)~~	~~0.062~~	~~0.12~~	~~-~~	~~SOIL_AR(i)_74-88-4~~
~~Iodomethane~~	~~74-88-4~~	~~American robin (Avian omnivore)~~	~~0.047~~	~~0.095~~	~~-~~	~~SOIL_AR(ip)_74-88-4~~
~~Methyl-2-pentanone[4-]~~	~~108-10-1~~	~~Deer mouse (Mammalian omnivore)~~	~~9.7~~	~~97~~	~~MINIMUM~~	~~SOIL_DM(ip)_108-10-1~~
~~Methyl-2-pentanone[4-]~~	~~108-10-1~~	~~Gray fox (Mammalian top carnivore)~~	~~18000~~	~~180000~~	~~-~~	~~SOIL_RF(f)_108-10-1~~
~~Methyl-2-pentanone[4-]~~	~~108-10-1~~	~~Montane shrew (Mammalian insectivore)~~	~~15~~	~~150~~	~~-~~	~~SOIL_MS(i)_108-10-1~~
~~Methyl-2-pentanone[4-]~~	~~108-10-1~~	~~Mountain cottontail (Mammalian herbivore)~~	~~17~~	~~170~~	~~-~~	~~SOIL_DC(p)_108-10-1~~
~~Methylene Chloride~~	~~75-09-2~~	~~Deer mouse (Mammalian omnivore)~~	~~2.6~~	~~22~~	~~MINIMUM~~	~~SOIL_DM(ip)_75-09-2~~
~~Methylene Chloride~~	~~75-09-2~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~1600~~	~~16000~~	~~-~~	~~SOIL_GP_75-09-2~~
~~Methylene Chloride~~	~~75-09-2~~	~~Gray fox (Mammalian top carnivore)~~	~~4300~~	~~36000~~	~~-~~	~~SOIL_RF(f)_75-09-2~~
~~Methylene Chloride~~	~~75-09-2~~	~~Montane shrew (Mammalian insectivore)~~	~~9.2~~	~~79~~	~~-~~	~~SOIL_MS(i)_75-09-2~~
~~Methylene Chloride~~	~~75-09-2~~	~~Mountain cottontail (Mammalian herbivore)~~	~~3.8~~	~~32~~	~~-~~	~~SOIL_DC(p)_75-09-2~~
~~Styrene~~	~~100-42-5~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~1.2~~	~~12~~	~~MINIMUM~~	~~SOIL_EW_100-42-5~~
~~Styrene~~	~~100-42-5~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~3.2~~	~~32~~	~~-~~	~~SOIL_GP_100-42-5~~
~~Tetrachloroethene~~	~~127-18-4~~	~~Deer mouse (Mammalian omnivore)~~	~~0.35~~	~~1.7~~	~~-~~	~~SOIL_DM(ip)_127-18-4~~
~~Tetrachloroethene~~	~~127-18-4~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~10~~	~~100~~	~~-~~	~~SOIL_GP_127-18-4~~
~~Tetrachloroethene~~	~~127-18-4~~	~~Gray fox (Mammalian top carnivore)~~	~~120~~	~~630~~	~~-~~	~~SOIL_RF(f)_127-18-4~~
~~Tetrachloroethene~~	~~127-18-4~~	~~Montane shrew (Mammalian insectivore)~~	~~0.18~~	~~0.94~~	~~MINIMUM~~	~~SOIL_MS(i)_127-18-4~~
~~Tetrachloroethene~~	~~127-18-4~~	~~Mountain cottontail (Mammalian herbivore)~~	~~9.5~~	~~47~~	~~-~~	~~SOIL_DC(p)_127-18-4~~
~~Toluene~~	~~108-88-3~~	~~Deer mouse (Mammalian omnivore)~~	~~25~~	~~250~~	~~-~~	~~SOIL_DM(ip)_108-88-3~~
~~Toluene~~	~~108-88-3~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~200~~	~~2000~~	~~-~~	~~SOIL_GP_108-88-3~~
~~Toluene~~	~~108-88-3~~	~~Gray fox (Mammalian top carnivore)~~	~~12000~~	~~120000~~	~~-~~	~~SOIL_RF(f)_108-88-3~~
~~Toluene~~	~~108-88-3~~	~~Montane shrew (Mammalian insectivore)~~	~~23~~	~~230~~	~~MINIMUM~~	~~SOIL_MS(i)_108-88-3~~
~~Toluene~~	~~108-88-3~~	~~Mountain cottontail (Mammalian herbivore)~~	~~66~~	~~660~~	~~-~~	~~SOIL_DC(p)_108-88-3~~
~~Trichlorobenzene[1,2,4-]~~	~~120-82-1~~	~~Deer mouse (Mammalian omnivore)~~	~~0.51~~	~~5.1~~	~~-~~	~~SOIL_DM(ip)_120-82-1~~
~~Trichlorobenzene[1,2,4-]~~	~~120-82-1~~	~~Earthworm (Soil-dwelling invertebrate)~~	~~1.2~~	~~12~~	~~-~~	~~SOIL_EW_120-82-1~~
~~Trichlorobenzene[1,2,4-]~~	~~120-82-1~~	~~Gray fox (Mammalian top carnivore)~~	~~110~~	~~1100~~	~~-~~	~~SOIL_RF(f)_120-82-1~~
~~Trichlorobenzene[1,2,4-]~~	~~120-82-1~~	~~Montane shrew (Mammalian insectivore)~~	~~0.27~~	~~2.7~~	~~MINIMUM~~	~~SOIL_MS(i)_120-82-1~~
~~Trichlorobenzene[1,2,4-]~~	~~120-82-1~~	~~Mountain cottontail (Mammalian herbivore)~~	~~12~~	~~120~~	~~-~~	~~SOIL_DC(p)_120-82-1~~
~~Trichloroethane[1,1,1-]~~	~~71-55-6~~	~~Deer mouse (Mammalian omnivore)~~	~~400~~	~~4000~~	~~-~~	~~SOIL_DM(ip)_71-55-6~~
~~Trichloroethane[1,1,1-]~~	~~71-55-6~~	~~Gray fox (Mammalian top carnivore)~~	~~310000~~	~~3100000~~	~~-~~	~~SOIL_RF(f)_71-55-6~~
~~Trichloroethane[1,1,1-]~~	~~71-55-6~~	~~Montane shrew (Mammalian insectivore)~~	~~260~~	~~2600~~	~~MINIMUM~~	~~SOIL_MS(i)_71-55-6~~
~~Trichloroethane[1,1,1-]~~	~~71-55-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~2000~~	~~20000~~	~~-~~	~~SOIL_DC(p)_71-55-6~~
~~Trichloroethene~~	~~79-01-6~~	~~Deer mouse (Mammalian omnivore)~~	~~54~~	~~540~~	~~-~~	~~SOIL_DM(ip)_79-01-6~~
~~Trichloroethene~~	~~79-01-6~~	~~Gray fox (Mammalian top carnivore)~~	~~42000~~	~~420000~~	~~-~~	~~SOIL_RF(f)_79-01-6~~
~~Trichloroethene~~	~~79-01-6~~	~~Montane shrew (Mammalian insectivore)~~	~~42~~	~~420~~	~~MINIMUM~~	~~SOIL_MS(i)_79-01-6~~

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~~Trichloroethene~~	~~79-01-6~~	~~Mountain cottontail (Mammalian herbivore)~~	~~190~~	~~1900~~	-	~~SOIL_DC(p)_79-01-6~~
~~Trichlorofluoromethane~~	~~75-69-4~~	~~Deer mouse (Mammalian omnivore)~~	~~97~~	~~650~~	-	~~SOIL_DM(ip)_75-69-4~~
~~Trichlorofluoromethane~~	~~75-69-4~~	~~Gray fox (Mammalian top carnivore)~~	~~62000~~	~~420000~~	-	~~SOIL_RF(f)_75-69-4~~
~~Trichlorofluoromethane~~	~~75-69-4~~	~~Montane shrew (Mammalian insectivore)~~	~~52~~	~~350~~	~~MINIMUM~~	~~SOIL_MS(i)_75-69-4~~
~~Trichlorofluoromethane~~	~~75-69-4~~	~~Mountain cottontail (Mammalian herbivore)~~	~~1800~~	~~12000~~	-	~~SOIL_DC(p)_75-69-4~~
~~Vinyl Chloride~~	~~75-01-4~~	~~Deer mouse (Mammalian omnivore)~~	~~0.13~~	~~1.3~~	-	~~SOIL_DM(ip)_75-01-4~~
~~Vinyl Chloride~~	~~75-01-4~~	~~Gray fox (Mammalian top carnivore)~~	~~110~~	~~1100~~	-	~~SOIL_RF(f)_75-01-4~~
~~Vinyl Chloride~~	~~75-01-4~~	~~Montane shrew (Mammalian insectivore)~~	~~0.12~~	~~1.2~~	~~MINIMUM~~	~~SOIL_MS(i)_75-01-4~~
~~Vinyl Chloride~~	~~75-01-4~~	~~Mountain cottontail (Mammalian herbivore)~~	~~0.34~~	~~3.4~~	-	~~SOIL_DC(p)_75-01-4~~
~~Xylene (Total)~~	~~1330-20-7~~	~~American kestrel (Avian top carnivore)~~	~~13000~~	~~130000~~	-	~~SOIL_AK(f)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~American kestrel (insectivore / carnivore)~~	~~190~~	~~1900~~	-	~~SOIL_AK(fi)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~American robin (Avian herbivore)~~	~~89~~	~~890~~	-	~~SOIL_AR(p)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~American robin (Avian insectivore)~~	~~41~~	~~410~~	-	~~SOIL_AR(i)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~American robin (Avian omnivore)~~	~~56~~	~~560~~	-	~~SOIL_AR(ip)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~Deer mouse (Mammalian omnivore)~~	~~1.9~~	~~2.4~~	-	~~SOIL_DM(ip)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~Generic plant (Terrestrial autotroph - producer)~~	~~100~~	~~1000~~	-	~~SOIL_GP_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~Gray fox (Mammalian top carnivore)~~	~~750~~	~~930~~	-	~~SOIL_RF(f)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~Montane shrew (Mammalian insectivore)~~	~~1.4~~	~~1.8~~	~~MINIMUM~~	~~SOIL_MS(i)_1330-20-7~~
~~Xylene (Total)~~	~~1330-20-7~~	~~Mountain cottontail (Mammalian herbivore)~~	~~7.6~~	~~9.5~~	-	~~SOIL_DC(p)_1330-20-7~~