LA-UR-16-24014
July 2016
EP2016-0049

Phase III Investigation Report for Delta Prime Site Aggregate Area at Technical Area 21, Revision 1

Los Alamos
NATIONAL LABORATORY
EST. 1943

Prepared by the Associate Directorate for Environmental Management

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Phase III Investigation Report for Delta Prime Site Aggregate Area at Technical Area 21, Revision 1

July 2016

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EXECUTIVE SUMMARY

This investigation report presents the Phase III investigation activities at 7 solid waste management units (SWMUs), 1 area of concern (AOC), and 5 consolidated units that are part of the Delta Prime (DP) Site Aggregate Area, located in Technical Area 21 (TA-21) at Los Alamos National Laboratory (the Laboratory). The consolidated units and individual SWMUs and AOCs totals 28 sites discussed in this report, 27 sites are evaluated for nature and extent and potential risks/doses. One site was not evaluated because sampling will be conducted under a separate site investigation that is yet to be implemented. The investigations were conducted in accordance with the New Mexico Environment Department–(NMED-) approved Phase III work plan for the DP Site Aggregate Area.

The objectives of the Phase III investigations were to define the nature and extent of contamination for the sites listed in the Phase II investigation report and to determine whether the sites pose potential unacceptable risk or dose to human health or the environment for sites where additional samples were collected and/or remediation occurred. Data from the Phase III investigations were combined with data from the Phase I and Phase II investigations that met current laboratory data-quality requirements. The sampling data presented in this report indicate the nature and extent of contamination have been defined or further sampling for extent is not warranted for all sites investigated.

Human health and ecological risk-screening assessments were conducted or revised for 20 of the sites presented in this report. Risk assessments were not performed for 1 site because data were at depths where no complete pathways to receptors are present. Potential human health and ecological risks for 3 sites (1 consolidated unit [with 4 SWMUs] and 2 individual SWMUs] were not reassessed because the results of the Phase III sampling did not affect the risk/dose screening results presented in the Phase II report.

Human health risk-screening assessments were conducted for the entire site for each consolidated unit, individual SWMU, or individual AOC as well as for the mesa-top portion of the sites at Consolidated Unit 21-026(a)-99, SWMUs 21-022(h), 21-024(b), and 21-027(a), and AOC C-21-027. These five sites were evaluated in this manner because the steep slope/cliff portions of the sites are inaccessible and therefore do not result in exposure to human receptors. The bases for the no exposure condition are (1) the areas are on a steep slope/cliff, with 45- to 90-degree slopes; (2) the areas consist of unstable, highly weathered, fractured bedrock with approximately 15% to 30% soil, filling fractures and voids between rocks; (3) there is no access to the slope/cliff portions of the sites; (4) there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff; and (5) there are major safety concerns regarding any activity on the slope/cliff because of the steepness, the unstable bedrock, and the lack of any trail.

The results of human health risk-screening assessments for the sites evaluated in this report are summarized as follows:

- *Industrial Scenario*: There are no potential unacceptable risks or doses under the industrial scenario. Although the hazard index (HI) at one site and the total excess cancer risks at four sites were above NMED target risk levels, the contamination causing the potential risks is on the slope/cliff portions of the sites where there is no exposure to a worker. The mesa-top portions of these sites did not pose a potential unacceptable risk or dose under the industrial scenario.
- *Construction Worker Scenario*: There are no potential unacceptable risks or doses under the construction worker scenario. Although the HI at one site was above the NMED target risk level, the contamination causing the potential risk is on the slope/cliff portion of the site where there is no exposure to a construction worker. The entire sites, except for the one site discussed above

and/or when evaluated the mesa-top portions of sites, did not pose a potential unacceptable risk or dose under the construction worker scenario.

- *Residential Scenario*: There are potential unacceptable risks for the entire site under the residential scenario at six sites evaluated in this report (three consolidated units, two individual SWMUs, and an AOC). The contamination causing the potential risks at four of the six sites is on the slope/cliff portion of the sites to which there is no exposure to a resident. When only the mesa-top portions of these four sites are evaluated, there are no potential unacceptable risks under the residential scenario. No potential unacceptable risks exist under the residential scenario at the other sites evaluated in this report (one consolidated unit and four individual SWMUs). There are no potential unacceptable doses under the residential scenario at any site.

Overall, there are no potential unacceptable risks or doses under the industrial and construction worker scenarios for the entire site at 5 consolidated units (14 SWMUs and 3 AOCs). There are also no potential unacceptable risks or doses under the industrial scenario for the entire site at 8 individual SWMUs and under the construction worker scenario at 8 individual SWMUs and 1 AOC. Under the residential scenario there are no potential unacceptable risks or doses for the entire site at 2 consolidated units (6 SWMUs) and 7 individual SWMUs. There are no potential unacceptable risks or doses under the industrial, construction worker, and residential scenarios for the mesa top only at 1 consolidated unit (3 SWMUs and 2 AOCs), 2 individual SWMUs, and 1 individual AOC.

As noted above, the steep slope/cliff portions of the sites do not result in exposure to human receptors for several reasons, including the steepness of the slope/cliff, the unstable surface, lack of safe and reasonable access, and the absence of any trail. In addition, fencing is in place to restrict access to these areas. Although samples were collected in the vicinity of the unsafe areas as part of the DP Phase III investigations, this activity was performed using fall protection training and techniques, which involved training workers to procedures as well as the use of active fall protection systems, including fall restraint and fall arrest (anchorage, body harness, and a connecting system). Workers are not and will not be exposed to these areas because of the protection systems required for access, the access restrictions in place, and work is neither planned nor being conducted in these areas. Public access to these sites as well as to TA-21 as a whole is restricted because the area remains U.S. Department of Energy property and is fenced and posted, including along the mesa edge above Los Alamos Canyon with access roads fenced and gated to prevent access to the eastern end of DP Mesa. Therefore, access to and the likelihood of human exposure to contamination on the steep slope/cliff portions of the sites at TA-21 are very low.

Ecological risk-screening assessments were conducted for sites within the DP Site Aggregate Area. The results indicate no potential ecological risks exist to any ecological receptors at the sites previously evaluated and those evaluated in this report.

No further investigation or remediation activities are necessary at the DP Site Aggregate Area sites evaluated in this report. Based on all sampling results (Phases I, II, and III) and the results of the risk-screening assessments, the Laboratory recommends corrective actions complete for these SWMUs and AOCs.

The Laboratory has undertaken several activities to reduce flood energy and associated sediment transport. Because contaminants migrate with sediment entrained in runoff, reduced sediment transport reduces contaminant transport. Monitoring of storm water and sediment is included to assess the performance of sediment-control measures. Controls applicable to sites in the DP Site Aggregate Area include a grade-control structure installed in DP Canyon at the east end of TA-21 and the Los Alamos Canyon low-head weir installed in Los Alamos Canyon below the confluence with DP Canyon at the

Laboratory boundary. The grade-control structure in DP Canyon encourages channel aggradation, thus reducing the potential for erosion of contaminated sediment deposits in adjacent banks during floods. Lower flood peaks should also reduce erosion of contaminated sediment deposits downcanyon of the DP grade-control structure. The Los Alamos Canyon low-head weir and associated sediment detention basins have also been installed downcanyon from TA-21 to facilitate a reduction in flows and accumulate sediment from upper and middle Los Alamos Canyon and DP Canyon. Run-on and runoff controls have also been installed to decrease and divert storm water flow as part of storm water controls required under the Laboratory's National Pollutant Discharge Elimination System Individual Permit. These controls are designed to decrease and divert storm water flow at individual SWMUs and AOCs and include straw wattles, berms, curbing, retention basins, rock check dams, and vegetated areas.

The proposed sampling and possible excavation at the diesel spill site are delayed until the work can be rescheduled and the slab foundation of building 21-357 is removed.

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1.0 INTRODUCTION

Los Alamos National Laboratory (LANL or the Laboratory) is a multidisciplinary research facility owned by the U.S. Department of Energy (DOE) and managed by Los Alamos National Security, LLC. The Laboratory is located in north-central New Mexico, approximately 60 mi northeast of Albuquerque and 20 mi northwest of Santa Fe. The Laboratory site covers 36 mi^2 of the Pajarito Plateau, which consists of a series of fingerlike mesas that are separated by deep canyons containing perennial and intermittent streams running from west to east. Mesa tops range in elevation from approximately 6200 ft to 7800 ft above sea level.

The Laboratory is participating in a national effort by DOE to clean up sites and facilities formerly involved in weapons research and development. The goal of the Laboratory's effort is to ensure past operations do not threaten human or environmental health and safety in and around Los Alamos County, New Mexico. To achieve this goal, the Laboratory is currently investigating sites potentially contaminated by past Laboratory operations. The individual sites are designated as either solid waste management units (SWMUs) or areas of concern (AOCs).

The consolidated units, SWMUs, and AOCs addressed in this investigation report are located within the Delta Prime (DP) Site Aggregate Area and are potentially contaminated with both hazardous and radioactive constituents. The New Mexico Environment Department (NMED), pursuant to the New Mexico Hazardous Waste Act, regulates cleanup of hazardous wastes and hazardous constituents. DOE regulates cleanup of radioactive contamination, pursuant to DOE Order 5400.5, Radiation Protection of the Public and the Environment; DOE Order 435.1, Radioactive Waste Management; and DOE Order 458.1, Administrative Change 3, Radiation Protection of the Public and the Environment. Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to NMED in accordance with DOE policy.

Corrective actions at the Laboratory are subject to a Compliance Order on Consent (the Consent Order). This investigation report describes work activities completed in accordance with the Consent Order.

1.1 General Site Information

The DP Site Aggregate Area is located in Technical Area 21 (TA-21) at the Laboratory (Figure 1.1-1). Table 1.1-1 lists the sites addressed in this report, a brief description, and the site status. The site status refers to the investigations and/or remediation completed to date. Historical details of previous investigations and data for the 27 sites addressed in this report are provided in the approved investigation work plan (LANL 2004, 087461; NMED 2005, 089314), the approved Phase I investigation report (LANL 2008, 104989; NMED 2009, 104978), the Phase II investigation report (LANL 2010, 110772.33), and the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). The polychlorinated biphenyl (PCB) site remediation activities were previously reported in the self-implementing and risk-based PCB reports for SWMU 21-024(c) and Consolidated Unit 21-003-99 (LANL 2009, 107679; LANL 2010, 108598). AOC C-21-027 was added in the DP Site Aggregate Area supplemental investigation work plan (LANL 2006, 092079). The supplemental work plan addressed sites within DP Site Aggregate Area not addressed in the approved DP Site Aggregate Area investigation work plan (LANL 2004, 087461; NMED 2005, 089314).

All operations at TA-21 have ceased and almost all of the buildings have been removed. Some areas have been remediated, and septic tanks are not receiving any discharges. All sumps and septic tanks are disconnected from their sources; some tanks have been removed, some have been filled and left in

place, or some have been emptied and left in place. None of the outfalls or other sites are active sources that continue to release contamination.

1.2 Investigation Overview

The objectives of the investigation were to (1) collect samples to address data needs identified in the Phase II investigation report (LANL 2008, 102760; NMED 2008, 102290) and the resulting approved Phase III work plan (LANL 2008, 104989; NMED 2009, 104978); and (2) determine whether contamination at the sites poses a potential unacceptable risk or dose to human health or the environment. This report presents details and results of the Phase III investigation activities and presents recommendations for each site.

1.3 Document Organization

This report is organized in nine sections, including this introduction, with multiple supporting appendixes. Sections 2 through 6 present the scope of activities, the results of the field activities performed during Phase III investigation, regulatory criteria, site contamination, and the results of the human health and ecological risk-screening assessments for the SWMUs, AOCs, and consolidated units. Section 7 presents the conclusions for each site. Section 8 presents recommendations based on the applicable extent sampling data, the remediation excavation and sampling data, and the risk-screening assessments. Section 9 includes a list of references cited and the map data sources used in all figures and plates.

Appendixes include acronyms, a metric conversion table, and definitions of the data qualifiers used in this report (Appendix A); field methods (Appendix B); photographs of sites (Appendix C); investigation-derived waste (IDW) management (Appendix D); the diesel tank 21-57 spill site (Appendix E); analytical program (Appendix F); all analytical results and Phase III analytical reports, sample collection logs, and chains of custody (Appendix G on DVD); and risk-screening assessments (Appendix H).

2.0 SITE CONDITIONS

2.1 Surface Conditions

2.1.1 Surface Soil

Soil on the Pajarito Plateau was initially mapped and described by Nyhan et al. (1978, 005702). The Nyhan study included only Laboratory-controlled land and certain U.S. Forest Service land within Los Alamos County.

Soil formed in a semiarid climate and was derived from chemical, biological, and physical weathering of local bedrock units, fallout pumice deposits, eolian deposits, and sediment weathered from these geological materials (Nyhan et al. 1978, 005702). A large variety of soil has developed on the Pajarito Plateau as the result of interactions of the underlying bedrock, slope, and climate. The mineral components of the soil are in large part derived from the Bandelier Tuff, but dacitic lavas of the Tschicoma Formation, basalts of the Cerros del Rio volcanic field, and sedimentary rocks of the Puye Formation are locally important. Alluvium derived from the Pajarito Plateau and from the east side of the Jemez Mountains contributes to soil in the canyons and also to those on some mesa tops.

The slopes between the mesa tops and canyon floors have been mapped as mostly steep rock outcrops consisting of approximately 90% bedrock outcrop and patches of shallow, undeveloped colluvial soil. South-facing canyon walls are steep and usually have little or no soil material or vegetation; in contrast,

the north-facing walls generally have areas of very shallow dark-colored soil and are more heavily vegetated. The canyon floors generally contain poorly developed, deep, well-drained soil (Nyhan et al. 1978, 005702).

Soil in the vicinity of TA-21 is typical of those across the Pajarito Plateau and is generally poorly developed, derived from Bandelier Tuff bedrock, and formed in a semiarid climate. Soil on the TA-21 mesa top is mainly shallow, well-drained sandy loams of the Hackroy series. The surface layer of the Hackroy soil is a brown sandy loam, or a loam, about 10 cm thick. The subsoil is a reddish-brown clay, gravelly clay, or clay loam, about 20 cm thick. The depth to bedrock and the effective rooting depth area is 20 cm to 50 cm. Hackroy soil is classified as Alfisols, in part reflecting the clayey subsurface horizons. Intermixed with the Hackroy soil on the mesa tops are small areas of deeper loams of the Nyjack series and patches of bedrock. The Nyjack soil is texturally similar to Hackroy soil and is distinguished by thicknesses of 7.9 in. (50 cm) to 40.2 in. (102 cm) and by the common presence of pumice fragments in the lower soil (Nyhan et al. 1978, 005702). Areas of exposed rock are predominant toward the east end of the mesa and TA-21 development (LANL 2004, 087461; NMED 2005, 089314).

2.1.2 Surface Water

No permanent surface water exists at TA-21. Surface water runoff occurs as a result of usually short, but often intense, seasonal thunderstorms producing large amounts of rain. Snowmelt is also a source of runoff.

2.1.3 Land Use

The current and reasonably foreseeable future land use of TA-21 is industrial.

2.2 Subsurface Conditions

2.2.1 Stratigraphy

TA-21 is centrally located on the Pajarito Plateau, approximately midway between the flanks of the Jemez Mountains on the west and the Rio Grande to the east. The general stratigraphy beneath TA-21 has been defined from investigations conducted in recent years (Figure 2.2-1). Additional information on the geologic setting of the TA-21 area and information on the Pajarito Plateau can be found in the Environmental Restoration (ER) Project installation work plan (LANL 1998, 062060), the TA-21 operable unit work plan (LANL 1991, 007529), and the hydrogeologic work plan (LANL 1998, 059599). The following sections describe the geologic units encountered below TA-21.

Santa Fe Group

The Santa Fe Group consists of predominately fluvial, slightly consolidated sedimentary rock that crop out in the lower reaches of Los Alamos Canyon, along White Rock Canyon, and in extensive areas east of the Rio Grande (Galusha and Blick 1971, 021526). In the area of the Pajarito Plateau, the Santa Fe Group consists of the Tesuque Formation and the Chamita Formation. A trough of late Miocene coarse-grained sediment at the top of the Santa Fe Group that postdate the Chamita Formation and these deposits are called the Chaquehui Formation (Purtymun 1995, 045344). The trough is filled with 1500 ft of gravels, cobbles, and boulders derived from highlands to the north and east. Regional cross-sections show that the Chaquehui Formation exists beneath TA-21 (LANL 2004, 087461; NMED 2005, 089314).

Puye Formation

The Puye Formation is a fanglomerate deposit consisting of poorly sorted boulders, cobbles, and coarse sand made up of dacitic to latitic debris eroded from the contemporaneous Tschicoma Formation (Turbeville et al. 1989, 021587; Spell et al. 1990, 021586). The unit is 940 ft thick and may consist of interbedded basalt flows of the Cerros del Rio volcanic field and Tschicoma Formation (LANL 1991, 007529). Also included in the Puye Formation is the Totavi Lentil, a deposit of well-rounded cobbles and boulders of Precambrian quartzites and crystalline rocks (Griggs and Hem 1964, 092516).

The Bandelier Tuff

The Valles Caldera erupted between 1.61 and 1.22 million yr ago creating the Bandelier Tuff. The unit is divided into the Otowi (Qbo) and Tshirege (Qbt) Members, which are separated by the Cerro Toledo interval. The tuff is rhyolitic, with a strong consolidated matrix of crystals. Because the Bandelier Tuff is the most prominent rock type on the Pajarito Plateau, its detailed stratigraphy is of considerable importance and is discussed further below (Broxton and Reneau 1995, 049726).

The nature and extent of the Otowi Member are described by Griggs and Hem (1964, 092516), Smith and Bailey (1966, 021584), Bailey et al. (1969, 021498), and Smith et al. (1970, 009752). The Otowi Member consists of moderately consolidated (indurated), porous, and nonwelded vitric tuff (ignimbrite) that forms gentle colluvium-covered slopes along the base of canyon walls. The Otowi ignimbrites contain light gray to orange pumice supported in a white to tan ash matrix (Broxton and Eller 1995, 058207; Goff 1995, 049682). The ash matrix consists of glass shards, broken pumice and crystal fragments, and fragments of perlite.

The Guaje Pumice Bed occurs at the base of the Otowi Member, making a significant and extensive marker horizon. The Guaje Pumice Bed (Bailey et al. 1969, 021498; Self et al. 1986, 021579) contains well-sorted pumice fragments whose mean size varies between 0.8 in. and 1.6 in. Its thickness averages approximately 28 ft below most of the plateau with local areas of thickening and thinning. Its distinctive white color and texture make it easily identifiable in borehole cuttings and core, and it is an important marker bed for the base of the Bandelier Tuff.

Tephra and Volcaniclastic Sediment of the Cerro Toledo Interval

The Cerro Toledo interval is an informal name given to a sequence of volcaniclastic sediment and tephra of mixed provenance that separates the Otowi and Tshirege Members of the Bandelier Tuff (Broxton and Eller 1995, 058207; Broxton and Reneau 1995, 049726; Goff 1995, 049682). Although it is intercalated between the two members of the Bandelier Tuff, it is not considered part of that formation (Bailey et al. 1969, 021498). Outcrops of the Cerro Toledo interval generally occur wherever the top of the Otowi Member appears in Los Alamos Canyon and in canyons to the north; the interval outcrops in the TA-21 area. The unit contains primary volcanic deposits normally assigned to the Cerro Toledo rhyolite, as described by Smith et al. (1970, 009752), as well as intercalated and reworked volcaniclastic sediment not normally included in the Cerro Toledo rhyolite. The occurrence of the Cerro Toledo interval is widespread; however, its thickness is variable, ranging between several feet and more than 100 ft.

The predominant rock types in the Cerro Toledo interval are rhyolitic tuffaceous sediment and tephra at TA-21 (Heiken et al. 1986, 048638; Stix et al. 1988, 049680; Broxton and Eller 1995, 058207; Goff 1995, 049682). The tuffaceous sediment is the reworked equivalent of Cerro Toledo rhyolite tephra that erupted from the Cerro Toledo and Rabbit Mountain rhyolite domes located in the Sierra de los Valles. At TA-21, oxidation and clay-rich horizons indicate at least two periods of soil development occurred within the

Cerro Toledo deposits. Because this soil is rich in clay, it may act as barriers to the movement of vadose zone groundwater. Some of the epiclastic tuffaceous deposits contain both crystal-poor and crystal-rich varieties of pumice. The ashy matrix of these deposits is commonly rich with crystals and contains subhedral sanadine and quartz. The mixed pumice and the crystal-rich nature of the matrix indicate this reworked tuff was derived from both the Cerro Toledo rhyolite and the underlying Otowi Member. The pumice falls tend to form porous and permeable horizons within the Cerro Toledo interval, and locally they may provide important pathways for moisture transport in the vadose zone. A subordinate lithology within the Cerro Toledo interval includes clast-supported gravel, cobble, and boulder deposits made up of porphyritic dacite derived from the Tschicoma Formation interbedded with the tuffaceous rock, and in some deposits, dacitic materials are volumetrically more important than rhyolitic detritus (Broxton and Eller 1995, 058207; Goff 1995, 049682; Broxton and Reneau 1996, 055429).

Tshirege Member

The Tshirege Member is the upper member of the Bandelier Tuff and is the most widely exposed bedrock unit of the Pajarito Plateau (Griggs and Hem 1964, 092516; Smith and Bailey 1966, 021584; Bailey et al. 1969, 021498; Smith et al. 1970, 009752). Emplacement of this unit occurred during eruptions of the Valles Caldera approximately 1.2 million yr ago (Izett and Obradovich 1994, 048817; Spell et al. 1996, 055542). The Tshirege Member is a multiple-flow, ash-and-pumice sheet that forms the prominent cliffs in most of the canyons on the Pajarito Plateau and at TA-21. It is a chemical cooling unit whose physical properties vary vertically and laterally. The consolidation in this member is largely from compaction and welding at high temperatures after the tuff was emplaced. Its light brown, orange brown, purplish, and white cliffs have numerous, mostly vertical fractures (called joints) that average between several feet and several tens of feet. The Tshirege Member includes thin but distinctive layers of bedded, sand-sized particles called surge deposits that demark separate flow units within the tuff. The Tshirege Member is generally over 200 ft thick.

The Tshirege Member differs from the Otowi Member most notably in its generally greater degree of welding compaction. Time breaks between the successive emplacement of flow units caused the tuff to cool as several distinct units. For this reason, the Tshirege Member is a chemical cooling unit, consisting of at least four cooling subunits that display variable physical properties vertically and horizontally (Smith and Bailey 1966, 021584; Crowe et al. 1978, 005720; Broxton and Eller 1995, 058207). These variations in physical properties reflect zonal patterns of different degrees of welding and glass crystallization that accompanies welding (Smith 1960, 048820; Smith 1960, 048819). The welding and crystallization variability in the Tshirege Member produce recognizable vertical variations in its properties, such as density, porosity, hardness, composition, color, and surface weathering patterns. The subunits are mappable based on a combination of hydrologic properties and lithologic characteristics.

Extensive descriptions of the Tshirege Member cooling units (Broxton and Eller 1995, 058207), in ascending order, are provided below.

The Tsankawi Pumice Bed forms the base of the Tshirege Member. Where exposed, it is commonly 20 in. to 30 in. thick. This pumice-fall deposit contains moderately well-sorted pumice lapilli (diameters reaching about 2.5 in.) in a crystal-rich matrix. Several thin ash beds are interbedded with the pumice-fall deposits.

Qbt 1g is the lowermost subunit of the thick ignimbrite sheet overlying the Tsankawi Pumice Bed. It consists of porous, nonwelded, and poorly sorted ash-flow tuff. The “g” in this designation stands for glass because none of the glass in ash shards and pumices shows crystallization by devitrification or vapor-phase crystallization. This unit is poorly indurated but nonetheless forms steep cliffs because of a

resistant bench near the top of the unit; the bench forms a harder protective cap over the softer underlying tuff. A thin (4 in. to 10 in.), pumice-poor surge deposit commonly occurs at the base of this unit.

Qbt 1v forms alternating cliff-like and sloping outcrops composed of porous, nonwelded, crystallized tuff. The “v” stands for vapor-phase crystallization which, together with in situ crystallization devitrification, has converted much of the glass in shards and pumices into microcrystalline aggregates. The base of this unit is a thin, horizontal zone of preferential weathering that marks the abrupt transition from glassy tuff below (in unit 1g) to the crystallized tuff above. This feature forms a widespread marker horizon (locally termed the vapor-phase notch) throughout the Pajarito Plateau, which is readily visible in canyon walls at TA-21. The lower part of Qbt 1v is orange brown, resistant to weathering, and has distinctive columnar (vertical) joints; hence, the term colonnade tuff is appropriate for its description. A distinctive white band of alternating cliff- and slope-forming tuff overlies the colonnade tuff. The tuffs of Qbt 1v are commonly nonwelded (pumices and shards retain their initial equant shapes) and have an open, porous structure.

Qbt 2 forms a distinctive, medium-brown, vertical cliff that stands out in marked contrast to the slope-forming, lighter-colored tuffs above and below at TA-21. It displays the greatest degree of welding in the Tshirege Member. A series of surge beds commonly mark its base. It is typically nonporous and has low permeability relative to the other units of the Tshirege Member. Vapor-phase crystallization of flattened shards and pumice is extensive in this unit.

Qbt 3 is a nonwelded to partially welded, vapor-phase altered tuff, which forms many of the upper cliffs in the TA-21 area. Its base consists of a purple-gray, unconsolidated, porous, and crystal-rich nonwelded tuff that underlies a broad, gently sloping bench developed on top of Qbt 2. This basal, nonwelded portion forms relatively soft outcrops that weather into low rounded mounds with a white color, which contrast with the cliffs of partially welded tuff in the middle and upper portions of Qbt 3.

2.3 Hydrogeology

The hydrogeology of the Pajarito Plateau is generally separable in terms of mesas and canyons forming the plateau. Mesas are generally devoid of water, both on the surface and within the rock forming the mesa. Canyons range from wet to relatively dry; the wettest canyons contain continuous streams and contain perennial groundwater in the canyon-bottom alluvium. Dry canyons have only occasional streamflow and may lack alluvial groundwater. Intermediate perched groundwater has been found at certain locations on the plateau at depths ranging between 100 ft and 400 ft. The regional aquifer is found at depths of about 600 ft to 1200 ft (Collins et al. 2005, 092028).

The hydrogeologic conceptual site model for the Laboratory (LANL 2012, 225493) shows that, under natural conditions, relatively small volumes of water move beneath mesa tops because of low rainfall, high evaporation, and efficient water use by vegetation. Atmospheric evaporation may extend into mesas, further inhibiting downward flow.

2.3.1 Groundwater

In the Los Alamos area, groundwater occurs as (1) water in shallow alluvium in some of the larger canyons, (2) intermediate-perched groundwater, and (3) the regional aquifer (Collins et al. 2005, 092028). Numerous wells have been installed at the Laboratory and in the surrounding area to investigate the presence of groundwater in these zones and to monitor groundwater quality.

The Laboratory formulated a comprehensive groundwater protection plan for an enhanced set of characterization and monitoring activities. The Laboratory’s Interim Facility-Wide Groundwater Monitoring Plan (the Interim Plan) (LANL 2014, 256728) details the implementation of extensive groundwater

characterization across the Pajarito Plateau within an area potentially affected by past and present Laboratory operations.

No intermediate or alluvial groundwater was encountered at TA-21.

The regional aquifer of the Los Alamos area is the only aquifer capable of supporting/supplying large-scale municipal water (Purtymun 1984, 006513). The surface of the regional aquifer rises westward from the Rio Grande within the Santa Fe Group into the lower part of the Puye Formation beneath the central and western part of the Pajarito Plateau. The depths to groundwater below the mesa tops range between about 1200 ft along the western margin of the plateau and about 600 ft at the eastern margin. The location of wells and the generalized water-level contours on top of the regional aquifer are described in the Interim Plan (LANL 2014, 256728). The regional aquifer is typically separated from the alluvial groundwater and intermediate-perched zone groundwater by 350 ft to 620 ft of tuff, basalt, and sediment (LANL 1993, 023249).

Groundwater in the regional aquifer flows east-southeast, toward the Rio Grande. The velocity of groundwater flow ranges from about 20 ft/yr to 250 ft/yr (LANL 1998, 058841, pp. 2-7). Details of depths to the regional aquifer, flow directions and rates, and well locations are presented in various Laboratory documents (Purtymun 1995, 045344; LANL 1997, 055622; LANL 2000, 066802).

The regional aquifer beneath TA-21 is at an elevation of approximately 5900 ft or approximately 1100 ft below the surface and is located chiefly within sediment of the Puye and Tesuque Formations (Broxton and Eller 1995, 058207). Thus, for mesa-top sites at TA-21, more than 1100 ft of tuff and volcaniclastic sediment separate the surface from the regional aquifer.

2.3.2 Vadose Zone

The unsaturated zone from the mesa surface to the top of the regional aquifer is referred to as the vadose zone. The source of moisture for the vadose zone is precipitation, but much of it runs off, evaporates, or is absorbed by plants. The subsurface vertical movement of water is influenced by properties and conditions of the materials that make up the vadose zone.

Although water moves slowly through the unsaturated tuff matrix, it can move rapidly through fractures if saturated conditions exist (Hollis et al. 1997, 063131). Fractures may provide conduits for fluid flow but probably only in discrete, disconnected intervals of the subsurface. Because they are open to the passage of both air and water, fractures can have both wetting and drying effects, depending on the relative abundance of water in the fractures and the tuff matrix.

The Bandelier Tuff is very dry and does not readily transmit moisture. Most of the pore spaces in the tuff are of capillary size and have a strong tendency to hold water against gravity by surface-tension forces. Vegetation is very effective at removing moisture near the surface. During the summer rainy season when rainfall is highest, near-surface moisture content is variable because of higher rates of evaporation and of transpiration by vegetation, which flourishes during this time.

The various units of the Bandelier Tuff tend to have relatively high porosities. Porosity ranges between 30% and 60% by volume, generally decreasing for more highly welded tuff. Permeability varies for each cooling unit of the Bandelier Tuff. The moisture content of native tuff is low, generally less than 5% by volume throughout the profile (Kearl et al. 1986, 015368; Purtymun and Stoker 1990, 007508).

3.0 SCOPE OF ACTIVITIES

This section presents an overview of field activities performed during the implementation of the approved DP Site Aggregate Area Phase III investigation work plan; the field investigation results and observations are presented in detail in section 6 and in the appendixes. The scope of activities for the 2011 DP Site Aggregate Area investigation included site access and premobilization activities; geodetic, geophysical, and radiological surveys; surface and shallow subsurface sampling; borehole drilling, sampling, and abandonment; health and safety monitoring; and waste management activities.

All activities were conducted in accordance with the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). The applicable field methods are summarized below and are detailed in Appendix B. Any deviations from the approved investigation work plan are discussed in section 6 and are described in detail in Appendix B.

3.1 Site Access and Premobilization Activities

The area encompassing the DP Site Aggregate Area is currently used for Laboratory operations, and some areas are used by Laboratory personnel for road and foot traffic. Before field mobilization, the issue of Laboratory worker access (e.g., traffic control plan, notifications) was reviewed as part of the management self-assessment process. All efforts were made to provide a secure and safe work area and to reduce impacts to Laboratory personnel, cultural resources, and the environment.

3.2 Field Activities

The following subsections describe the field activities conducted during the 2011 investigation, including surface surveys; field screening; surface and shallow subsurface sampling; and borehole drilling, sampling, and abandonment. Details regarding the field methods and procedures used to perform these field activities are presented in Appendix B.

3.2.1 Geodetic Survey

Geodetic surveys were conducted during the DP Site Aggregate Area investigation to locate surface and subsurface sampling locations. Initial geodetic surveys were performed to establish and mark the planned sampling locations in the field. Geodetic surveys were conducted at the completion of the sampling campaign to establish the spatial coordinates for all sampling locations. Geodetic surveys were conducted in accordance with Standard Operating Procedure (SOP) 5028, Coordinating and Evaluating Geodetic Surveys, using a Trimble 5700 differential global positioning system. The surveyed coordinates for the Phase III sampling locations are presented in Table 3.2-1. All geodetic coordinates are expressed as State Plane Coordinate System 1983, New Mexico Central, U.S.

3.2.2 Field Screening

Environmental samples were analyzed for organic vapors with a MiniRAE 2000 photoionization detector (PID) equipped with an 11.7 electronvolt (eV). Calibration was performed in accordance with the manufacturer's specifications and SOP-06.33, Headspace Vapor Screening with a Photoionization Detector, and recorded in the field logbook. After it was collected, the sample was placed in a sealed plastic bag and warmed for approximately 5 min. Screening measurements were recorded in the field sample collection logs (SCLs), chain-of-custody (COC) forms, and the field logbook. The SCLs and COC forms are provided on DVD in Appendix G. The field-screening results for Phase III samples are presented in Table 3.2-2.

All samples collected were field-screened for radioactivity before they were submitted to the Sample Management Office (SMO). A Laboratory radiological control technician (RCT) conducted radiological screening using an Eberline E-600 radiation meter with an SHP-380AB alpha/beta scintillation detector held within 1 in. of the sample. All field results for radioactivity were recorded in disintegrations per minute (dpm) on the field SCL/COCs. The SCLs and COC forms are provided on DVD in Appendix G. The radiological field-screening results for Phase III samples are presented in Table 3.2-2.

3.2.3 Surface and Subsurface Investigation

Surface and subsurface samples were collected at various sampling locations following the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825).

Samples were collected from 30 locations during the Phase III investigations. Surface and subsurface sampling activities included sampling soil and tuff using spade-and-scoop, hand-auger, or power auger methods.

A summary of the samples collected as part of the Phase III investigation and the requested analyses are presented in the samples collected and analyses requested tables provided for each site. In most cases, the 2011 samples were analyzed for only a selected subset of analytes according to the objectives listed in the Phase III work plan. Table 3.2-3 lists the Phase III sampling locations for the sites included in this report, cross walked to actual location identifiers. Plate 1 presents the Phase I, II, and III sampling locations.

Surface samples were collected using the spade-and-scoop method in accordance with SOP-06.09, Spade and Scoop Method for Collection of Soil Samples, or with a hand auger in accordance with SOP-06.10, Hand Auger and Thin-Wall Tube Sampler. The samples were collected in stainless-steel bowls and transferred to sample collection bottles with a stainless-steel spoon.

All surface and shallow subsurface samples were placed in appropriate sample containers and submitted to the laboratory for the analyses specified by the approved work plan. Standard quality assurance (QA)/quality control (QC) samples (field duplicates, field trip blanks, and rinsate blanks) were also collected in accordance with SOP-5059, Field Quality Control Samples.

All sample collection activities were coordinated with the SMO. After the samples were collected, they remained in the controlled custody of the field team at all times until they were delivered to the SMO. Sample custody was then relinquished to the SMO for delivery of samples to a preapproved off-site analytical laboratory (SCLs and COC forms on DVD in Appendix G).

3.2.4 Subsurface Sampling

At locations where the required sample depths could not be reached by hand augers, a power auger was used to reach 1.0 ft above deeper sampling intervals. A hand auger was used to reach the top of the sampling depth, decontaminated, and then used to collect the sample interval. The samples were extracted from the hand auger and immediately put into a stainless-steel bowl and subsequently bottled.

Samples were collected from depth intervals based on the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). All sampled core material was placed in the appropriate sample containers, labeled, documented, and preserved (as appropriate) for transport to the SMO. Samples were submitted for laboratory analyses as specified by the approved investigation work plan.

3.2.5 Soil Removal

Excavations for the DP Site Aggregate Area Investigation were conducted using a Volvo Backhoe #11219. The excavations were performed by advancing the 24-in. backhoe bucket to the depth specified in the Phase III work plan and placing the soil into 9-yd^3 waste containers. Excavations with a starting depth below ground surface (bgs) consisted of stockpiling the overburden material adjacent to the excavation, removing and containerizing of the contaminated soil, and using the stockpiled overburden as backfill material. The excavations were subsequently backfilled with clean fill material to ground surface and restored by reseeding and hydromulching the disturbed area.

Contaminated soil was removed from portions of three sites as part of the Phase III investigations. These sites included SWMU 21-024(b), Consolidated Unit 21-024(l)-99, and SWMU 21-027(a). The outfall areas at SWMUs 21-024(b) and 21-027(a) as well as Consolidated Units 21-022(h)-99 and 21-026(a)-99, which are on steep and unstable canyon slopes, were also originally targeted for soil removal. However, because of safety concerns described in the approved Phase III work plan, the outfalls at these sites were not remediated (LANL 2011, 203659; NMED 2011, 203825).

3.2.6 Equipment Decontamination

All field equipment that had the potential to contact sample material (e.g., hand augers, sample scoops, bowls, core-barrel sections) was decontaminated between sample collection and between sampling locations to prevent cross-contamination of samples and sampling equipment. Decontamination was performed in accordance with SOP-5061, Field Decontamination of Equipment. Rinsate blanks on sampling equipment were collected to check the effectiveness of decontamination. The dry-decontamination methods used are described in Appendix B.

3.2.7 Chemical and Radiological Sample Analyses

All investigation samples were shipped by the SMO to off-site contract analytical laboratories for the requested analyses. The analyses requested were as specified by the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). The samples were analyzed for all or a subset of the following: target analyte list (TAL) metals, total cyanide, nitrate, perchlorate, PCBs, dioxins and furans, semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), americium-241, gamma-emitting radionuclides, isotopic plutonium, isotopic uranium, strontium-90, and tritium.

3.2.8 Health and Safety Measures

All 2011 investigation activities were conducted in accordance with a site-specific health and safety plan and an integrated work document that detailed work steps, potential hazards, hazard controls, and required training to conduct work. These health and safety measures included the use of modified Level-D personal protective equipment in areas where elevated radiation was expected and field monitoring for VOCs, gross-alpha and gross-beta radiation, and dust-particulate matter using both portable and personnel air-monitoring systems.

3.2.9 IDW Storage and Disposal

All IDW generated during the DP Site Aggregate Area field investigation was managed in accordance with SOP-5238, Characterization and Management of Environmental Program Waste. This procedure incorporates the requirements of all applicable U.S. Environmental Protection Agency (EPA) and NMED regulations, DOE orders, and Laboratory implementation requirements, policies, and/or procedures. IDW

was also managed in accordance with the approved waste characterization strategy form (WCSF). Details of IDW management for the DP Site Aggregate Area investigation are presented in Appendix D.

The waste streams associated with the investigation included contact waste, excavated soil, and solid waste. Each waste stream was containerized and placed in an accumulation area appropriate for the regulatory classification of the waste, in accordance with the approved WSCF (Appendix D, Attachment D-1).

3.3 Deviations

Deviations occurred while conducting field activities described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). Specific deviations are described in Appendix B, section B-9.

4.0 REGULATORY CRITERIA

This section describes the criteria used for evaluating potential risk to ecological and human receptors. Regulatory criteria identified by medium in the Consent Order include cleanup standards, risk-based screening levels, and risk-based cleanup goals.

Human health risk-screening evaluations were conducted using NMED guidance (NMED 2012, 219971). Ecological risk-screening assessments were performed using Laboratory guidance (LANL 2012, 226715).

4.1 Current and Future Land Use

The specific screening levels used in the risk evaluation and corrective action decision process at a site depend on the current and reasonably foreseeable future land use(s). The current and reasonably foreseeable future land use(s) for a site determines the receptors and exposure scenarios used to select screening and cleanup levels. The land use within and surrounding the DP Site Aggregate Area is currently industrial and is expected to remain industrial for the reasonably foreseeable future. A construction worker scenario is evaluated because underground utilities are present near or within the boundaries of various SWMUs and AOCs, and maintenance or repair of these underground utilities is a reasonable possibility in the foreseeable future. The residential scenario is evaluated for comparison purposes per the Consent Order and is the decision scenario for sites that do not require future controls.

4.2 Screening Levels

Human health and ecological risk-screening evaluations were conducted for the chemicals of potential concern (COPCs) detected in solid media at sites within the DP Site Aggregate Area. The human health risk-screening assessments (Appendix H) were performed on inorganic and organic COPCs using NMED soil screening levels (SSLs) for the industrial, construction worker, and residential scenarios (NMED 2012, 219971). When an NMED SSL for a COPC was not available, SSLs were obtained from EPA regional tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) (adjusted to a risk level of 10^{-5} for carcinogens). For this investigation report, the May 2014 online version of the EPA regional tables was used to obtain EPA screening levels. Radionuclides were assessed using the Laboratory screening action levels (SALs) for the same scenarios (LANL 2014, 600064). Surrogate SSLs were used for some COPCs for which no SSLs were available based on structural similarity or breakdown products.

Total chromium does not have an NMED or EPA SSL. Because the toxicity of chromium strongly depends on its oxidation state, NMED and EPA have SSLs for trivalent chromium and hexavalent chromium rather than total chromium. For screening purposes, the SSLs for trivalent chromium are used for comparison with total chromium results unless a known or suspected source of hexavalent chromium exists at the SWMU or AOC and the samples were not analyzed for hexavalent chromium. This approach is consistent with guidance from the Texas Commission on Environmental Quality (Stone 2002, 243627), which indicates that comparison of total chromium results to trivalent chromium screening levels is appropriate for low-level releases to soil from sources not typically associated with hexavalent chromium. Similarly, EPA recommends collecting valence-specific data for chromium when chromium is likely to be an important contaminant at a site and when hexavalent chromium may exist (https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-november-2015). Otherwise, total chromium data are used.

AOC C-21-027, a former cooling tower, was the only suspected source of hexavalent chromium. Samples collected in 2009 and 2010 were analyzed for hexavalent chromium and none was detected. None of the other SWMUs and AOCs included in this investigation report are known or suspected sources of hexavalent chromium. Total chromium results for all sites are screened using the SSLs for trivalent chromium.

4.3 Ecological Screening Levels

The ecological risk-screening assessments (Appendix H) were conducted using ecological screening levels (ESLs) obtained from the ECORISK Database, Version 3.2 (LANL 2014, 262559). The ESLs are based on similar species and are derived from experimentally determined no observed adverse effect levels (NOAELs), lowest observed adverse effect levels (LOAELs), or doses determined lethal to 50% of the test population. 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, Version 3.2 (LANL 2014, 262559).

4.4 Cleanup Standards

As specified in the Consent Order, SSLs for inorganic and organic chemicals (NMED 2012, 219971) are used as soil cleanup levels unless they are determined to be impracticable or values do not exist for the current and reasonably foreseeable future land uses. SALs are used as soil cleanup levels for radionuclides (LANL 2014, 600064). Screening assessments compare COPC concentrations for each site with industrial, residential, and construction worker SSLs and SALs.

The cleanup goals specified in Section VIII of the Consent Order are a target risk of 1×10^{-5} for carcinogens or a hazard index (HI) of 1 for noncarcinogens. For radionuclides, the target dose is 25 mrem/yr as authorized by DOE Order 458.1. The SSLs or SALs used for the risk-screening assessments in Appendix H are based on these cleanup goals.

5.0 DATA REVIEW METHODOLOGY

The purpose of the data review is to define the nature and extent of contaminant releases for each SWMU or AOC in the DP Site Aggregate Area. The nature of a contaminant release refers to the specific contaminants that are present, the affected media, and associated concentrations. The nature of contamination is defined through identification of COPCs, which is discussed in section 5.1. The extent of contamination refers to the spatial distribution of COPCs, with an emphasis on the distribution of COPCs

potentially posing a risk or requiring corrective action. The process for determining the extent of contamination and for concluding no further sampling for extent is warranted is discussed in section 5.2.

5.1 Identification of COPCs

COPCs are chemicals and radionuclides that may be present as a result of releases from SWMUs or AOCs. Inorganic chemicals and some radionuclides occur naturally and inorganic chemicals and radionuclides detected because of natural background are not considered COPCs. Similarly, some radionuclides may be present as a result of fallout from historical nuclear weapons testing and these radionuclides are also not considered COPCs. The Laboratory has collected data on background concentrations of many inorganic chemicals, naturally occurring radionuclides, and fallout radionuclides. These data have been used to develop media-specific background values (BVs) and fallout values (FVs) (LANL 1998, 059730). For inorganic chemicals and radionuclides for which BVs or FVs exist, identification of COPCs involves background comparisons or if samples are collected where FVs are not appropriate (i.e., greater than 1.0-ft depth or in rock), COPCs are identified based on detection status (i.e., if the inorganic chemical or radionuclide is detected, it is identified as a COPC).

Organic chemicals may also be present as a result of anthropogenic activities unrelated to the SWMU or AOC or, to a lesser extent, from natural sources. Because background data for organic chemicals are not available, background comparisons cannot be performed in the same manner as for inorganic chemicals or radionuclides. Therefore, organic COPCs are identified on the basis of detection status (i.e., if an organic chemical is detected, it is identified as a COPC). When assessing the nature of contamination, the history of site operations, site conditions, as well as other lines if evidence may be evaluated to determine whether an organic COPC is present because of a release from a SWMU or AOC or is present from a non-site-related source. Organic chemicals that are clearly present from sources other than releases from a SWMU or AOC (e.g., polycyclic aromatic hydrocarbon [PAHs]) may be eliminated as COPCs or may be retained as COPCs and addressed in the risk assessment uncertainty analysis.

The COPCs for the DP Site Aggregate Area sites were previously identified in the Phase I or Phase II investigation reports (LANL 2008, 104989; NMED 2009, 104978; LANL 2010, 110772.33) and were not reevaluated in this report.

5.2 Extent of Contamination

Spatial concentration trends are initially used to determine whether the extent of contamination is defined. Evaluation of spatial concentration data considers the conceptual site model of the release and subsequent migration. Specifically, the conceptual site model should define where the contamination originates (i.e., site-related or non-site-related), where the highest concentrations would be expected if a release from the site had occurred, and how these concentrations should vary with distance and depth from the source. If the results are different from the conceptual site model, it could indicate that no release has occurred or other sources of contamination are present.

In general, both laterally and vertically decreasing concentrations are used to define extent. If concentrations are increasing or are not changing, other factors are considered to determine whether extent is defined or if additional extent sampling is warranted. These factors include

- the magnitude of concentrations and rate of increase compared with SSLs/SALs,
- the magnitude of concentrations of inorganic chemicals or radionuclides compared with the maximum background concentrations for the medium,

- concentrations of organic chemicals compared to estimated quantitation limits (EQLs), and
- results from nearby sampling locations.

The primary focus for defining the extent of contamination is characterizing site-related contamination that potentially poses a potential unacceptable risk and that might require additional corrective actions. As such, comparison with SSLs/SALs is used as an additional step following a determination of whether extent is defined by decreasing concentrations with depth and distance and whether concentrations are below EQLs or detection limits (DLs). The initial SSL/SAL comparison is conducted using the residential SSL/SAL (regardless of whether the current and reasonably foreseeable future land use is residential) because this value is typically the most protective. If the current and reasonably foreseeable future land use is not residential, comparison with the relevant SSL/SAL may also be conducted if the residential SSL/SAL is exceeded or otherwise similar to COPC concentrations. For all sites in the DP Site Aggregate Area, the current and reasonably foreseeable future land use is industrial (section 4.1).

The SSL/SAL comparison is not necessary if all COPC concentrations are decreasing with depth and distance. If, however, concentrations increase with depth and distance or do not display any obvious trends, the SSLs/SALs are used to determine whether additional sampling for extent is warranted. If the COPC concentrations are sufficiently below the SSL/SAL (e.g., the residential and/or industrial SSL/SAL is 10 times [an order of magnitude] or more above the concentrations), the COPC does not pose a potential unacceptable risk and no further sampling for extent is warranted. The validity of the assumption that the COPC does not pose a risk is confirmed using the results of the risk-screening assessment. The calculation of risk also assists in determining whether additional sampling is warranted to define the extent of contamination that need additional corrective actions.

Several inorganic chemicals (calcium, magnesium, potassium, and sodium) may be COPCs but do not have SSLs. These constituents are essential nutrients and their maximum concentrations are compared with recommended daily allowances (RDAs). If the maximum concentration is less than the RDA, no additional sampling for extent is warranted.

6.0 TA-21 BACKGROUND AND FIELD-INVESTIGATION RESULTS

Twenty-seven sites (23 SWMUs and 4 AOCs) located in TA-21 are addressed in this Phase III investigation report (Table 1.1-1). One site was not evaluated because sampling will be conducted under a separate site investigation that is yet to be implemented. Each site is described separately and includes the site description and operational history; relationship to other SWMUs and AOCs; previous investigations; site contamination results based on decision-level data from the current and previous investigations; and summaries of human health and ecological risk-screening assessments.

Plate 1 presents all the aggregate area sites investigated as part of Phase III, all locations sampled, and specifically Phase III sampling locations.

6.1 Background of TA-21

6.1.1 Operational History

TA-21 is located on DP Mesa on the northern boundary of the Laboratory and is immediately east-southeast of the Los Alamos townsite (Figure 1.1-1). The TA is centrally located on the Pajarito Plateau, approximately midway between the flanks of the Jemez Mountains on the west and the Rio Grande on the east. It extends from the mesa top to the stream channels in the adjacent canyons, DP Canyon to the north and Los Alamos Canyon to the south.

In 1945, the operations for establishing the chemical and metallurgical properties of nuclear material necessary to achieve and sustain the required nuclear fission reaction were transferred to the TA-21 facilities in the areas of DP West and DP East. The main purpose of the DP West operations was to produce metal and alloys of plutonium from the nitrate solution feedstock provided by other production facilities. Other operations include nuclear fuel reprocessing and unrelated activities. DP East facilities were used to process polonium and actinium and to produce initiators.

6.1.2 Summary of Releases

The DP Site Aggregate Area consists of SWMUs and AOCs located throughout TA-21. The SWMUs and AOCs include airborne emissions, landfills, container storage areas, surface disposal areas, a PCB storage area, septic systems, sumps, drainlines, outfalls, a waste treatment laboratory, a sewage treatment plant, and seepage pits.

6.1.3 Current Site Usage and Status

All operations at TA-21 have ceased and none of the outfalls or other sites are active sources that continue to release contamination. TA-21 has undergone demolition and decommissioning (D&D) beginning in 2009. Nearly all the buildings have been removed to the foundations, some areas have been remediated, and septic tanks are not receiving any discharges; all sumps and septic tanks are disconnected from their sources, some tanks have been removed, some have been filled and left in place, or some have been emptied and left in place. Roads and large paved parking areas remain and unpaved areas are landscaped. The material disposal areas (MDAs) and the main TA-21 area are fenced for controlled access, but some areas are located outside the main fenced areas. Currently, TA-21 is under DOE control and the land use is industrial.

6.2 Consolidated Unit 21-003-99, PCB Container Storage Area and SWMU 21-024(c), Septic System

Consolidated Unit 21-003-99 consists of SWMUs 21-003 and 21-013(f). SWMU 21-003 was a PCB container storage area inside building 21-061, including the area immediately outside and east of the building. Based on a 1949 aerial photograph (LANL 1990, 007512), SWMU 21-013(f) was possibly a surface disposal area within the boundaries of SWMU 21-003.

SWMU 21-024(c) is an inactive septic system that formerly routed sewage from two buildings (buildings 21-054 and 21-061) through a septic tank (structure 21-056).

6.2.1 Operational History

Consolidated Unit 21-003-99

- 1950—Building 21-061, a laboratory, was constructed to support classified plutonium research (LANL 1991, 007529, p. 14-16).
- 1956—Building 21-061 was remodeled to coat reactor parts and fuel rods with niobium pentachloride.
- Early 1960s to late 1960s or early 1970s—Building 21-061 was not used.
- 1970 to 1972—Building 21-061 was a metal fabrication shop.

- 1978 to 1989—Building 21-061 and the unpaved area directly east of the building stored materials/drums containing PCBs. Kerosene and petroleum-based solvents were also used in the area (LANL 1991, 007529, p. 14-16).
- 1981—Part of unpaved area east of building 21-061 was paved with asphalt and bermed (LANL 1991, 007529, p. 14-16).
- 1989—PCB storage was moved to TA-54, and the interior of building 21-061 was decontaminated in accordance with the Toxic Substances Control Act (TSCA) 40 Code of Federal Regulations 761 (LANL 1991, 007529, pp. 14-16–14-17).
- 2002—Building 21-061 underwent D&D activities (LANL 2002, 085609).

SWMU 21-024(c)

- 1945—Building 21-054 (a machine shop and warehouse) was constructed.
- Late 1940s—A septic system was installed to route sewage from buildings 21-054 and 21-061 (LANL 2004, 087461; NMED 2005, 089314). The reinforced concrete septic tank (structure 21-56) measured 4.0 ft long by 8.0 ft wide by approximately 5.0 ft deep and was located 6.0 ft bgs. The sewer lines were 4-in.-diameter vitrified clay pipe (VCP) (LANL 1991, 007529, p. 15-34).
- 1966—The septic system was no longer used and was left in place (LANL 1991, 007529, p. 15-34).
- 1969—Building 21-054 was demolished (LANL 1991, 007529, p. 15-34).
- 2002—Building 21-061, the PCB Container Storage Area, underwent D&D activities (LANL 2002, 085609).

6.2.2 Relationship to Other SWMUs and AOCs

No other SWMUs or AOCs are associated with Consolidated Unit 21-003-99 and SWMU 21-024(c).

6.2.3 Summary of Previous Investigations

Consolidated Unit 21-003-99

- 1988—Initial contaminant information for Consolidated Unit 21-003-99 was obtained from samples gathered as part of former ER Project reconnaissance sampling (LANL 1991, 007529).
- 1992–1993—TA-21 site-wide surface and near-surface sampling activities included collecting soil samples from Consolidated Unit 21-003-99 (LANL 1994, 026073).
- 1994—Phase I Resource Conservation and Recovery Act facility investigation (RFI) activities were conducted and soil samples were collected (LANL 1996, 054320; LANL 1996, 054838).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—TSCA cleanup of these two sites was performed. The PCB sample collection and analyses are presented in the risk-based and self-implementing reports submitted to the EPA and NMED in November 2009 (LANL 2009, 107679) and January 2010 (LANL 2010, 108598).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (other than PCBs) (LANL 2010, 110772.33).

SWMU 21-024(c)

- 1988—Initial contaminant information for SWMU 21-024(c) was obtained from samples gathered as part of the former ER Project reconnaissance sampling (LANL 1991, 007529, pp. 15-38–15-45).
- 1992—RFI activities included collecting outfall soil samples (LANL 1994, 031591, p. 8-18–8-24).
- 1993—RFI activities included drilling a 20-ft borehole in the vicinity of the reinforced concrete septic tank (structure 21-56) (LANL 1995, 052350, pp. 7-2–7-3).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—TSCA cleanup of these two sites was performed. The PCB sample collection and analyses are presented in the risk-based and self-implementing reports submitted to the EPA and NMED in November 2009 (LANL 2009, 107679) and January 2010 (LANL 2010, 108598).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (other than PCBs) (LANL 2010, 110772.33).

6.2.4 Site Contamination

6.2.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at Consolidated Unit 21-003-99 and SWMU 21-024(c). The Phase II report concluded lateral and/or vertical extent of some inorganic and radionuclide COPCs (chromium, nitrate, cesium-137, and tritium) were not defined. As a result, the following activities were completed as part of the 2011 investigation.

- Four samples were collected from three locations to address extent issues remaining following the previous investigation. At each location, samples were collected from the appropriate depth intervals as specified in the approved Phase III work plan. Samples were analyzed at off-site fixed laboratories for the COPCs (chromium, nitrate, cesium-137, and tritium) requiring extent sampling as presented in the Phase III work plan (LANL 2011, 203659, Table 1).
- All investigation samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at Consolidated Unit 21-003-99 and SWMU 21-024(c) are shown on Plate 2, which also serves as an index map for the nine sampling groups shown on the detected organic chemical plates. Table 6.2-1 presents the samples collected and analyses requested for Consolidated Unit 21-003-99 and SWMU 21-024(c). The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.2.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at Consolidated Unit 21-003-99 and SWMU 21-024(c), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.2.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for Consolidated Unit 21-003-99 and SWMU 21-024(c) as identified in the Phase I report and what was left in place at the completion of the PCB remediation include aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, mercury, nickel, nitrate, perchlorate, selenium, silver, uranium, vanadium, and zinc.

Two samples were analyzed for nitrate or chromium to define the lateral and vertical extent, respectively. Table 6.2-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Plate 3 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for Consolidated Unit 21-003-99 and SWMU 21-024(c) as identified in the Phase I report and what was left in place at the completion of the PCB remediation include acenaphthene; acetone; anthracene; Aroclor-1016; Aroclor-1242; Aroclor-1248; Aroclor-1254; Aroclor-1260; benzene; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(k)fluoranthene; benzoic acid; benzyl alcohol; bis(2-ethylhexyl)phthalate; sec-butylbenzene; chlorobenzene; chrysene; 1,4-dichlorobenzene; 1,1-dichloroethene; di-n-butylphthalate; ethylbenzene; fluoranthene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 4-isopropyltoluene; methylene chloride; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; phenanthrene; pyrene; styrene; tetrachloroethene; toluene; trichloroethene; 1,2-xylene; and 1,3-xylene +1,4-xylene.

Additional extent sampling for organic chemicals at Consolidated Unit 21-003-99 and SWMU 21-024(c) was not required by the approved Phase III work plan. Table 6.2-3 summarizes the analytical results for detected organic chemicals. Plates 4 through 12 show the spatial distribution of detected organic chemicals in the different sampling groups across the sites.

Radionuclides

The radionuclide COPCs for Consolidated Unit 21-003-99 and SWMU 21-024(c) as identified in the Phase I report and what was left in place at the completion of the PCB remediation include americium-241, cesium-137, plutonium-238, plutonium-239/240, strontium-90, tritium, uranium-234, uranium-235/236, and uranium-238.

Two samples were analyzed for cesium-137 and tritium to define lateral extent. Table 6.2-4 presents the radionuclides detected or detected above BVs/FVs. Plate 13 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.2.4.4 Nature and Extent of Contamination

The nature and extent of inorganic, organic, and radionuclide COPCs at Consolidated Unit 21-003-99 and SWMU 21-024(c) addressed by the approved Phase III work plan are discussed below.

Inorganic Chemicals

The inorganic COPCs at Consolidated Unit 21-003-99 and SWMU 21-024(c) addressed in the approved Phase III work plan include chromium and nitrate.

Chromium concentrations decreased with depth at location 21-25719. The concentration in the 2011 sample from 14.0–15.0 ft bgs at this location was below the Qbt 2,3,4 BV. The vertical extent of chromium is defined.

Nitrate concentration increased laterally from location 21-605294 at 0.0–0.5 ft bgs (20 mg/kg) to location 21-614563 (approximately 20 ft west) (112 mg/kg). The residential SSL was approximately 1110 times the concentration detected in the 2011 sample at location 21-614563. Further sampling for extent of nitrate is not warranted.

Organic Chemicals

No organic COPCs at Consolidated Unit 21-003-99 and SWMU 21-024(c) were addressed in the approved Phase III work plan.

Radionuclides

The radionuclide COPCs at Consolidated Unit 21-003-99 and SWMU 21-024(c) addressed in the approved Phase III work plan include cesium-137 and tritium.

Cesium-137 and tritium activities decreased laterally from location 21-25764 to location 21-614564 (approximately 20 ft west). The lateral extent of cesium-137 and tritium is defined.

6.2.4.5 Summary of Human Health Risk Screening

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is 3×10^{-6} (2×10^{-6} using the EPA regional screening value for arsenic), which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.06, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 4×10^{-7}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.5, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.6 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is approximately 2×10^{-5} (1×10^{-5} using the EPA regional screening value for arsenic), which is slightly above (or equivalent to) the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The cancer risk is from arsenic and PAHs. The residential HI is 0.7, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial and construction worker scenarios over the entire site. There is a potential unacceptable risk for

the residential scenario for the entire site using the NMED arsenic SSL, but no potential unacceptable risk for the residential scenario for the entire site using the EPA regional screening value for arsenic.

6.2.4.6 Summary of Ecological Risk Screening

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for threatened and endangered [T&E] species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at Consolidated Unit 21-003-99 and SWMU 21-024(c).

6.3 Consolidated Unit 21-006(c)-99, Seepage Pits

Consolidated Unit 21-006(c)-99 consists of SWMUs 21-006(a), 21-006(b), 21-006(c), and 21-006(d). These SWMUs are inactive underground seepage pits associated with buildings 21-002 and 21-003 (Figure 6.3-1). In addition to a seepage pit, SWMU 21-006(b) also includes a drainline and an outfall from the seepage pit.

6.3.1 Operational History

SWMU 21-006(a) consists of an unmarked underground seepage pit of approximately 0.1 acre, located between former buildings 21-002 and 21-003.

- ~1945—The seepage pit was installed. According to the TA-21 RFI work plan (LANL 1991, 007529, p.18-14), the pit received Hanford container washwater, bomb electrolytic decontamination solution (ethylene glycol, phosphoric acid, and plutonium), and chemical makeup room wastewater. Approximately 12 gal. of the decontamination solution may have been emptied daily into the drain in room 322.
- Documentation is not available indicating when use of the seepage pit ended.
- The pit was apparently backfilled and is not visible. Documentation is not available indicating whether the pit was located on the north or south side of the corridor that connected the buildings. If it was on the south side, it may be the same pit as SWMUs 21-006(c) and 21-006(d).

SWMU 21-006(b) consists of a brick manhole placed within a trench (structure 21-118), including a drainline and outfall (LANL 1991, 007529, p. 15-103). The drainline and pit were installed to receive ether waste from the ethyl ether extraction process as part of the original TA-21 plutonium-purification process (Christensen and Maraman 1969, 004779, p. 8).

- 1945—The manhole and associated lines were installed during the construction of building 21-003 (LANL 1991, 007529, p. 15-103). A 3-in. cast-iron drainline exited the southeast side of building 21-002 and extended approximately 160 ft southward to structure 21-118. A 2-in. cast-iron outlet line ran approximately 100 ft southward from the pit to an outfall approximately 8.0 ft above the surface of a bench below the mesa top.
- September 1945—The ether extraction process was discontinued (Christensen and Maraman 1969, 004779, p. 48).
- Documentation is not available indicating when use of the pit ended. The location of the pit and drainline has not been conclusively identified.

SWMUs 21-006(c) and 21-006(d) are thought to be the same site because descriptions place them in close proximity (LANL 1991, 007529, p. 18-10). SWMU 21-006(c) consists of a seepage pit located 15 ft

outside the door to the bomb-cleaning room (room 322) at former building 21-003. The pit reportedly received bomb electrolytic decontamination solution from a drain in room 322. The pit is thought to be partially or entirely beneath former building 21-313. As with SWMUs 21-006(a) and 21-006(b), the period of operation has not been found in any available documentation. SWMU 21-006(d) may have been associated with a concrete pad and French drain system called the 21-272 dock. Waste from a second-story chemical makeup room was reportedly dumped or pumped into a stone-filled seepage pit, most likely the pit identified as SWMU 21-006(c).

6.3.2 Relationship to Other SWMUs and AOCs

Consolidated Unit 21-006(c)-99 consists of inactive underground seepage pits associated with former buildings 21-002 and 21-003. Consolidated Unit 21-023(a)-99 consists of septic tanks and drainlines, which received wastewater from former building 21-003. Although the sites are associated with the same building, the seepage pits and septic systems are not connected.

6.3.3 Summary of Previous Investigations

- 1992—A Phase I RFI was conducted at a portion of SWMU 21-006(b) and consisted of collecting six surface soil samples at six locations. The seepage pit was not located; therefore, boreholes were not drilled as required by the work plan (LANL 1994, 031591).
- 1999—A gamma radiological survey was conducted to identify the location(s) of the seepage pit(s) in the area between former buildings 21-002 and 21-003. Trenching was also done on the south side of the corridor between buildings 21-002 and 21-003 to locate underground lines between former buildings 21-002 and 21-003. The lines were located, but the trenching failed to show any evidence of a seepage pit. The survey concluded that the likely location of a seepage pit was just south of the former building 21-003 footprint (Andrews and Eshleman 1999, 071295, p.38).
- 2004—Radiological and geophysical surveys were completed. The geophysical survey failed to locate any seepage pit. However, the manhole and a portion of the pipelines associated with SWMU 21-006(b) were identified (LANL 2004, 087461).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (LANL 2010, 110772.33).

6.3.4 Site Contamination

6.3.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at Consolidated Unit 21-006(c)-99. The Phase II report concluded lateral and/or vertical extent of some radionuclide COPCs (americium-241 and tritium) were not defined. As a result, the following activities were completed as part of the 2011 investigation.

- Four samples were collected from two locations to address extent issues remaining following the previous investigation. At each location, samples were collected from the appropriate depth intervals as specified in the approved Phase III work plan. Samples were analyzed at off-site fixed

laboratories for the COPCs (americium-241 and tritium) requiring extent sampling as presented in the Phase III work plan (LANL 2011, 203659, Table 1).

- All investigation samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at Consolidated Unit 21-006(c)-99 are shown in Figure 6.3-1. Table 6.3-1 presents the samples collected and analyses requested for Consolidated Unit 21-006(c)-99. The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.3.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at Consolidated Unit 21-006(c)-99, no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.3.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for Consolidated Unit 21-006(c)-99 as identified in the Phase I report include antimony, barium, chromium, copper, cyanide, lead, mercury, nickel, nitrate, perchlorate, selenium, and zinc.

Additional extent sampling for inorganic chemicals at Consolidated Unit 21-006(c)-99 was not required by the approved Phase III work plan. Table 6.3-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Figure 6.3-2 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for Consolidated Unit 21-006(c)-99 as identified in the Phase I report include anthracene; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; chrysene; fluoranthene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,4,7,8,9-heptachlorodibenzofuran; 1,2,3,4,7,8-hexachlorodibenzodioxin; 1,2,3,6,7,8-hexachlorodibenzodioxin; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; indeno(1,2,3-cd)pyrene; methylene chloride; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; 1,2,3,7,8-pentachlorodibenzofuran; 2,3,4,7,8-pentachlorodibenzofuran; phenanthrene; pyrene; 2,3,7,8-tetrachlorodibenzofuran; tetrachloroethene; toluene; 1,2-xylene; and 1,3-xylene+1,4-xylene.

Additional extent sampling for organic chemicals at Consolidated Unit 21-006(c)-99 was not required by the approved Phase III work plan. Table 6.3-3 summarizes the analytical results for detected organic chemicals. Figure 6.3-3 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for Consolidated Unit 21-006(c)-99 as identified in the Phase I report include americium-241, cesium-137, plutonium-238, plutonium-239/240, strontium-90, tritium, uranium-234, uranium-235/236, and uranium-238.

Four samples were analyzed for americium-241 or tritium to define vertical and lateral extent, respectively. Table 6.3-4 presents the radionuclides detected or detected above BVs/FVs. Figure 6.3-4 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.3.4.4 Nature and Extent of Contamination

Inorganic Chemicals

No inorganic COPCs at Consolidated Unit 21-006(c)-99 were addressed in the approved Phase III work plan.

Organic Chemicals

No organic COPCs at Consolidated Unit 21-006(c)-99 were addressed in the approved Phase III work plan.

Radionuclides

The radionuclide COPCs at Consolidated Unit 21-006(c)-99 addressed in the approved Phase III work plan include americium-241 and tritium.

Americium-241 activity decreased with depth at location 21-601211 in the Phase III sample collected from 13.0–14.0 ft bgs. The vertical extent of americium-241 is defined.

Tritium activities decreased laterally from location 21-605259 to location 21-614565 (approximately 10 ft south). Tritium activities at the new sampling location did not change substantially with depth (0.089 pCi/g), but the residential SAL was approximately 5000 times the maximum activity at location 21-614565. The lateral extent of tritium is defined, and no further sampling for vertical extent is warranted.

6.3.4.5 Summary of Human Health Risk Screening

The Phase III sampling at Consolidated Unit 21-006(c)-99 addressed the vertical extent of americium-241 at one location and lateral extent of tritium on the mesa top. The results of the sampling do not affect the exposure point concentrations (EPCs) of either COPC; depth of the americium-241 result and depth of highest tritium result were greater than 10.0 ft bgs and the shallower tritium results were less than the previously calculated EPC (LANL 2010, 110772.33, Appendix H). Therefore, the EPCs and the risk/dose screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H) were not recalculated for this report and are presented below.

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is approximately 6×10^{-6}, which is below the NMED target risk level of 1×10^{-5}. The HI is approximately 0.04, which is below the NMED target HI of 1. The total dose is approximately 2 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is approximately 7×10^{-7}, which is below the NMED target risk level of 1×10^{-5}. The HI is approximately 0.08, which is below the NMED target HI of 1. The total dose is approximately 8 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario is approximately 4×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The total excess cancer risk presented in the Phase II report (2×10^{-5}) was strongly influenced by PAHs, with benzo(a)pyrene contributing 1.5×10^{-5} to the risk. As presented in the Phase II report (LANL 2010, 110772.33) and in the Laboratory's response to NMED's notice of disapproval (NOD), the Laboratory provided lines of evidence supporting the conclusion that "the slightly elevated cancer risk estimated for the residential scenario at this consolidated unit is not related to release from the site" (LANL 2010, 110840, Response to Comment 6). The lines of evidence regarding PAHs were accepted by NMED in its direction to modify the Phase II DP Site investigation report as two reasonable arguments to disregard detected PAHs (LANL 2010, 110840; NMED 2010, 110959). The HI is approximately 0.2, which is below the NMED target HI of 1. The total dose is approximately 11 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios for the entire site.

6.3.4.6 Summary of Ecological Risk Screening

The Phase III sampling at Consolidated Unit 21-006(c)-99 addressed the vertical extent of americium-241 at one location and lateral extent of tritium on the mesa top. The results of the sampling do not affect the EPCs of either COPC; depth of the americium-241 result was greater than 5.0 ft bgs and the tritium result at 3.0–4.0 ft bgs was less than the previously calculated EPC (LANL 2010, 110772.33, Appendix H). In addition, americium-241 and tritium were not identified as chemicals of potential ecological concern (COPECs) at Consolidated Unit 21-006(c)-99 (LANL 2010, 110772.33, Appendix H). Therefore, the EPCs and the risk/dose screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H) were not recalculated for this report.

Based on the Phase II ecological risk-screening assessment, no potential risk to ecological receptors exists at Consolidated Unit 21-006(c)-99.

6.4 Consolidated Unit 21-022(h)-99, Sumps, a Pipeline, and an Outfall

Consolidated Unit 21-022(h)-99 consists of SWMUs 21-022(h), a sump, drainline, and outfall that received industrial wastewater and drainage from floor and roof drains of the plutonium fuel service building 21-150 (Figure 6.4-1); SWMU 21-022(i), a sump located in the equipment room of building 21-002; and SWMU 21-022(j), a sump that received drainage from the equipment room of building 21-003 (Figure 6.4-1).

6.4.1 Operational History

SWMU 21-022(h) consists of a sump (structure 21-202), its drainline, and an outfall.

- 1961–1962—Structure 21-202 was constructed of 36-in.-diameter corrugated metal pipe (CMP) to receive industrial waste water and drainage from the building 21-150 basement floor and roof drains and route effluent through a 24-in.-diameter pipe that discharged to Los Alamos Canyon (LANL 1991, 007529, p. 18-55).
- 1991—The outfall discharged only treated cooling water from this time forward, and no documentation that the structures were removed is available (LANL 1991, 007529, p. 15-53).

SWMU 21-022(i) consists of a sump in the equipment room at the southeast corner of former building 21-002.

- 1945—Building 21-002 was constructed, but no documentation is available indicating if the sump was constructed at the same time (LANL 1991, 007529, p. 18-55).
- 1994/1995—The sump was removed during the D&D of building 21-003. The discharge point for the sump effluent is unclear since no drainlines were identified south of the equipment room.

SWMU 21-022(j) consists of a sump (18 in. by 18 in. by 8 ft deep) at the south end of former building 21-003 that received drainage from the equipment room.

- 1945—Building 21-003 was constructed, but no documentation is available indicating if the sump was constructed at the same time (LANL 1991, 007529, pp. 18-55, 18-58).
- 1994/1995—The sump was removed during D&D activities at building 21-003. The floor of the sump was located approximately 14.0 ft bgs (LANL 1996, 053784, p. 1).

6.4.2 Relationship to Other SWMUs and AOCs

No other SWMUs or AOCs are associated with Consolidated Unit 21-022(h)-99. Although this is a consolidated unit, none of the sumps are connected, and each is associated with a different building.

6.4.3 Summary of Previous Investigations

- 1992—RFI activities at the outfall portion of SWMU 21-022(h) included a radiological field survey and the collection of eight soil samples from three locations in the outfall channel (LANL 1994, 031591).
- 1995—Voluntary corrective action (VCA) activities conducted at SWMU 21-022(j), in conjunction with D&D activities at former building 21-003, included removing the sump and collecting three samples in the center of the footprint of the removed sump to characterize potential contamination (LANL 1996, 053784).
- SWMU 21-022(i)—This sump has not been previously investigated.
- 2004—Radiological and geophysical surveys were completed. The geophysical survey located the sump, drainline, and outfall associated with SWMU 21-022(h). Evidence of previously removed sumps of SWMUs 21-022(i) and 21-022(j) was not found (LANL 2004, 087461).

- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (LANL 2010, 110772.33)

6.4.4 Site Contamination

6.4.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at SWMU 21-022(h). The Phase II report concluded lateral and/or vertical extent of some inorganic, organic, and radionuclide COPCs (barium, isotopic plutonium, and SVOCs) were not defined. In addition, the Phase II report recommended remediation at the associated outfall to remove elevated activities of plutonium-239/240 and elevated concentrations of lead and benzo(a)pyrene. As described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the outfall area at SWMU 21-022(h) was not remediated because of safety concerns associated with removing the contaminated media. Samples were collected during the Phase III investigations to delineate the area above SSLs or SALs at the outfall. As a result, the following activities were completed as part of the 2011 investigation.

- Three samples were collected from two locations to address extent issues remaining following the previous investigation. At each location, samples were collected from the appropriate depth intervals as specified in the approved Phase III work plan. Samples were analyzed at off-site fixed laboratories for the COPCs (barium, isotopic plutonium, or SVOCs) requiring extent sampling, as presented in the Phase III work plan (LANL 2011, 203659, Table 1).
- All investigation samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at SWMU 21-022(h) are shown in Figure 6.4-1. Table 6.4-1 presents the samples collected and analyses requested for SWMUs 21-022(h) and 21-022(j). The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.4.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at SWMU 21-022(h), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.4.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for SWMU 21-022(h) as identified in the Phase I report include aluminum, antimony, barium, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, nitrate, perchlorate, selenium, silver, and zinc.

One sample was analyzed for barium to define lateral extent at SWMU 21-022(h). Table 6.4-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs for SWMUs 21-022(h)

and 21-022(j). Figure 6.4-2 shows the spatial distribution of inorganic chemicals detected or detected above BVs for SWMUs 21-022(h) and 21-022(j).

Organic Chemicals

The organic COPCs for SWMU 21-022(h) as identified in the Phase I report include acenaphthene; anthracene; Aroclor-1254; Aroclor-1260; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; butylbenzylphthalate; carbazole; chrysene; di-n-butylphthalate; dibenz(a,h)anthracene; dibenzofuran; fluoranthene; fluorene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,4,7,8,9-heptachlorodibenzofuran; 1,2,3,4,7,8-hexachlorodibenzodioxin; 1,2,3,6,7,8-hexachlorodibenzodioxin; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; 1,2,3,7,8,9-hexachlorodibenzofuran; 2,3,4,6,7,8-hexachlorodibenzofuran; indeno(1,2,3-cd)pyrene; 4-isopropyltoluene; methylene chloride; 2-methylnaphthalene; naphthalene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; 1,2,3,7,8-pentachlorodibenzodioxin; 1,2,3,7,8-pentachlorodibenzofuran; 2,3,4,7,8-pentachlorodibenzofuran; phenanthrene; pyrene; and 2,3,7,8-tetrachlorodibenzofuran.

Two samples were analyzed for SVOCs to define lateral extent at SWMU 21-022(h). The results reported a detected concentration of diethylphthalate, which had not been detected in the previous samples, and diethylphthalate was retained as a COPC. Table 6.4-3 summarizes the analytical results for detected organic chemicals for SWMUs 21-022(h) and 21-022(j). Figure 6.4-3 shows the spatial distribution of detected organic chemicals for SWMUs 21-022(h) and 21-022(j).

Radionuclides

The radionuclide COPCs for SWMU 21-022(h) as identified in the Phase I report include americium-241, cesium-137, plutonium-238, plutonium-239/240, strontium-90, tritium, and uranium-235/236.

Two samples were analyzed for isotopic plutonium to define lateral extent at SWMU 21-022(h). Table 6.4-4 presents the radionuclides detected or detected above BVs/FVs for SWMUs 21-022(h) and 21-022(j). Figure 6.4-4 shows the spatial distribution of radionuclides detected or detected above BVs/FVs for SWMUs 21-022(h) and 21-022(j).

6.4.4.4 Nature and Extent of Contamination

Inorganic Chemicals

The inorganic COPC at SWMU 21-022(h) addressed in the approved Phase III work plan includes barium.

The barium concentration decreased laterally from location 21-605282 to location 21-614566 (approximately 10 ft west). The lateral extent of barium is defined.

Organic Chemicals

The organic COPCs at SWMU 21-022(h) addressed in the approved Phase III work plan include SVOCs.

SVOC concentrations (primarily PAHs) decreased laterally from location 21-600242 to location 21-614567 (approximately 10 ft east). The samples at location 21-614567 also reported a detected concentration of diethylphthalate (0.113 mg/kg), which had not been detected in the previous samples, at

1.5–2.0 ft bgs. The concentration was below the EQL and the residential SSL was approximately 430,000 times the concentration. The concentrations of the other SVOCs decreased with depth at location 21-614567. The lateral extent of SVOCs is defined, and further sampling for extent of diethylphthalate is not warranted.

Radionuclides

The radionuclide COPCs at SWMU 21-022(h) addressed in the approved Phase III work plan include plutonium-238 and plutonium-239/240.

Plutonium-238 and plutonium-239/240 activities decreased laterally from location 21-600242 to location 21-614567 (approximately 10 ft east). The activities also decreased with depth at this location. The lateral extent of plutonium-238 and plutonium-239/240 is defined.

6.4.4.5 Summary of Human Health Risk Screening

Only SWMU 21-022(h) is evaluated for risk/dose because SWMU 21-022(i) will be sampled as part of the building 21-002 investigation, and all samples collected at SWMU 21-022(j) are deeper than the exposure scenarios address (Table 6.4-1).

As noted above and presented in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the remediation in the outfall area at SWMU 21-022(h) was not conducted because of safety concerns associated with removing the contaminated media from the steep slope/cliff area. As a result, the COPCs resulting in potential risk under the industrial, construction worker, and/or the residential scenarios were not addressed.

In addition to evaluating the entire site for potential risk/dose, the mesa-top portion of the SWMU was evaluated separately for potential risk/dose under the industrial, construction worker, and residential scenarios. As stated in the approved Phase III work plan, the outfall contamination area is on a steep slope/cliff, with 45- to 90-degree slopes (Figure 6.4-1; Appendix C, Photos 1 and 2; Appendix H, Figures H-5.4-1 to H-5.4-5). This area consists of unstable, highly weathered, fractured bedrock with approximately 20% soil, filling fractures and voids between rocks. This area would not serve as an exposure area to residents, construction workers, or industrial workers. Therefore, the exposure to human receptors over this portion of the site has no likelihood of occurring because there is currently no access to the slope/cliff, there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff, and there are major safety concerns regarding any activity on the slope/cliff. The steep slope/cliff portion of the site will not result in human exposure to contamination.

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 2, which is above the NMED target HI of 1 (NMED 2012, 219971). The elevated HI is from lead and otherwise the HI is less than 1. The total dose is 2 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Risk/dose screening assessments under the industrial scenario for the mesa top were not conducted for SWMU 21-022(h) because samples were not collected in the 0.0–1.0-ft depth interval on the mesa top per the approved work plans. However, the elevated lead and PAH concentrations are located on the slope/cliff portion of the site where there is no human exposure to the contamination.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 9×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1 (NMED 2012, 219971). The HI is primarily from lead and otherwise the HI is less than 1. The total dose is 6 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the construction worker scenario on the mesa top is 4×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.3, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.6 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from PAHs. The residential HI is approximately 2, which is above the NMED target HI of 1 (NMED 2012, 219971). The elevated HI is from lead and otherwise the HI is less than 1. The total dose is 10 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the residential scenario on the mesa top is 6×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971).The residential HI is 0.2, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.9 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the construction worker and residential scenarios on the mesa top at SWMU 21-022(h). The industrial scenario was not evaluated on the mesa top because samples were not collected in the 0.0-1.0-ft depth interval. There are potential unacceptable risks or doses for the industrial and residential scenarios for the entire site at SWMU 21-022(h). However, the elevated lead and PAH concentrations are on the slope/cliff portion of the site where there is no human exposure to the contamination.

6.4.4.6 Summary of Ecological Risk Screening

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at SWMU 21-022(h).

6.5 Consolidated Unit 21-023(a)-99, Septic Systems

Consolidated Unit 21-023(a)-99 consists of SWMU 21-023(a), a septic tank and drainlines that reportedly served a janitor's mop sink in former building 21-003; SWMU 21-023(b), a septic tank and drainlines that received wastewater from the shower room in former building 21-003; and SWMU 21-023(d), a septic tank and drainlines that received industrial waste and sewage from former building 21-003 (Figure 6.5-1).

6.5.1 Operational History

SWMU 21-023(a) consists of a steel-reinforced concrete septic tank, and 4-in.cast-iron inlet and outlet lines connected to existing waste lines to the north and manhole 21-274 to the south (Andrews and Eshleman 1999, 071295).

- 1945—Building 21-003 was constructed. Documentation of the septic system construction date is not available.
- 1966—Septic tank (structure 21-225, 5 ft by 9 ft by 6 ft deep) and lines were removed when additions were made to building 21-003 and the new sewage treatment plant opened.

SWMU 21-023(b) consists of a septic tank (structure 21-142) and 4-in. cast-iron inlet and outlet lines connected to structure 21-084, which connected to existing waste lines to the north and manhole 21-274 to the south (Andrews and Eshleman 1999, 071295).

- 1945—Building 21-003 and the septic system were constructed.
- 1966—Septic tank (a 500-gal., approximately 6.5-ft-diameter circular structure) and lines may have been removed when the new sewage treatment plant opened.

SWMU 21-023(d) consists of a septic tank and 4-in. cast-iron inlet and outlet lines that were probably connected to the north to the 4-in. line leading to the treatment facilities (building 21-035) and to the south to manhole 21-273 (Andrews and Eshleman 1999, 071295).

- 1960—The 5-ft by 3-ft by 5.5-ft-deep steel-reinforced concrete septic tank (structure 21-187) was installed under room 364 of building 21-003 and received industrial waste and sewage.
- ~1966—The septic tank was bypassed and the pipeline was connected to the new sewage treatment plant.
- 1966—The septic tank and lines were removed when additions were made to building 21-003 and the new sewage treatment plant opened.

6.5.2 Relationship to Other SWMUs and AOCs

Consolidated Unit 21-023(a)-99 consists of a septic tanks and drainlines, which received wastewater from building 21-003. Consolidated Unit 21-006(c)-99 consists of inactive underground seepage pits associated with former buildings 21-002 and 21-003. Although the sites are associated with the same building, the seepage pits and septic systems are not connected.

6.5.3 Summary of Previous Investigations

- 1998/1999—D&D characterization included direct surveys of alpha and beta activity (using a pancake GM detector and a 75-cm^2 alpha scintillation detector). No beta or alpha activity was detected in the locations of any of the tanks.
- 1999—A geophysical investigation confirmed that the septic tanks had been removed. The inlet and outlet lines associated with SWMUs 21-023(a) and 21-023(b) were also confirmed as removed. The inlet and outlet lines associated with SWMU 21-023(d) were determined to have been left in place (Andrews and Eshleman 1999, 071295).
- 2004—Radiological and geophysical surveys were completed. The cleanout for the tank [SWMU 21-023(d)] was visible in the field. The line was not located because of interference from

the reinforced concrete present near the pipeline. No evidence of the removed tank excavation area was found (LANL 2004, 087461).

- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation was conducted to define extent for COPCs (LANL 2010, 110772.33).

6.5.4 Site Contamination

6.5.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at Consolidated Unit 21-023(a)-99. As directed by NMED (2010, 110959), location 21-603010 was resampled to determine whether PAHs were present and whether these organic chemicals originated from a piece of asphalt collected with the initial sample in 2009. As a result, the following activities were completed as part of the 2011 investigation.

- Two samples were collected from a location immediately next to and downslope of location 21-603010 (original location) to address the nature and extent issue remaining following the previous investigation. Samples were collected from 3.0–4.0 ft and 5.0–6.0 ft bgs and were analyzed at off-site fixed laboratories for the COPCs (SVOCs) requiring resampling as presented in the Phase III work plan (LANL 2011, 203659, Table 1).
- All investigation samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at Consolidated Unit 21-023(a)-99 are shown in Figure 6.5-1. Table 6.5-1 presents the samples collected and analyses requested for Consolidated Unit 21-023(a)-99. The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.5.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at Consolidated Unit 21-023(a)-99, no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.5.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for Consolidated Unit 21-023(a)-99, as identified in the Phase I report, include antimony, arsenic, barium, calcium, chromium, cobalt, copper, lead, manganese, mercury, nitrate, perchlorate, selenium, and vanadium.

Additional extent sampling for inorganic chemicals at Consolidated Unit 21-023(a)-99 was not required by the approved Phase III work plan. Table 6.5-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Figure 6.5-2 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for Consolidated Unit 21-023(a)-99 as identified in the Phase I report and following Phase III resampling and substitution of 2011 data include acenaphthene; acetone; anthracene; Aroclor-1254; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; chrysene; di-n-butylphthalate; ethylbenzene; fluoranthene; fluorene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,4,7,8-hexachlorodibenzodioxin; 1,2,3,6,7,8-hexachlorodibenzodioxin; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; indeno(1,2,3-cd)pyrene; 4-isopropyltoluene; 2-methylnaphthalene; naphthalene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; 2,3,4,7,8-pentachlorodibenzofuran; phenanthrene; pyrene; styrene; 2,3,7,8-tetrachlorodibenzofuran; tetrachloroethene; toluene; 1,2-xylene; and 1,3-xylene+1,4-xylene.

Phase II sample results at original location 21-603010 from 3.0–4.0 ft bgs had unusually elevated levels of PAHs that were attributed to runoff from the road, which is upslope of the site, rather than operations associated with the buildings. NMED's direction to modify the Phase II report stated that this location must be resampled to confirm the presence of PAHs (NMED 2010, 110959, Comment 9). As a result, two samples were collected from a location immediately next to and downslope of location 21-603010 (location 21-614568) and were analyzed for SVOCs to define the nature and vertical extent. Table 6.5-3 summarizes the analytical results for detected organic chemicals. Figure 6.5-3 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for Consolidated Unit 21-023(a)-99, as identified in the Phase I report, include americium-241, cesium-137, plutonium-238, plutonium-239/240, strontium-90, tritium, uranium-234, and uranium-235/236.

Additional extent sampling for radionuclides at Consolidated Unit 21-023(a)-99 was not required by the approved Phase III work plan. Table 6.5-4 presents the radionuclides detected or detected above BVs/FVs. Figure 6.5-4 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.5.4.4 Nature and Extent of Contamination

Inorganic Chemicals

No inorganic COPCs at Consolidated Unit 21-023(a)-99 were addressed in the approved Phase III work plan.

Organic Chemicals

The organic COPCs at Consolidated Unit 21-023(a)-99 addressed in the approved Phase III work plan include SVOCs.

SVOC concentrations (primarily PAHs) decreased laterally from location 21-601127 to location 21-614568 (new location near location 21-603010). Concentrations also decreased with depth. The sample data from the new location (21-614568) also confirmed the elevated PAH concentrations reported in the sample collected at 3.0–4.0 ft at location 21-603010 were from asphalt. The lateral and vertical extent of SVOCs are defined.

Radionuclides

No radionuclide COPCs at Consolidated Unit 21-023(a)-99 were addressed in the approved Phase III work plan.

6.5.4.5 Summary of Human Health Risk Screening

The 2011 samples collected at location 21-614568 (immediately next to and downslope of location 21-603010) found few and low-level concentrations of PAHs, indicating the original conclusion in the Phase II report that the elevated PAHs were from asphalt at location 21-603010, which was 20 ft downslope from DP Road, a source of asphalt, was correct. As a result, the human health risks for Consolidated Unit 21-023(a)-99 were reassessed, substituting the SVOC data from location 21-614568 for the SVOC data from location 21-603010.

Industrial Scenario

Risk/dose screening assessments for the industrial scenario for the entire site were not conducted for Consolidated Unit 21-023(a)-99 because samples were not collected from the 0.0–1.0-ft depth interval for these subsurface septic systems per the approved work plans.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is approximately 0.4, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 3×10^{-5} (2×10^{-5} using the EPA regional screening value for arsenic), which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from arsenic and PAHs. The residential HI is approximately 0.6, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the construction worker scenario for the entire site. The industrial scenario was not evaluated because samples were not collected from the 0.0–1.0-ft depth interval. There is a potential unacceptable cancer risk for the residential scenario for the entire site. The residential HI and total dose were below NMED and DOE target levels, respectively.

6.5.4.6 Summary of Ecological Risk Screening

The ecological risk-screening assessment for Consolidated Unit 21-023(a)-99 was revised, substituting the SVOC data from location 21-614568 for the SVOC data from location 21-603010.

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at Consolidated Unit 21-023(a)-99.

6.6 SWMU 21-024(b), Septic System

SWMU 21-024(b) is a septic tank, pipelines, and associated outfall that formerly routed sewage from former building 21-017 (a passageway connecting buildings 21-004 and 21-005) (Figure 6.6-1).

6.6.1 Operational History

- 1945—Building 21-017 (a passageway) was constructed and the sanitary sewer system routed sewage through a reinforced concrete septic tank 9 ft by 5.75 ft by 7.25 ft deep (structure 21-055) to the surface soil south of former building 21-005 (LASL 1946, 071281; LANL 1991, 007529, p. 15-34). The inlet and outlet pipelines are 6-in. and 4-in. VCP, respectively (LASL 1946, 071281).
- 1969—Building 21-017 underwent D&D activities (LANL 1991, 007529, p. 15-34).

6.6.2 Relationship to Other SWMUs and AOCs

No other SWMUs or AOCs are associated with SWMU 21-024(b).

6.6.3 Summary of Previous Investigations

- 1992—RFI activities included conducting a radiological field survey and collection of eight soil samples within the outfall drainage channel (LANL 1994, 031591, p. 8-10).
- 1993—A borehole was advanced near the septic tank and four samples were collected.
- 2004—Radiological and geophysical surveys were completed. The geophysical survey identified the septic tank, the pipeline from former building 21-017 to the septic tank, but not the outfall (LANL 2004, 087461).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (LANL 2010, 110772.33).

6.6.4 Site Contamination

6.6.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, the Phase II report recommended remediation at SWMU 21-024(b) on the mesa top as well as at the associated outfall to remove elevated activities of americium-241 and plutonium-239/240. Excavation was proposed beneath the septic tank inlet line north of DP Road, at the inlet connection to the former septic tank, and at the outlet connection to the former septic tank on the mesa top. Soil removal was also proposed in the outfall area. The Phase II report concluded the lateral and vertical extent of COPCs were defined. As described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the outfall area was not remediated because of safety concerns associated with removing the contaminated media. However, samples were collected during the Phase III investigations to determine the depth of excavation at one mesa-top location and to delineate the area above SALs at the outfall. As a result, the following activities were completed as part of the 2011 investigation.

- Soil was removed beneath the septic tank inlet line north of DP Road, at the inlet connection to the former septic tank, and at the outlet connection to the former septic tank on the mesa top from approximately 5.0–8.0 ft bgs (approximately 4 yd^3).

- One sample was collected from one location beneath the outlet connection to the former septic tank from 5.5–6.0 ft bgs and analyzed for isotopic plutonium at an off-site fixed laboratory.
- Two samples were collected from two locations 20 ft east and west of the outfall from 0.0–0.5 ft and 1.5–2.0 ft bgs and analyzed for americium-241 and isotopic plutonium at an off-site fixed laboratory.
- The samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at SWMU 21-024(b) are shown in Figure 6.6-1. Table 6.6-1 presents the samples collected and analyses requested for SWMU 21-024(b). The geodetic coordinates of the Phase III sampling location is presented in Table 3.2-1.

6.6.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at SWMU 21-024(b), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.6.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for SWMU 21-024(b) as identified in the Phase I report and following remediation in 2011 include barium, chromium, cobalt, copper, cyanide, lead, mercury, nickel, nitrate, perchlorate, selenium, silver, strontium, and zinc.

Additional extent sampling for inorganic chemicals at SWMU 21-024(b) was not required by the approved Phase III work plan. Table 6.6-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Figure 6.6-2 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for SWMU 21-024(b) as identified in the Phase I report and following remediation in 2011 include benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; bis(2-ethylhexyl)phthalate; chrysene; fluoranthene; phenanthrene; pyrene; and toluene.

Additional extent sampling for organic chemicals at SWMU 21-024(b) was not required by the approved Phase III work plan. Table 6.6-3 summarizes the analytical results for detected organic chemicals. Figure 6.6-3 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for SWMU 21-024(b) as identified in the Phase I report and following remediation in 2011 include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235/236, and uranium-238.

Five samples were analyzed for americium-241 and/or isotopic plutonium to determine the depth of excavation and to laterally delineate the area above SALs around the outfall. Table 6.6-4 presents the

radionuclides detected or detected above BVs/FVs. Figure 6.6-4 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.6.4.4 Nature and Extent of Contamination

Inorganic Chemicals

No inorganic COPCs at SWMU 21-024(b) were addressed in the approved Phase III work plan.

Organic Chemicals

No organic COPCs at SWMU 21-024(b) were addressed in the approved Phase III work plan.

Radionuclides

The radionuclide COPCs at SWMU 21-024(b) addressed in the approved Phase III work plan included americium-241, plutonium-238, and plutonium-239/240.

Plutonium-238 and plutonium-239/240 activities decreased with depth at location 21-601090 at 5.5–6.5 ft bgs. The vertical extent of plutonium-238 and plutonium-239/240 is defined.

Americium-241, plutonium-238, and plutonium-239/240 activities decreased laterally from location 21-600504 to location 21-614569 (approximately 20 ft west) and from location 21-600505 to location 21-614570 (approximately 20 ft east). The activities decreased with depth at location 21-614569 but increased slightly with depth at location 21-614570 (0.071 pCi/g, 0.013 pCi/g, and 3.32 pCi/g). The residential SALs were approximately 132 times, 1000 times, and 6 times (the plutonium-239/240 industrial SAL was approximately 130 times) the respective maximum concentrations at this location. The lateral extent of americium-241, plutonium-238, and plutonium-239/240 is defined, the vertical extent is defined at location 21-614569, and no further sampling for extent is warranted at location 21-614570.

6.6.4.5 Summary of Human Health Risk Screening

The Phase III investigation at SWMU 21-024(b) involved removing contaminated soil/tuff to depths ranging from 5.3–8.0 ft bgs at five locations (approximately 4 yd^3). Five samples were collected (one sample on the mesa top and four samples around the outfall) from three locations to define excavation depth at location 21-601090 and lateral extent of contamination at the outfall.

As noted above and presented in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the remediation in the outfall area was not conducted because of safety concerns associated with removing the contaminated media.

In addition to evaluating the entire site for potential risk/dose, the mesa-top portion of the SWMU was evaluated separately for potential risk/dose under the industrial, construction worker, and residential scenarios. As stated in the approved Phase III work plan, the outfall contamination area is on a steep slope/cliff, with 45- to 90-degree slopes (Figure 6.6-1 and Appendix C, Photo 3). This area consists of unstable, highly weathered, fractured bedrock with approximately 20% soil, filling fractures and voids between rocks. This area would not serve as an exposure area to residents, construction workers, or industrial workers. Therefore, the exposure to human receptors over this portion of the site has no likelihood of occurring because there is currently no access to the slope/cliff, there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff, and there are major safety

concerns regarding any activity on the slope/cliff. The steep slope/cliff portion of the site will not result in human exposure to contamination.

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is 9×10^{-9}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.02, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 2 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Risk/dose screening assessments under the industrial scenario for the mesa top were not conducted for SWMU 21-024(b) because samples were not collected from the 0.0–1.0-ft-depth interval on the mesa top per the approved work plans.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 1×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.08, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 9 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the construction worker scenario for the mesa top is 1×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.009, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 5 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential HI is 0.1, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 14 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the residential scenario for the mesa top is 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential HI is 0.04, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 7 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the human health risk-screening assessments, no potential unacceptable risks or doses exist for the construction worker and residential scenarios for the mesa top and for the entire site. There were also no potential unacceptable risks or doses under the industrial scenario for the entire site. The industrial scenario was not evaluated on the mesa top because samples were not collected in the 0.0–1.0-ft depth interval.

6.6.4.6 Summary of Ecological Risk Screening

The ecological risk-screening assessment was revised following the excavation of contaminated soil/tuff from 0.0–5.0 ft bgs on the mesa top.

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at SWMU 21-024(b).

6.7 SWMU 21-024(d), Septic System

SWMU 21-024(d) is an inactive septic tank, pipelines, and associated outfall that routed sewage from an office building (former building 21-001) to the south rim of the mesa above Los Alamos Canyon (Figure 6.7-1).

6.7.1 Operational History

- 1945—Building 21-001 was constructed as an office building and the sanitary sewer system routed sewage via 6-in. VCP lines (LASL 1946, 071281) through a reinforced concrete 17.5-ft by 9.5-ft by 8.83-ft-deep septic tank (structure 21-106), until the pipe surfaced on the south rim of DP Mesa above Los Alamos Canyon (LANL 1991, 007529, p. 15-34).
- Early 1960s—Building 21-001 was removed (McGehee and Garcia 1999, 087442, p. 76).
- 1995—The septic tank was filled with pea gravel and left in place. The inlet and outlet pipelines were grouted with concrete and left in place (LANL 1996, 053789, p. 2).

6.7.2 Relationship to Other SWMUs and AOCs

No other SWMUs or AOCs are associated with SWMU 21-024(d).

6.7.3 Summary of Previous Investigations

- 1992—Radiological survey was performed in the discharge area at the canyon rim and on the topographical bench immediately below the mesa top (LANL 1994, 031591, p. 8-28). Four soil samples were collected from the mesa top and the bench area.
- 1993—An 8-ft borehole was advanced next to the septic tank (structure 21-106), and four samples were collected (LANL 1995, 052350, p. 6-4).
- 1995—VCA activities included collecting samples from the tank interior and removing the contents of the septic tank, conducting a radiation survey in the drainage area below the tank, and collecting five samples (LANL 1996, 053789, p. 1-2).
- 2004—Radiological and geophysical surveys were completed. The geophysical survey identified two pipes running from former building 21-001 and converging in a manhole just north of the septic tank. A small fragment of pipe was also located just south of the current passageway. Both the septic tank and outfall were identified (LANL 2004, 087461).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (LANL 2010, 110772.33).

6.7.4 Site Contamination

6.7.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at SWMU 21-024(d). The Phase II report concluded the vertical extent of some radionuclide COPCs (americium-241 and tritium) was not defined. As a result, the following activities were completed as part of the 2011 investigation.

- One sample was collected from one location to address the vertical extent issue remaining following the previous investigation. The sample was collected from the appropriate depth interval specified in the approved Phase III work plan (LANL 2011, 203659, Table 1) and analyzed at an off-site fixed laboratory for americium-241 and tritium.
- The investigation sample was field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at SWMU 21-024(d) are shown in Figure 6.7-1. Table 6.7-1 presents the samples collected and analyses requested for SWMU 21-024(d). The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.7.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at SWMU 21-024(d), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.7.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for SWMU 21-024(d) as identified in the Phase I report include arsenic, barium, chromium, cobalt, copper, cyanide, lead, manganese, mercury, nickel, nitrate, perchlorate, selenium, silver, uranium, and zinc.

Additional extent sampling for inorganic chemicals at SWMU 21-024(d) was not required by the approved Phase III work plan. Table 6.7-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Figure 6.7-2 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for SWMU 21-024(d) as identified in the Phase I report include acenaphthene; acenaphthylene; anthracene; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; benzoic acid; bis(2-ethylhexyl)phthalate; butylbenzylphthalate; chrysene; dibenz(a,h)anthracene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; di-n-butylphthalate; fluoranthene; fluorene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,4,7,8,9-heptachlorodibenzofuran; 1,2,3,4,7,8-hexachlorodibenzodioxin; 1,2,3,6,7,8-hexachlorodibenzodioxin; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; 1,2,3,7,8,9-

hexachlorodibenzofuran; 2,3,4,6,7,8-hexachlorodibenzofuran; indeno(1,2,3-cd)pyrene; 4-isopropyltoluene; methylene chloride; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; 1,2,3,7,8-pentachlorodibenzodioxin; 1,2,3,7,8-pentachlorodibenzofuran; 2,3,4,7,8-pentachlorodibenzofuran; phenanthrene; pyrene; 2,3,7,8-tetrachlorodibenzodioxin; 2,3,7,8-tetrachlorodibenzofuran; toluene; and trichloroethene.

Additional extent sampling for organic chemicals at SWMU 21-024(d) was not required by the approved Phase III work plan. Table 6.7-3 summarizes the analytical results for detected organic chemicals. Plate 14 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for SWMU 21-024(d) as identified in the Phase I report include americium-241, cesium-137, plutonium-238, plutonium-239/240, strontium-90, tritium, uranium-234, uranium-235/236, and uranium-238.

One sample was analyzed for americium-241 and tritium to define vertical extent at one location. Table 6.7-4 presents the radionuclides detected or detected above BVs/FVs. Figure 6.7-3 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.7.4.4 Nature and Extent of Contamination

Inorganic Chemicals

No inorganic COPCs at SWMU 21-024(d) were addressed in the approved Phase III work plan.

Organic Chemicals

No organic COPCs at SWMU 21-024(d) were addressed in the approved Phase III work plan.

Radionuclides

The radionuclide COPCs at SWMU 21-024(d) addressed in the approved Phase III work plan included americium-241 and tritium.

Americium-241 and tritium activities did not change substantially with depth in the sample collected from location 21-614571 at 25.0–26.0 ft bgs. The americium-241 activity increased by 0.0057 pCi/g, and the tritium activity decreased by 0.019 pCi/g from the activities at location 19-601285 from 20.0–21.0 ft bgs. The residential SALs were approximately 1900 times and 16,000 times the maximum activities at these locations. Further sampling for extent of americium-241 and tritium is not warranted.

6.7.4.5 Summary of Human Health Risk Screening

The Phase III sampling at SWMU 21-024(d) addressed the vertical extent of americium-241 and tritium at one location. The results of the sampling do not affect the EPCs of either COPC because the depth of the sample collected was greater than 10.0 ft bgs. Therefore, the EPCs and the risk/dose screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H) were not recalculated for this report and the Phase II results are summarized below.

Industrial Scenario

The total excess cancer risk for the industrial scenario is approximately 5×10^{-6}, which is below the NMED target risk level of 1×10^{-5}. The HI is approximately 0.07, which is below, the NMED target HI of 1. The total dose is approximately 2 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is approximately 2×10^{-7}, which is below the NMED target risk level of 1×10^{-5}. The HI is approximately 1, which is equivalent to the NMED target HI of 1. The total dose is approximately 4 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario is approximately 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5}. The total excess cancer risk in the Phase II report (2×10^{-5}) was strongly affected by arsenic (9×10^{-6}), which is approximately half of the total risk at the site. As discussed in the Phase II report (LANL 2010, 110772.33), clarified in the Laboratory's response to the NOD (LANL 2010, 110840, Response to Comment 11), and agreed to by NMED, which stated, "The response is acceptable as provided," in its direction to modify (NMED 2010, 110959, Response to Comment 11), the arsenic EPC is similar to background concentrations and results in an overestimation of the risk. The HI is approximately 0.8, which is below the NMED target HI of 1. The total dose is approximately 8 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios for the entire site.

6.7.4.6 Summary of Ecological Risk Screening

The Phase III sampling at SWMU 21-024(d) addressed the vertical extent of americium-241 and tritium at one location. The results of the sampling do not affect the EPCs of either COPC because the depth of the sample collected was greater than 5.0 ft bgs. In addition, americium-241 and tritium were not identified as COPECs at SWMU 21-024(d) (LANL 2010, 110772.33, Appendix H). Therefore, the EPCs and the risk-screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H) were not recalculated for this report.

Based on the Phase II ecological risk-screening assessment, there is no potential risk to ecological receptors at SWMU 21-024(d).

6.8 SWMU 21-024(g), Septic System

SWMU 21-024(g) is an inactive septic system that previously routed sewage from building 21-031 (cold workshop/electronics) through pipelines and septic tank (structure 21-125) into two drainage ditches (LASL 1947, 087576; LASL 1948, 087577) (Figure 6.8-1). Engineering drawings from the 1950s (LASL 1953, 024437; LASL 1958, 000406) indicate sewage from building 21-007 (warehouse) was tied into the system. Subsequently, the drainage ditches were no longer used, and the septic tank was moved farther north outside of the fenced area to discharge on the surface of the north rim of DP Mesa. Additionally, a

cut pipe visibly exits building 21-031, directing flow into the 2-ft by 2-ft by 1-ft concrete storm drain now present in the paved parking area.

6.8.1 Operational History

- 1948—Building 21-031 was constructed. The septic system consisted of a concrete 4-ft by 8.25-ft by 7.2-ft deep septic tank (structure 21-125; septic tank 1). It routed sewage via a 4-in. VCP line and another 2-in. pipeline, which converged from an electronics shop/cold workshop (building 21-031) to a 4-in. VCP line into two drainage ditches, each approximately 90 ft long, 9 ft wide, and 5 ft deep (LASL 1947, 087576; LASL 1948, 087577). The bottom 4 ft of the drainage ditches consisted of 2- to 8-in. rock with a 4-in. perforated fiber pipe running through the center. Also present at the northeast end of building 21-031 was a 2-in. drainpipe ending with a splash block (LASL 1948, 087577). This pipe was connected to a funnel-type drain in the building for spot welder water.
- 1953—A new septic system, consisting of an 18-ft by 9.5-ft by 5-ft-deep reinforced concrete septic tank (structure 21-125, septic tank 2) (LANL 1991, 007529, p. 15-18), replaced the former septic system described above. It routed sewage via 4-in. VCP lines from a warehouse (building 21-007) and the electronics shop/cold workshop (building 21-031) to the surface on the north rim of DP Mesa above DP Canyon (LASL 1958, 000406; LANL 1991, 007529, p. 15-18).
- 1966—The septic tank was no longer used and was left in place (LANL 1991, 007529, p. 15-18).

6.8.2 Relationship to Other SWMUs and AOCs

No other SWMUs or AOCs are associated with SWMU 21-024(g).

6.8.3 Summary of Previous Investigations

- 1992—RFI activities included a radiological field survey and collection of 12 soil samples from 6 locations in the outfall area (LANL 1994, 031591).
- 1993—RFI activities included a land survey to locate the septic tank (structure 21-125, septic tank 2) and installation of a 20-ft-deep borehole (location 21-01667) on the downslope side adjacent to the outlet pipe of the septic tank and the collection of tuff samples (LANL 1994, 026073; LANL 1994, 031591).
- 2004—Radiological and geophysical surveys were completed. Septic tank 1 could not be located during a geophysical survey. The associated piping and the splash block were also not found. A small amount of pipe that stopped where the retaining wall began was found exiting the building (LANL 2004, 087461). Apparently, septic tank 1 was removed, a parking lot was constructed immediately north of the building, and a retaining wall was placed in the area of the former piping exiting building 21-031. Septic tank 2 was located, but the inlet and outlet pipes were not. A storm drain and associated piping were identified in the parking area. The pipeline between former buildings 21-007 and 21-031 was also found.
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation was conducted to define extent for COPCs (LANL 2010, 110772.33).

6.8.4 Site Contamination

6.8.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at SWMU 21-024(g). The Phase II report concluded vertical extent of isotopic uranium at one location was not defined. As a result, the following activities were completed as part of the 2011 investigation.

- One sample was collected from one location to address the vertical extent issue remaining following the previous investigation. The sample was collected from 9.0–10.0 ft bgs as specified in the approved Phase III work plan (LANL 2011, 203659, Table 1) and analyzed for isotopic uranium at an off-site fixed laboratory.
- The investigation sample was field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at SWMU 21-024(g) are shown in Figure 6.8-1. Table 6.8-1 presents the samples collected and analyses requested for SWMU 21-024(g). The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.8.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at SWMU 21-024(g), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.8.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for SWMU 21-024(g) as identified in the Phase I report include aluminum, arsenic, barium, cadmium, chromium, cobalt, copper, cyanide, iron, lead, mercury, nickel, nitrate, perchlorate, selenium, uranium, and zinc.

Additional extent sampling for inorganic chemicals at SWMU 21-024(g) was not required by the approved Phase III work plan. Table 6.8-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Plate 15 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for SWMU 21-024(g) as identified in the Phase I report include acenaphthene; acenaphthylene; acetone; anthracene; Aroclor-1254; Aroclor-1260; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; benzoic acid; bis(2-ethylhexyl)phthalate; chloroform; chrysene; ethylbenzene; di-n-butylphthalate; fluoranthene; fluorene; indeno(1,2,3-cd)pyrene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 4-isopropyltoluene; 2-methylnaphthalene; naphthalene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; phenanthrene; pyrene; toluene; and 1,3-xylene+1,4-xylene.

Additional extent sampling for organic chemicals at SWMU 21-024(g) was not required by the approved Phase III work plan. Table 6.8-3 summarizes the analytical results for detected organic chemicals. Plate 16 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for SWMU 21-024(g) as identified in the Phase I report include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235/236, and uranium-238.

One sample was analyzed for isotopic uranium to define vertical extent at one location. Table 6.8-4 presents the radionuclides detected or detected above BVs/FVs. Plate 17 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.8.4.4 Nature and Extent of Contamination

Inorganic Chemicals

No inorganic COPCs at SWMU 21-024(g) were addressed in the approved Phase III work plan.

Organic Chemicals

No organic COPCs at SWMU 21-024(g) were addressed in the approved Phase III work plan.

Radionuclides

The radionuclide COPCs at SWMU 21-024(g) addressed in the approved Phase III work plan included isotopic uranium.

Uranium-234, uranium-235/236, and uranium-238 activities decreased with depth at 9.0–10.0 ft bgs at location 21-614572 (immediately adjacent and downslope of location 21-27614). The vertical extent of uranium-234, uranium-235/236, and uranium-238 is defined.

6.8.4.5 Summary of Human Health Risk Screening

The Phase III sampling at SWMU 21-024(g) addressed the vertical extent of isotopic uranium at one location. The results of the sampling do not affect the EPCs of the COPCs because the sample results were less than the BVs. Therefore, the EPCs and the risk/dose screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H) were not recalculated for this report and the Phase II results are summarized below.

Industrial Scenario

The total excess cancer risk for the industrial scenario is approximately 3×10^{-6}, which is below the NMED target risk level of 1×10^{-5}. The HI is approximately 0.06, which is below the NMED target HI of 1. The total dose is approximately 0.8 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is approximately 1×10^{-7}, which is below the NMED target risk level of 1×10^{-5}. The HI is approximately 0.4, which is below the NMED target HI of 1. The total dose is approximately 0.9 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario is approximately 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5}. The HI is approximately 0.5, which is below the NMED target HI of 1. The total dose is approximately 2 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios for the entire site.

6.8.4.6 Summary of Ecological Risk Screening

The Phase III sampling at SWMU 21-024(g) addressed the vertical extent of isotopic uranium at one location. The results of the sampling do not affect the EPCs of the COPCs because the sample results were less than the BVs. In addition, uranium-234, uranium-235/236, and uranium-238 were not identified as COPECs at SWMU 21-024(g) (LANL 2010, 110772.33, Appendix H). Therefore, the EPCs and the risk-screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H) were not recalculated for this report.

Based on the Phase II ecological risk-screening assessment, no potential risk to ecological receptors exists at SWMU 21-024(g).

6.9 SWMU 21-024(k), Septic System

SWMU 21-024(k) is an inactive septic tank, tile leach field, pipelines, and associated outfall that received sewage from former building 21-209, a high-temperature chemistry building (Figure 6.9-1).

6.9.1 Operational History

- 1964–1965—Building 21-209 was built to serve as a high-temperature chemistry building and the septic system routed sewage through a 6-in. cast-iron line to a manhole (structure 21-217), then through a 6-in. VCP to a second manhole (structure 21-218), and finally to a two-chamber, reinforced concrete 18.5-ft by 6.33-ft by 8.83-ft septic tank (structure 21-219) (LASL 1946, 071281). Blowdown lines from structures 21-166 and 21-167 were connected into the inlet line around the same time as the construction of building 21-209. Overflow from the tank went through a 4-in. cast-iron line into three 4-in. VCP lines to a tile leach field that was 30 ft by 20 ft by 5.5 ft (LASL 1946, 071281). Two 4-in. VCP lines extend from the downslope edge of the leach field (LASL 1946, 071281).
- 1966—The septic system was no longer used and was left in place (LANL 1991, 007529, p. 15-83).

6.9.2 Relationship to Other SWMUs and AOCs

The septic systems of SWMUs 21-024(j) and 21-024(k) are separate, but the outfall areas overlap on the south-facing slope of Los Alamos Canyon.

6.9.3 Summary of Previous Investigations

- 1966—Septic system was no longer used and was left in place by pumping out the tank contents and filling the tank with earth (LANL 1991, 007529, p. 15-83).
- 1993—RFI activities included the advancement of three 20-ft-deep boreholes and samples were collected. One borehole was located near the septic tank and the other two boreholes were in the leach field area (LANL 1995, 052350, p. 3-20).
- 2004—Radiological and geophysical surveys were completed. The geophysical survey located the septic tank, tile field, and pipeline connecting the tank to building 21-209. The eastern outlet line from the tile field was located, but the western line was not identified (LANL 2004, 087461).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation was conducted to define extent for COPCs (LANL 2010, 110772.33).

6.9.4 Site Contamination

6.9.4.1 Soil, Rock, and Sediment Sampling

Further characterization of SWMU 21-024(k) was conducted as part of the DP East Buildings work plan (LANL 2010, 110082.4). Samples were collected under the piping near buildings 21-152 and 21-209. The Phase II report concluded the vertical extent of barium, calcium, and strontium was not defined at location 21-600859. However, as stated in the report as well as in the Laboratory's response to NMED's NOD (LANL 2010, 110772.4), the borehole at location 21-600859 could not be advanced deeper given the proximity of the sloped mesa edge, and thus samples could not be collected and analyzed for barium, calcium, or strontium. The vertical extent of these inorganic chemicals at this location is discussed below. The following activities were completed as part of the SWMU 21-024(k) investigation according to the DP East Buildings work plan (LANL 2010, 110082.4).

- Six samples were collected from three locations to characterize a portion of SWMU 21-024(k) waste line not removed during the Phase II investigation because it was located in the same pipe trench as the vacuum waste line between buildings 21-166 and 21-167. This line was removed during this current investigation. The samples were collected from 7.0–8.0 ft and 9.0–10.0 ft bgs as specified in the DP East Building work plan (LANL 2010, 110082.4). The samples were analyzed for TAL metals, cyanide, nitrate, perchlorate, VOCs, SVOCs, americium-241, gamma-emitting radionuclides, isotopic plutonium, isotopic thorium, isotopic uranium, strontium-90, technetium-99, and tritium at an off-site fixed laboratory.
- The investigation samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at SWMU 21-024(k) are shown in Figure 6.9-1. Table 6.9-1 presents the samples collected and analyses requested for SWMU 21-024(k). The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.9.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at SWMU 21-024(k), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.9.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for SWMU 21-024(k) as identified in the Phase I report include aluminum, arsenic, barium, beryllium, chromium, cobalt, copper, cyanide, lead, lithium, mercury, nickel, nitrate, perchlorate, selenium, strontium, and zinc.

Six samples were analyzed for TAL metals, cyanide, nitrate, and perchlorate to complete the characterization of SWMU 21-024(k). Table 6.9-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Plate 18 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Antimony was detected above the soil BV (0.83 mg/kg) in three samples beneath the waste line between buildings 21-166 and 21-167 with a maximum concentration of 1.54 mg/kg. The DLs (1.05 mg/kg to 1.1 mg/kg) were above the Qbt 2,3,4 BV (0.5 mg/kg) in three samples beneath the waste line between buildings 21-166 and 21-167. Antimony is retained as a COPC.

Cadmium was not detected above the soil and Qbt 2,3,4 BVs (0.4 mg/kg and 1.63 mg/kg) in any of the samples beneath the waste line between buildings 21-166 and 21-167. The DLs were similar for all samples (0.506 mg/kg to 0.551 mg/kg) and were similar to DLs in previous samples collected in 2007, 2008, and 2009. Because the data are similar to previous results and cadmium was not retained as a COPC in the approved Phase I report, cadmium is not retained as a COPC based on the additional data.

Calcium was detected above the soil BV (6120 mg/kg) in one sample beneath the waste line between buildings 21-166 and 21-167 at a concentration of 7000 mg/kg. Because calcium was not retained as a COPC in the approved Phase I report and was detected at a concentration less than the maximum detected site concentration (55,000 mg/kg) in the additional samples collected, calcium is not retained as a COPC based on the additional data.

Chromium, copper, mercury, nitrate, perchlorate, selenium, and zinc were either detected above a BV or had DLs above a BV in the samples beneath the waste line between buildings 21-166 and 21-167. These inorganic chemicals were retained as COPCs in the approved Phase I report. The vertical extent of these COPCs at the sampling locations between buildings 21-166 and 21-167 is discussed below.

Organic Chemicals

The organic COPCs for SWMU 21-024(k) as identified in the Phase I report include acenaphthene; acetone; anthracene; Aroclor-1254; Aroclor-1260; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; chrysene; 1,4-dichlorobenzene; fluoranthene; fluorene; indeno(1,2,3-cd)pyrene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; 2,3,4,6,7,8-hexachlorodibenzofuran; 4-isopropyltoluene;

2-methylnaphthalene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; phenanthrene; pyrene; 2,3,7,8-tetrachlorodibenzofuran; toluene; and 1,2,4-trimethylbenzene.

Six samples were analyzed for VOCs and SVOCs to complete the characterization of SWMU 21-024(k). Table 6.9-3 summarizes the analytical results for detected organic chemicals. Plate 19 shows the spatial distribution of detected organic chemicals.

Bis(2-ethylhexyl)phthalate, di-n-butylphthalate, dibenzofuran, and naphthalene were detected in the samples collected beneath the waste line between buildings 21-166 and 21-167. These organic chemicals are also retained as COPCs.

Radionuclides

The radionuclide COPCs for SWMU 21-024(k) as identified in the Phase I report include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, and uranium-235/236.

Six samples were analyzed for americium-241, gamma-emitting radionuclides, isotopic plutonium, isotopic thorium, isotopic uranium, strontium-90, technetium-99, and tritium to complete the characterization of SWMU 21-024(k). Table 6.9-4 presents the radionuclides detected or detected above BVs/FVs. Plate 20 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

No additional radionuclides were detected or detected above BVs/FVs in samples collected beneath the waste line between buildings 21-166 and 21-167. Therefore, no additional radionuclide COPCs are retained for this SWMU.

6.9.4.4 Nature and Extent of Contamination

Inorganic Chemicals

Barium concentrations at location 21-600859 increased with depth to 11.0 ft bgs. The residential SSL was approximately 71 times and the industrial SSL was approximately 1000 times the maximum concentration (220 mg/kg). Further sampling for vertical of barium is not warranted.

Calcium concentrations at location 21-600859 increased with depth to 11.0 ft bgs. As an essential nutrient, calcium may be compared with the RDAs for adults and children. If all the daily incidental ingestion of soil were to occur at the location of the maximum detected concentration (55,000 mg/kg) at the EPA default adult or child soil ingestion rates of 100 mg/d or 200 mg/d of soil, an adult or child would ingest approximately 7.9 mg/d or 18.3 mg/d of calcium. At these intake levels, the adult's or child's ingestion of calcium is far less than the RDA for calcium of 1200 mg/d or 800 mg/d, respectively. Therefore, no adverse health effects are expected from calcium at 55,000 mg/kg. No further sampling for vertical extent of calcium is warranted.

Strontium concentrations at location 21-600859 increased with depth to 11.0 ft bgs. The residential SSL was approximately 391 times and the industrial SSL was approximately 5700 times the maximum concentration (120 mg/kg). Further sampling for vertical of strontium is not warranted.

The data from the six samples collected beneath the waste line between buildings 21-166 and 21-167 at SWMU 21-024(k) were evaluated for vertical extent.

Antimony was detected above the soil BV in three samples with a maximum concentration of 1.54 mg/kg. The DLs (1.05 mg/kg to 1.1 mg/kg) were above the Qbt 2,3,4 BV in three samples. Concentrations

decreased slightly at two locations and antimony was not detected at the third location. The residential SSL was approximately 20 times the maximum detected concentration and approximately 29 times the maximum DL. Further sampling for extent of antimony is not warranted.

Chromium decreased with depth at all three locations beneath the waste line between buildings 21-166 and 21-167. The vertical extent of chromium is defined.

Copper concentrations increased slightly with depth (3.13 mg/kg) at location 21-614228 and was detected below BVs at the other locations. The residential SSL was approximately 349 times the maximum detected concentration beneath the waste line between buildings 21-166 and 21-167. Further sampling for vertical extent of copper is not warranted.

Mercury concentrations increased slightly with depth (0.122 mg/kg) at location 21-614229 and was either not detected or detected below BVs at the other locations. The residential SSL was approximately 123 times the maximum detected concentration beneath the waste line between buildings 21-166 and 21-167. Further sampling for vertical extent of mercury is not warranted.

Nitrate concentrations did not change substantially with depth (0.62 mg/kg, 0.92 mg/kg, and 0.08 mg/kg) at each location. The residential SSL was approximately 40600 times the maximum detected concentration beneath the waste line between buildings 21-166 and 21-167. Further sampling for vertical extent of nitrate is not warranted.

Perchlorate concentrations did not change substantially with depth (0.000102 mg/kg) at location 21-614229. The residential SSL was approximately 78,000 times the maximum detected concentration beneath the waste line between buildings 21-166 and 21-167. Further sampling for vertical extent of perchlorate is not warranted.

Selenium was not detected above the Qbt 2,3,4 BV (0.3 mg/kg) but had DLs (0.995 mg/kg to 1.12 mg/kg) above the BV in three samples. Because selenium was not detected above the BV and the residential SSL was 349 times the maximum DL, further sampling for extent of selenium is not warranted.

Zinc concentrations did not change substantially with depth (3.5 mg/kg) at location 21-614229 and was detected below BVs at the other locations. The residential SSL was approximately 380 times the maximum detected concentration beneath the waste line between buildings 21-166 and 21-167. Further sampling for vertical extent of zinc is not warranted.

Organic Chemicals

The data from the six samples collected beneath the waste line between buildings 21-166 and 21-167 at SWMU 21-024(k) were evaluated for vertical extent.

Acenaphthene; anthracene; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; chrysene; fluoranthene; fluorene; indeno(1,2,3-cd)pyrene; 2-methylnaphthalene; naphthalene; phenanthrene; and pyrene concentrations did not change substantially with depth at locations 21-614228 and 21-614229; the concentrations decreased slightly with depth (less than 0.7 mg/kg) at location 21-614228 and increased slightly with depth (less than 0.3 mg/kg) at location 21-614229. The residential SSLs were approximately 4.3 times to 66,500 times the maximum concentrations of each COPC, except for benzo(a)pyrene. The industrial SSLs were approximately 68 times to 710,000 times the maximum concentrations of each COPC, except for benzo(a)pyrene. Further sampling for vertical extent of these organic COPCs is not warranted.

Benzo(a)pyrene exceeded the residential SSL by less than a factor of 2 in two samples at locations 21-614228 and 21-614229. Benzo(a)pyrene concentrations decreased slightly with depth (0.174 mg/kg) at location 21-614228 and increased slightly with depth (0.073 mg/kg) at location 21-614229. The industrial SSL was approximately 15 times the maximum detected concentration at location 21-614229. Further sampling for vertical extent of benzo(a)pyrene is not warranted.

Bis(2-ethylhexyl)phthalate and di-n-butylphthalate were detected in the 9.0–10.0 ft bgs samples collected at location 21-614229. The concentrations were below the EQLs (0.36 mg/kg) and the residential SSLs were approximately 3750 times and 38,700 times the respective concentrations. Further sampling for vertical extent of bis(2-ethylhexyl)phthalate and di-n-butylphthalate is not warranted.

Dibenzofuran was detected in the 7.0–8.0 ft bgs sample collected at location 21-614228. The concentration was below the EQL (0.37 mg/kg) and decreased with depth. The vertical extent of dibenzofuran is defined.

Radionuclides

The data from the six samples collected beneath the waste line between buildings 21-166 and 21-167 at SWMU 21-024(k) were evaluated for vertical extent.

Plutonium-239/240 was detected in one sample each at locations 21-614228 and 21-614229. The activities decreased with depth at location 21-614228 and increased slightly with depth at location 21-614229 (0.0922 pCi/g). The residential SAL was approximately 860 times the maximum detected activity. Further sampling for extent of plutonium-239/240 is not warranted.

Tritium was detected in all samples collected beneath the waste line between buildings 21-166 and 21-167. Tritium activities did not change substantially with depth at all locations (0.138 pCi/g, 0.0029 pCi/g, and 0.123 pCi/g), and the residential SAL was approximately 410 times the maximum activity. Further sampling for extent of tritium is not warranted.

6.9.4.5 Summary of Human Health Risk Screening

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is 3×10^{-7}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.005, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.7 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 3×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.3, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 1×10^{-5} (5×10^{-6} using the EPA regional screening value for arsenic and 7×10^{-6} including the vapor intrusion results), which is equivalent to (or less than) the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential

HI is 0.3, which is less than NMED target HI of 1 (NMED 2012, 219971). The total dose is 1 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios for the entire site.

6.9.4.6 Summary of Ecological Risk Screening

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at SWMU 21-024(k).

6.10 Consolidated Unit 21-024(l)-99, Sump, Aboveground Storage Tank, Associated Lines, and Outfall

Consolidated Unit 21-024(l)-99 consists of SWMU 21-022(a), a sump and associated lines; SWMU 21-024(l), an outfall; and AOC 21-004(a), an aboveground storage tank and associated lines (Figure 6.10-1).

6.10.1 Operational History

SWMU 21-022(a) consists of a 5-ft-diameter brick sump of unknown depth located north of building 21-021 with a 4-in. inlet line from the building, but documentation is not available indicating whether an outlet line exists or the type of line.

- 1946—Building 21-021 and sump were constructed. Building 21-021 was used as a secure vault to store special fissile material including uranium and plutonium metal. The inside of the sump contains a metal catch basin approximately 5 ft in depth.

SWMU 21-024(l) consists of an outfall that received liquid waste from the floor drain of building 21-021 machine room via a 3-in. cast-iron pipeline (LASL 1960, 001611).

AOC 21-004(a) consists of a 6000-gal. aboveground steel tank (structure 21-335), which is 8 ft in diameter and 16 ft long, and a 6-in. cast-iron pipeline from building 21-021.

- 1974—The tank was installed to receive liquid waste from floor drains in building 21-021.

6.10.2 Relationship to Other SWMUs and AOCs

No other SWMUs or AOCs are associated with Consolidated Unit 21-024(l)-99.

6.10.3 Summary of Previous Investigations

- 1992—Geophysical and radiological field surveys were conducted and surface samples were collected from locations in the outfall area (LANL 1994, 031591, p. 8-85). Geophysical surveys identified the drainline but not the precise location of the discharge point.
- 1994—A radiological field survey was conducted around the aboveground tank [AOC 21-004(a)], on the concrete pad, along the inlet line, and at the valve (LANL 1996, 054828, p. 28). Paper filter samples were collected from inside the dry and empty tank (LANL 1996, 054828 p. 32). It was determined the tank did not receive any waste (LANL 1996, 054828, p. 23).

- 2004—Radiological and geophysical surveys were completed. The geophysical survey located the sump, one of the two inlet/outlet lines to the sump, and two pipelines leading to the north (LANL 2004, 087461).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (LANL 2010, 110772.33).

6.10.4 Site Contamination

6.10.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, the Phase II report recommended remediation at Consolidated Unit 21-024(l)-99 to remove elevated concentrations of benzo(a)pyrene. Excavation was conducted at two locations to 4.0 ft and 4.5 ft bgs (approximately 18 yd^3) as described in the Phase III work plan (LANL 2011, 203659, Table 1). The Phase II report concluded the lateral and vertical extent of COPCs were defined. As a result, the following activities were completed as part of the 2011 investigation.

- Soil was removed at location 21-27520 to a depth of 4.0 ft bgs. Confirmation samples were not necessary as data are present from 4.0–5.0 ft bgs at this location.
- Soil was removed at location 21-27521 to a depth of 4.5 ft bgs. Confirmation samples were not necessary as data are present from 4.5–5.5 ft bgs at this location.

The sampling locations at Consolidated Unit 21-024(l)-99 are shown in Figure 6.10-1. Table 6.10-1 presents the samples collected and analyses requested for Consolidated Unit 21-024(l)-99. The geodetic coordinates of the Phase III sampling location is presented in Table 3.2-1.

6.10.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors Consolidated Unit 21-024(l)-99, no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.10.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for Consolidated Unit 21-024(l)-99 as identified in the Phase I report and following limited remediation in 2011 include aluminum, barium, cadmium, chromium, cobalt, copper, lead, lithium, mercury, nitrate, perchlorate, selenium, and zinc.

Table 6.10-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Plate 21 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for Consolidated Unit 21-024(l)-99 as identified in the Phase I report and following limited remediation in 2011 include acenaphthene; acenaphthylene; acetone; anthracene;

benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; carbazole; chloroform; chrysene; dibenzofuran; 1,4-dichlorobenzene; fluoranthene; fluorene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; indeno(1,2,3-cd)pyrene; 4-isopropyltoluene; methylene chloride; 2-methylnaphthalene; naphthalene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; phenanthrene; pyrene; 2,3,7,8-tetrachlorodibenzofuran; toluene; and 1,3-xylene +1,4-xylene.

Table 6.10-3 summarizes the analytical results for detected organic chemicals. Plate 22 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for Consolidated Unit 21-024(l)-99 as identified in the Phase I report include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, and uranium-235/236.

Table 6.10-4 presents the radionuclides detected or detected above BVs/FVs. Plate 23 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.10.4.4 Nature and Extent of Contamination

Inorganic Chemicals

The nature and extent of inorganic COPCs at Consolidated Unit 21-024(l)-99 were addressed in the Phase I and Phase II investigation reports.

Organic Chemicals

The nature and extent of organic COPCs at Consolidated Unit 21-024(l)-99 were addressed in the Phase I and Phase II investigation reports.

Radionuclides

The nature and extent of radionuclide COPCs at Consolidated Unit 21-024(l)-99 were addressed in the Phase I and Phase II investigation reports.

6.10.4.5 Summary of Human Health Risk Screening

Consolidated Unit 21-024(l)-99 was remediated to remove elevated concentrations of benzo(a)pyrene. Excavation was conducted at locations 21-27520 and 21-27521 to 4.0 ft and 4.5 ft bgs (samples from 2.0−3.0 ft and 2.5−3.5 ft bgs, respectively, were excavated), as described in the approved Phase III work plan (LANL 2011, 203659, Table 1; NMED 2011, 203825). No additional samples were collected during the 2011 cleanup. The human health risk-screening assessments for Consolidated Unit 21-024(l)-99 were revised to reflect the removal of contaminated media at the two locations (data from excavated samples were not included in the risk assessment). Table 6.10-1 presents the samples remaining at Consolidated Unit 21-024(l)-99, including sampling data from the applicable depth intervals used to conduct the risk-screening assessments.

Industrial Scenario

The total excess cancer risk for the industrial scenario is 2×10^{-6}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.03, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 3×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.6, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario is 5×10^{-5}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from PAHs. The residential HI is approximately 0.8, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial and construction worker scenarios for the entire site. There is a potential unacceptable cancer risk for the residential scenario for the entire site. The residential HI and total dose were below the NMED and DOE target levels, respectively.

6.10.4.6 Summary of Ecological Risk Screening

The ecological risk-screening assessment for Consolidated Unit 21-024(l)-99 was revised to reflect the removal of contaminated media and previous sampling data.

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at Consolidated Unit 21-024(l)-99.

6.11 SWMU 21-024(n), Septic System

SWMU 21-024(n) originally consisted of a CMP that exited former building 21-155 and an outfall (Figure 6.11-1). Three additional pipelines and outfalls were identified in the same vicinity during the 2004 geophysical survey and/or from as built engineering drawings (LANL 2004, 087461). Therefore, these structures have been included in this SWMU (Figure 6.11-1).

6.11.1 Operational History

- 1949—Building 21-155 was constructed as a warehouse and laboratory with a CMP that exited a concrete bulkhead and discharged onto a gravel road adjacent to MDA U [Consolidated Unit 21-017(a)-99] (LANL 1991, 007529, p. 15-56). The effluent flowed north to the ditch paralleling the north perimeter road. From there, it flowed east to a culvert that passes under the north perimeter road and into DP Canyon (LANL 1991, 007529, p. 15-56).

Engineering drawings (LASL 1968, 024612; LANL 1988, 087575) and field observations indicate three additional lines originating from former building 21-155 (or next to building 21-155) that follow a parallel path to, and west of, the pipeline from SWMU 21-024(n). Each of these parallel pipelines has an outfall on the same hillside as the SWMU 21-024(n) outfall. The effluent from all the outfalls flows downslope to the ditch on the south side of the perimeter road. From the ditch, the path of the effluent leads to one of two culverts (one to the east and one to the west) that cross under the perimeter road and empties onto surface that slopes toward DP Canyon.

6.11.2 Relationship to Other SWMUs and AOCs

SWMU 21-024(n) originally consisted of a CMP that exited former building 21-155 and an outfall. Three additional pipelines and outfalls were identified in the same area, and these structures are included as part of this SWMU. The CMP that exited former building 21-155 discharged onto a gravel road next to MDA U [Consolidated Unit 21-017(a)-99].

6.11.3 Summary of Previous Investigations

- 1992—RFI activities consisted of a radiological field survey and the collection of nine samples from three locations at the discharge point and along the ditch that carries discharges into DP Canyon (LANL 1994, 031591, p. 8-98).
- 2004—Radiological and geophysical surveys were completed. The geophysical survey located a metal pipe exiting the northwest corner of former building 21-155 (not depicted clearly on reviewed engineering drawings), and two pipelines exiting the northeast corner of building 21-155. A large cast-iron drain originating from a storm grate just north of building 21-155 was also located (LANL 2004, 087461).
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation conducted to define extent for COPCs (LANL 2010, 110772.33).

6.11.4 Site Contamination

6.11.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at SWMU 21-024(n). The Phase II report concluded the lateral extent of plutonium-239/240 and uranium-238 at one location was not defined. As a result, the following activities were completed as part of the 2011 investigation.

- One sample was collected from one location to address the lateral extent issue remaining following the previous investigation. The sample was collected from 0.0–0.5 ft bgs as specified in the approved Phase III work plan (LANL 2011, 203659, Table 1) and analyzed for isotopic plutonium and isotopic uranium at an off-site fixed laboratory.
- The investigation sample was field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at SWMU 21-024(n) are shown in Figure 6.11-1. Table 6.11-1 presents the samples collected and analyses requested for SWMU 21-024(n). The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.11.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at SWMU 21-024(n), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.11.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for SWMU 21-024(n) as identified in the Phase I report include aluminum, antimony, arsenic, barium, cadmium, chromium, cobalt, copper, cyanide, lead, manganese, mercury, nickel, nitrate, perchlorate, selenium, silver, vanadium, and zinc.

Additional extent sampling for inorganic chemicals at SWMU 21-024(n) was not required by the approved Phase III work plan. Table 6.11-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Plate 24 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for SWMU 21-024(n) as identified in the Phase I report include acenaphthene; acetone; anthracene; Aroclor-1254; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; butylbenzylphthalate; chloroform; chrysene; di-n-butylphthalate; ethylbenzene; fluoranthene; fluorene; hexachlorobenzene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,4,7,8,9-heptachlorodibenzofuran; 1,2,3,4,7,8-hexachlorodibenzodioxin; 1,2,3,6,7,8-hexachlorodibenzodioxin; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; 2,3,4,6,7,8-hexachlorodibenzofuran; indeno(1,2,3-cd)pyrene; 4-isopropyltoluene; methylene chloride; naphthalene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; 1,2,3,7,8-pentachlorodibenzofuran; 2,3,4,7,8-pentachlorodibenzofuran; phenanthrene; pyrene; styrene; 2,3,7,8-tetrachlorodibenzodioxin; 2,3,7,8-tetrachlorodibenzofuran; toluene; 1,1,2-trichloro-1,2,2-trifluoroethane; 1,2,4-trimethylbenzene; 1,2-xylene; and 1,3-xylene +1,4-xylene.

Additional extent sampling for organic chemicals at SWMU 21-024(n) was not required by the approved Phase III work plan. Table 6.11-3 summarizes the analytical results for detected organic chemicals. Plate 25 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for SWMU 21-024(n) as identified in the Phase I and Phase II reports include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235/236, and uranium-238.

One sample was analyzed for isotopic plutonium and isotopic uranium to define lateral extent. Table 6.11-4 presents the radionuclides detected or detected above BVs/FVs. Plate 26 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.11.4.4 Nature and Extent of Contamination

Inorganic Chemicals

No inorganic COPCs at SWMU 21-024(n) were addressed in the approved Phase III work plan.

Organic Chemicals

No organic COPCs at SWMU 21-024(n) were addressed in the approved Phase III work plan.

Radionuclides

The radionuclide COPCs at SWMU 21-024(n) addressed in the approved Phase III work plan included plutonium-238, plutonium-239/240, uranium-234, uranium-235/236, and uranium-238.

Plutonium-238 and plutonium-239/240 activities decreased laterally from location 21-609833 to location 21-614573 (approximately 20 ft downslope of the western outfall). The lateral extent of plutonium-238 and plutonium-239/240 is defined.

Uranium-234 and uranium-235/236 activities did not change substantially laterally (0.11 pCi/g and 0.033 pCi/g, respectively) from location 21-605252 to location 21-614573 (approximately 20 ft downslope of the western outfall). The residential SALs were approximately 50 times and 155 times the maximum detected activities in the 2011 sample. Further sampling for lateral extent of uranium-234 and uranium-235/236 is not warranted.

Uranium-238 activities decreased laterally from location 21-605252 to location 21-614573 (approximately 20 ft downslope of the western outfall). The lateral extent of uranium-238 is defined.

6.11.4.5 Summary of Human Health Risk Screening

Industrial Scenario

The total excess cancer risk for the industrial scenario is 3×10^{-6} (2×10^{-6} using the EPA regional screening value for arsenic), which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.1, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 5×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario is 2×10^{-5} (1×10^{-5} using the EPA regional screening value for arsenic), which is slightly above (or equivalent to) the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential HI is 0.6, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 1 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial and construction worker scenarios for the entire site. There is a potential unacceptable cancer risk for the residential scenario using the NMED arsenic SSL, but no potential unacceptable cancer risk for the residential scenario using the EPA regional value for arsenic for the entire site. The residential HI and total dose were below the NMED and DOE target levels, respectively.

6.11.4.6 Summary of Ecological Risk Screening

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at SWMU 21-024(n).

6.12 Consolidated Unit 21-026(a)-99, Sewage Treatment Plant

Consolidated Unit 21-026(a)-99 is a sewage treatment plant that consists of SWMU 21-013(a), surface disposal area; SWMU 21-026(a), sewage treatment plant; and SWMU 21-026(b), four sludge drying/sand filter beds; and AOC 21-026(c), dosing siphon chamber; and AOC 21-026(d), an outfall that served the TA-21 facilities.

6.12.1 Operational History

SWMU 21-026(a) consists of an inactive sewage treatment plant housed in former building 21-227. The plant is located at the eastern end of DP Mesa (Figure 6.12-1). The treatment plant replaced the original septic tank/filter fields and septic tank/surface discharge systems throughout TA-21. The treatment plant was an extended aeration sanitary waste treatment plant with a grit chamber, comminuter, digester, aeration tank, and clarifier. The plant treated sanitary wastes and cooling water from TA-21 facilities and received water from decontamination activities, janitor's scrub water, and waste from other TA-21 operations. Originally, treated effluent leaving former building 21-227 was released at a concrete spill pad located on the southern edge of DP Canyon [AOC 21-026(d)]. Later, effluent was discharged via a dosing siphon chamber to sand filter/sludge drying beds.

- 1966—The sewage treatment plant was built.
- 1992—Traditional treatment operations ended.
- 1992 to present—All waste received is stored until it is pumped out by truck for transport to the TA-46 facility for treatment/disposal.

SWMU 21-026(b) consists of four sludge drying/sand filter beds, each 14.5-ft by 23-ft with 4-ft-deep concrete walls.

- 1966–1990—The sludge drying beds were operational.
- 1990—The tile drainlines were removed and connections plugged with concrete.

- 1990 to ~1992—The two westernmost sand filters received effluent from the dosing siphon chamber. Effluent was piped to a gauging station and then to the outfall at the edge of mesa.
- 1992—The beds were filled with clean sand when treatment operations ceased.

AOC 21-026(c) consists of a dosing siphon chamber that was a 5-ft-wide by 7-ft long by 8-ft-deep concrete tank (structure 21-348). The dosing siphon chamber received effluent until the chamber was full and then pumped to the two westernmost sand filter beds.

- 1996—A chlorine contact chamber was built with an outfall [AOC 21-026(d)] to mesa edge.
- 1990—The contact chamber was converted to a dosing siphon chamber; the manhole and outfall lines were plugged with concrete.
- 1990–1992—Effluent from the dosing siphon chamber was pumped to the sand filter beds.
- 1992—The chamber was left in place when treatment operations ceased.

AOC 21-026(d) consists of an outfall. Discharge from the sewage treatment plant flowed through an 8-in. VCP into a concrete channel on the north edge of DP Mesa and ran down a natural drainage to a tributary of DP Canyon.

- 1966–1992—The outfall received treated liquid wastes from former building 21-227.
- 1998, March 10—The outfall (National Pollution Discharge Elimination System [NPDES] Outfall 05S) was deleted from the Laboratory's NPDES permit.

SWMU 21-013(a) consists of a surface disposal area, approximately 45 ft^2.

- 1966–1992—Surface disposal area was used for the periodic disposal of the top layers of sand from the filter beds at SWMU 21-026(b).
- 1994—Sand pile no longer visible.

6.12.2 Relationship to Other SWMUs and AOCs

No other SWMUs or AOCs are associated with Consolidated Unit 21-026(a)-99.

6.12.3 Summary of Previous Investigations

- 1992—RFI activities at AOC 21-026(d) included a radiological field survey and samples collected from four locations in the outfall area. Surveys of the effluent indicated the presence of gross-alpha, -beta, and -gamma radiation and tritium.
- 1994—RFI activities at SWMUs 21-013(a), 21-026(a), and 21-026(b) and AOC 21-026(c) included a radiological survey and collection of samples. At SWMU 21-013(a), samples were collected from four locations. At SWMUs 21-026(a) and 21-026(b) and at AOC 21-026(c), four boreholes were drilled; specifically, two angled holes were drilled beneath the sand filter beds, one angled hole was drilled beneath former building 21-227, and one vertical hole was drilled near the dosing siphon chamber. Samples were collected to a maximum depth of 52 ft.
- 2004—Radiological and geophysical surveys were completed. The geophysical survey located the pipeline exiting the treatment plant and the associated outfall (LANL 2004, 087461).

- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation was conducted to define extent for COPCs (LANL 2010, 110772.33).

6.12.4 Site Contamination

6.12.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, the Phase II report recommended remediation at Consolidated Unit 21-026(a)-99 downslope from the associated outfall to remove elevated concentrations of benzo(a)pyrene and dibenz(a,h)anthracene from two locations. As described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the area downslope of the outfall was not remediated because of safety concerns associated with removing the contaminated media. The Phase II report also concluded that lateral extent of calcium was not defined. As a result, the following activities were completed as part of the 2011 investigation.

- One sample was collected from one location from 9.0–10.0 ft bgs and analyzed for calcium at an off-site fixed laboratory. (Note: Although calcium was the only inorganic chemical analysis requested, the analytical laboratory analyzed and reported all TAL metals.)
- The sample was field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at Consolidated Unit 21-026(a)-99 are shown in Figure 6.12-1. Table 6.12-1 presents the samples collected and analyses requested for Consolidated Unit 21-026(a)-99. The geodetic coordinates of the Phase III sampling location is presented in Table 3.2-1.

6.12.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at Consolidated Unit 21-026(a)-99, no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.12.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for Consolidated Unit 21-026(a)-99 as identified in the Phase I report include aluminum, antimony, arsenic, barium, cadmium, calcium, chromium, copper, cyanide, lead, mercury, nickel, nitrate, perchlorate, selenium, silver, uranium, and zinc.

One sample was analyzed for calcium to define lateral extent. Table 6.12-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Plate 27 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Although calcium was the only inorganic chemical analysis requested, the analytical laboratory analyzed and reported the results for all TAL metals. The 2011 sampling results found calcium and most other TAL metals to be below the BVs. Antimony, selenium, and silver had DLs above the BVs, but the DLs were less than previously detected concentrations above BVs.

Organic Chemicals

The organic COPCs for Consolidated Unit 21-026(a)-99 as identified in the Phase I report include acenaphthene; anthracene; Aroclor-1254; Aroclor-1260; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; benzoic acid; bis(2-ethylhexyl)phthalate; butylbenzylphthalate; chloroform; chrysene; dibenz(a,h)anthracene; dibenzofuran; 1,4-dichlorobenzene; 2,4-dimethylphenol; di-n-butylphthalate; di-n-octylphthalate; ethylbenzene; fluoranthene; fluorene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; indeno(1,2,3-cd)pyrene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; phenanthrene; pyrene; toluene; 1,2,4-trimethylbenzene; 1,3-xylene+1,4-xylene; and total xylene.

Additional extent sampling for organic chemicals at Consolidated Unit 21-026(a)-99 was not required by the approved Phase III work plan. Table 6.12-3 summarizes the analytical results for detected organic chemicals. Plate 28 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for Consolidated Unit 21-026(a)-99 as identified in the Phase I report include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235/236, and uranium-238.

Additional extent sampling for radionuclides at Consolidated Unit 21-026(a)-99 was not required by the approved Phase III work plan. Table 6.12-4 presents the radionuclides detected or detected above BVs/FVs. Plate 29 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.12.4.4 Nature and Extent of Contamination

Inorganic Chemicals

The inorganic COPC at Consolidated Unit 21-026(a)-99 addressed in the approved Phase III work plan was calcium.

Calcium was detected below the Qbt 2,3,4 BV in the 2011 sample collected from 9.0–10.0 ft bgs at location 21-614574. The lateral extent of calcium is defined north of location 21-605238.

Organic Chemicals

No organic COPCs at Consolidated Unit 21-026(a)-99 were addressed in the approved Phase III work plan.

Radionuclides

No radionuclide COPCs at Consolidated Unit 21-026(a)-99 were addressed in the approved Phase III work plan.

6.12.4.5 Summary of Human Health Risk Screening

The Phase III sampling at Consolidated Unit 21-026(a)-99 addressed the lateral extent of calcium on the canyon slope to the north of the former sewage treatment plant. The results of the sampling do not affect the assessments because calcium and most other TAL metals were detected below the BVs in the 2011

sample. Antimony, selenium, and silver had DLs above the BVs, but the DLs were less than previously detected concentrations above BVs.

As described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the area downslope of the outfall was not remediated because of safety concerns associated with removing the contaminated media. As a result, the potential risk issue (PAHs) was not addressed for either the industrial or residential scenario.

In addition to evaluating the entire site for potential risk/dose, the mesa-top portion of the SWMU was evaluated separately for potential risk/dose under the industrial, construction worker, and residential scenarios. As stated in the approved Phase III work plan, the outfall contamination area is on a steep slope/cliff, with 45- to 90-degree slopes (Figure 6.12-1 and Appendix C, Photo 4). This area consists of unstable, highly weathered, fractured bedrock with approximately 30% soil, filling fractures and voids between rocks. This area would not serve as an exposure area to residents, construction workers, or industrial workers. Therefore, exposure to human receptors over this portion of the site has no likelihood of occurring because there is currently no access to the slope/cliff, there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff, and there are major safety concerns regarding any activity on the slope/cliff. The steep slope/cliff portion of the site will not result in human exposure to contamination.

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is approximately 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5}. The HI is approximately 0.1, which is less than the NMED target HI of 1. The total dose is approximately 1 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the industrial scenario on the mesa top is approximately 4×10^{-6} (2×10^{-6} using the EPA regional screening value for arsenic), which is less than the NMED target risk level of 1×10^{-5}. The HI is approximately 0.002, which is less than the NMED target HI of 1. The total dose is approximately 0.2 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 7×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 3 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the construction worker scenario on the mesa top is approximately 5×10^{-8}, which is less than the NMED target risk level of 1×10^{-5}. The HI is approximately 0.2, which is less than the NMED target HI of 1. The total dose is approximately 0.5 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is approximately 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from PAHs. The HI is approximately 0.5, which is less than the NMED target HI of 1. The total dose is approximately 5 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the residential scenario on the mesa top is approximately 7×10^{-6}, which is less than the NMED target risk level of 1×10^{-5}. The HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 0.9 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios on the mesa top. There are also no potential unacceptable risks or doses for the industrial and construction worker scenarios for the entire site. There is a potential unacceptable cancer risk for the residential scenario for the entire site. However, the elevated PAH concentrations are on the slope/cliff portion of the site where there is no human exposure to the contamination. The residential HIs and total doses for the entire site were below the NMED and DOE target levels, respectively.

6.12.4.6 Summary of Ecological Risk Screening

As described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the remediation downslope of the outfall area was not conducted because of safety concerns associated with removing the contaminated media. In addition, the Phase III sampling at Consolidated Unit 21-026(a)-99 addressed the lateral extent of calcium on the canyon slope to the north of the former sewage treatment plant. Although the results of the Phase III sampling do not affect the assessment because the sample was collected below 5.0 ft bgs, a revised ecological risk screening for this consolidated unit was conducted for this report.

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at Consolidated Unit 21-026(a)-99.

6.13 SWMU 21-027(a), Surface Drainage and Outfall

SWMU 21-027(a) consists of drainlines that received effluent from floor drains in former building 21-003, a surface drainage system, and an outfall that discharges to the mesa edge and into Los Alamos Canyon (Figure 6.13-1).

6.13.1 Operational History

- 1945—Building 21-003 was built as part of original DP West plutonium facilities. A 4-in. VCP runs beneath a paved area south of the building for about 30 ft and emptied into a storm drain. A 12-in. culvert runs from the storm drain underground for about 50 ft, emptying onto the ground at a ponding area on the southwest corner of the footprint of former cooling tower (structure 21-143, which was designated as AOC C-21-027). From the cooling tower footprint, runoff flowed in an unlined ditch to a 24-in. CMP culvert that carried runoff beneath the south perimeter road to the mesa edge. The CMP extends about 3 ft over the mesa edge (LANL 1991, 007529, p. 15-69).

- 1994—The outfall was permitted as Outfall EPA03A031 under NPDES Permit No. NM0028355 (EPA 1994, 065280).
- 1994–1995—Building 21-003, the drains and the pipes beneath the surface, and the cooling tower were removed during D&D activities. The 4-in. pipe beneath the paved area was left in place, as was the storm drain that collects runoff from nearby parking lots.
- 1995—The outfall was removed from Laboratory's NPDES permit, effective July 11, 1995.
- 2006–2007—Phase I Consent Order investigation was conducted and soil and tuff samples were collected (LANL 2008, 102760; NMED 2008, 102290).
- 2009—Phase II Consent Order investigation was conducted to define extent for COPCs (LANL 2010, 110772.33).

6.13.2 Relationship to Other SWMUs and AOCs

At SWMU 21-027(a), a 4-in. VCP runs beneath a paved area south of former building 21-003 for about 30 ft and emptied into a storm drain where a 12-in. culvert runs from the storm drain underground for about 50 ft, emptying onto the ground at a ponding area on the southwest corner of the footprint of former cooling tower (structure 21-143, which was designated as AOC C-21-027). From the cooling tower footprint, runoff flowed in an unlined ditch to a 24-in. CMP culvert that carried runoff beneath the south perimeter road to the mesa edge.

6.13.3 Summary of Previous Investigations

- 1992—RFI activities included a radiological survey and the collection of surface samples at 12 locations (LANL 1994, 031591).
- 1993—Two 20-ft boreholes were advanced south of the cooling tower and samples were collected (LANL 1994, 031591, p. 10-1–10-15).
- 2004—Radiological and geophysical surveys were completed. The geophysical survey located a pipe beneath the paved area, corresponding to the expected path of the 12-in. storm drain (LANL 2004, 087461).

6.13.4 Site Contamination

6.13.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, the Phase II report recommended remediation of soil and tuff at SWMU 21-027(a) on the mesa top as well as at the associated outfall to remove elevated concentrations of dioxins/furans and activities of plutonium-239/240. Excavation was proposed on the mesa top at one location adjacent to former building 21-003 (location 21-601226) and at the ponding area south of former building 21-003, including the outlet connection to the former septic tank (locations 21-601225, 21-601228, and 21-601229) on the mesa top (Figure 6.13-1). Soil removal was also proposed in the outfall area on the canyon slope. The Phase II report concluded the lateral and vertical extent of COPCs was defined. As described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825), the remediation in the outfall area was not conducted because of safety concerns associated with removing the contaminated media. However, samples were collected at three mesa-top locations within and around the ponding area during the Phase III investigations to determine the depth of excavation and to delineate the area above SSLs/SALs. Samples were also collected on the canyon

slope 20 ft east and west of the outfall area to delineate the area above SSLs/SALs. As a result, the following activities were completed as part of the 2011 investigation.

- Soil was removed on the mesa top (approximately 21 yd^3) at one location adjacent to former building 21-003 (location 21-601226) and at the ponding area south of former building 21-003 (locations 21-601225, 21-601228, and 21-601229) from approximately 4.0–4.5 ft bgs.
- One sample was collected from one location in the ponding area from 4.0–5.0 ft bgs (location 21-614575) and analyzed for dioxins/furans and plutonium-239/240 at an off-site fixed laboratory.
- Four samples were collected from two locations 10 ft east and west of the ponding area from 1.0–2.0 ft and 4.0–5.0 ft bgs (locations 21-614576 and 21-614577) and analyzed for dioxins/furans and plutonium-239/240 at an off-site fixed laboratory.
- Four samples were collected from two locations 20 ft east and west of the outfall from 0.0–0.5 ft and 1.5–2.0 ft bgs (locations 21-614578 and 21-614579) and analyzed for dioxins/furans and plutonium-239/240 at an off-site fixed laboratory.
- The samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at SWMU 21-027(a) are shown in Figure 6.13-1. Table 6.13-1 presents the samples collected and analyses requested for SWMU 21-027(a). The geodetic coordinates of the Phase III sampling location is presented in Table 3.2-1.

6.13.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at SWMU 21-027(a), no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.13.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for SWMU 21-027(a) as identified in the Phase I report and following remediation in 2011 include arsenic, barium, cadmium, chromium, copper, lead, lithium, mercury, nitrate, perchlorate, selenium, strontium, and zinc.

Additional extent sampling for inorganic chemicals at SWMU 21-027(a) was not required by the approved Phase III work plan. Table 6.13-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Figure 6.13-2 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for SWMU 21-027(a) as identified in the Phase I report and following remediation in 2011 include acenaphthene; acetone; anthracene; Aroclor-1254; Aroclor-1260; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; 2-butanone; carbon disulfide; chrysene; di-n-butylphthalate; fluoranthene; fluorene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,4,7,8,9-

heptachlorodibenzofuran; 1,2,3,4,7,8-hexachlorodibenzodioxin; 1,2,3,6,7,8-hexachlorodibenzodioxin; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; 1,2,3,7,8,9-hexachlorodibenzofuran; 2,3,4,6,7,8-hexachlorodibenzofuran; indeno(1,2,3-cd)pyrene 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; 1,2,3,7,8-pentachlorodibenzodioxin; 1,2,3,7,8-pentachlorodibenzofuran; 2,3,4,7,8-pentachlorodibenzofuran; phenanthrene; pyrene; 2,3,7,8-tetrachlorodibenzodioxin; and 2,3,7,8-tetrachlorodibenzofuran; tetrachloroethene; and toluene.

Nine samples were collected and analyzed for dioxins/furans during the Phase III investigation to determine the depth and area of excavation on the mesa top and to laterally delineate the area above SSLs around the outfall. Table 6.13-3 summarizes the analytical results for detected organic chemicals. Plate 30 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for SWMU 21-027(a) as identified in the Phase I report and following remediation in 2011 include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, uranium-235/236, and uranium-238.

Nine samples were collected and analyzed for isotopic plutonium during the Phase III investigation to determine the depth and area of excavation on the mesa top and to laterally delineate the area above SALs around the outfall. Table 6.13-4 presents the radionuclides detected or detected above BVs/FVs. Plate 31 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.13.4.4 Nature and Extent of Contamination

Inorganic Chemicals

No inorganic COPCs at SWMU 21-027(a) were addressed in the approved Phase III work plan.

Organic Chemicals

The organic COPCs at SWMU 21-027(a) addressed in the approved Phase III work plan included dioxins/furans.

The sample collected at location 21-614575 in the ponding area from 4.0–5.0 ft bgs is immediately adjacent to and downslope from location 21-601229. Ten dioxin/furan congeners were detected in the sample at the 2011 location, and the concentrations decreased with depth at location 21-601229. The vertical extent of dioxin and furan congeners is defined, and the depth of the excavation in this area is limited to 4.0 ft bgs.

Fewer dioxin/furan congeners were detected in samples collected from 1.0–2.0 ft and 4.0–5.0 ft bgs at locations 21-614576 and 21-614577, which are 10 ft east and 10 ft west of the ponding area, and the concentrations decreased laterally from the proposed excavation area. The concentrations at both locations also decreased or did not change substantially with depth. Because the concentrations at these two bounding locations were not elevated, the width of the excavation area proposed in the approved Phase III work plan was not expanded (LANL 2011, 203659; NMED 2011, 203825). The lateral extent of dioxin and furan congeners is defined.

Fewer dioxin/furan congeners were detected in samples collected from 0.0–0.5 ft and 1.5–2.0 ft bgs at locations 21-614578 and 21-614579, which are 20 ft east and 20 ft west of the outfall, and the

concentrations decreased laterally. The concentrations at both locations also decreased or did not change substantially with depth. Therefore, the extent of the contaminated area around the outfall has been defined.

Radionuclides

The radionuclide COPCs at SWMU 21-027(a) addressed in the approved Phase III work plan included plutonium-238 and plutonium-239/240.

Plutonium-239/240 was detected at 0.529 pCi/g in the sample collected from 4.0–5.0 ft bgs at location 21-614575 in the ponding area, and plutonium-238 was not detected at this location, which is immediately adjacent to and downslope from location 21-601229. The plutonium-239/240 activity decreased with depth at location 21-601229 and was approximately 2 to 4 orders of magnitude below the SALs. The vertical extent of plutonium-238 and plutonium-239/240 is defined and the depth of the excavation in this area is limited to 4.0 ft bgs.

Plutonium-238 and plutonium-239/240 activities decreased laterally in samples collected from 1.0–2.0 ft and 4.0–5.0 ft bgs at locations 21-614576 and 21-614577, which are 10 ft east and 10 ft west of the ponding area. The activities at both locations also decreased with depth. Because the activities at these two bounding locations were not elevated, the width of the excavation area proposed in the approved Phase III work plan was not expanded (LANL 2011, 203659; NMED 2011, 203825). The lateral extent of plutonium-238 and plutonium-239/240 is defined.

Plutonium-238 and plutonium-239/240 activities decreased laterally in samples collected from 0.0–0.5 ft and 1.5–2.0 ft bgs at locations 21-614578 and 21-614579, which are 20 ft east and 20 ft west of the outfall. The activities at both locations also decreased with depth. The plutonium-238 and plutonium-239/240 activities decreased by several orders of magnitude west of the outfall from location 21-600861 to location 21-614578. The plutonium-238 activity decreased by more than an order of magnitude east of the outfall from location 21-600862 to location 21-614579, while the plutonium-239/240 activity decreased by 35 pCi/g from location 21-600862 to location 21-614579. The residential SAL for plutonium-238 was approximately 90 times and the industrial SAL for plutonium-238 was approximately 1300 times the maximum activity detected at the 2011 locations. The residential SAL for plutonium-239/240 was approximately 17 pCi/g above and the industrial SAL was approximately 20 times the maximum activity detected at location 21-614579. Therefore, the extent of the contaminated area above SALs around the outfall has been defined.

6.13.4.5 Summary of Human Health Risk Screening

As noted above in section 6.13.4.1, the Phase III investigation at SWMU 21-027(a) included remediation on the mesa top to remove elevated activities of dioxins/furans and plutonium-239/240. Excavation removed contaminated media (soil and tuff) on the mesa top (approximately 21 yd^3) at one location adjacent to former building 21-003 (location 21-601226) and at the ponding area south of former building 21-003, including the outlet connection to the former septic tank (locations 21-601225, 21-601228, and 21-601229) on the mesa top. Samples were collected at these three mesa-top locations during the Phase III investigations to determine the depth of excavation and to delineate the area above SSLs/SALs.

Although soil removal was also proposed in the outfall area, the remediation downslope of the outfall area was not conducted because of safety concerns associated with removing the contaminated media as described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). The outfall contamination area is on a steep cliff, with 45- to 90-degree slopes (Figure 6.13-1 and Appendix C, Photo 5). This area consists of unstable, highly weathered, fractured bedrock with approximately 15%

soil, filling fractures and voids between rocks. As a result, the potential risk issue (dioxins/furans) was not addressed for either the industrial or residential scenario. Samples were collected on the canyon slope 20 ft east and west of the outfall area to delineate the area above SSLs/SALs. The human health risk-screening assessments for SWMU 21-027(a) were revised to reflect the removal of contaminated media and the collection of new data. Table 6.13-1 presents the samples remaining at SWMU 21-027(a), which were used to conduct the risk-screening assessments.

In addition to evaluating the entire site for potential risk/dose, the mesa-top portion of the SWMU was evaluated separately for potential risk/dose under the industrial, construction worker, and residential scenarios. Because of the site conditions on the slope/cliff described above, the outfall area would not serve as an exposure area to residents, construction workers, or industrial workers. Therefore, the exposure of human receptors over this portion of the site has no likelihood of occurring because there is currently no accessibility to the slope/cliff, there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff, and there are major safety concerns regarding any activity on the slope/cliff. The steep slope/cliff portion of the site will not result in human exposure to contamination.

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is approximately 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD [tetrachlorodibenzo-p-dioxin]. The industrial HI is approximately 0.06, which is less than the NMED target HI of 1. The total dose is approximately 3 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Risk/dose screening assessments under the industrial scenario on the mesa top only were not conducted for SWMU 21-027(a) because samples were not collected from the 0.0–1.0-ft depth interval on the mesa top per the approved work plans. However, the elevated 2,3,7,8-TCDD concentration is on the slope/cliff portion of the site where no human exposure to the contamination exists.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is approximately 4×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 2, which is above the NMED target HI of 1. The elevated HI is from 2,3,7,8-TCDD. The total dose is approximately 13 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the construction worker scenario on the mesa top is approximately 5×10^{-9}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 0.2, which is less than the NMED target HI of 1. The total dose is approximately 5 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is approximately 2×10^{-4}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD and PAHs. The residential HI is approximately 0.2, which is less than the NMED target HI of 1. The total dose is approximately 22 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the residential scenario on the mesa top is approximately 4×10^{-6}, which is less than the NMED target risk level of 1×10^{-5}. The residential HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 8 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the construction worker and residential scenarios on the mesa top. The industrial scenario was not evaluated on the mesa top because samples were not collected from the 0.0–1.0-ft depth interval. There are potential unacceptable risks for the industrial, construction worker, and residential scenarios for the entire site. However, the elevated dioxin and furan concentrations are on the slope/cliff portion of the site where no human exposure to the contamination exists.

6.13.4.6 Summary of Ecological Risk Screening

The ecological risk-screening assessment for SWMU 21-027(a) was revised to reflect the removal of contaminated media and the collection of new data.

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at SWMU 21-027(a).

6.14 AOC C-21-027, Former Cooling Tower

AOC C-21-027 consists of a former cooling tower (chilled water recirculator), structure 21-143 (LANL 1991, 007529, p. 18-35) (Figure 6.14-1). The tower received water from former building 21-003, circulated it, and returned it to the building in a closed loop (LANL 1995, 049987). The cooling tower was connected to an acid tank (LASL 1957, 024520) and also had a 3-in. cast-iron drain that discharged into Los Alamos Canyon to the south (LASL 1957, 024518; LASL 1957, 024520).

6.14.1 Operational History

- 1956/1957—The cooling tower was constructed (LASL 1957, 024520). The cooling tower occupied an area approximately 10 ft by 20 ft (LANL 1995, 049987). The associated underground piping was approximately 4.0 ft bgs (LASL 1957, 024516; LASL 1957, 024520).
- 1994—The cooling tower surface structures were removed (LANL 1995, 049987).
- 1995—The cooling tower subsurface structures were removed (LANL 1995, 049987). It is not known whether the inlet and outlet piping were removed.

6.14.2 Relationship to Other SWMUs and AOCs

At SWMU 21-027(a), a 4-in. VCP runs beneath a paved area south of former building 21-003 for about 30 ft and emptied into a storm drain where a 12-in. culvert runs from the storm drain underground for about 50 ft, emptying onto the ground at a ponding area on the southwest corner of the footprint of former cooling tower (structure 21-143, which was designated as AOC C-21-027). From the cooling tower footprint, runoff flowed in an unlined ditch to a 24-in. CMP culvert that carried runoff beneath the south perimeter road to the mesa edge.

6.14.3 Previous Investigations

After the subsurface structures were removed in 1995, three confirmation samples were collected from one location in the center of the cooling tower's footprint. Samples were collected from the 0.0–0.5-ft, 0.5–1.0-ft, and 1.0–1.5-ft depth intervals and sent to an off-site fixed laboratory for analyses of inorganic chemicals, organic chemicals, and radionuclides (LANL 1995, 049987). Samples were not collected in the areas of the inlet or outlet piping, and no information is available that indicates they were removed; therefore, it is assumed these pipes are still in place.

Only one location was sampled in the middle of cooling tower TA-21-143, but the sample coordinates are not available. The samples were analyzed for inorganic chemicals, organic chemicals, and radionuclides (LANL 1995, 49987). The data associated with these samples are more than 10 yr old. Calcium and chromium were detected above BVs; various organic chemicals were detected; americium-241 was detected above its FV; plutonium-239 and strontium-90 were detected at depths where FVs do not apply; and cobalt-60 and tritium were detected (no FVs available) (LANL 1998, 059730). None of the piping areas were sampled.

A Phase I investigation was conducted in 2009 to characterize the site (LANL 2010, 110772.33). Inorganic, organic, and radionuclide COPCs were identified and the extent of contamination for some COPCs was not defined. The risk-screening assessments for this site were not performed.

6.14.4 Site Contamination

6.14.4.1 Soil, Rock, and Sediment Sampling

Based on previous investigation results, further characterization was required to assess potential contamination at AOC C-21-027. The Phase II report concluded lateral and/or vertical extent of some inorganic, organic, and radionuclide COPCs were not defined. In addition, the NMED approval with modification (NMED 2011, 203825, Comment 4) stated that the Phase III sampling must include americium-241, chromium, nitrate, perchlorate, and zinc analyses at one or two proposed locations to define extent. As a result, the following activities were completed as part of the 2011 investigation.

- Eleven samples were collected from seven locations to address extent issues remaining following the previous investigation. At each location, samples were collected from the appropriate depth intervals as specified in the Phase III work plan (LANL 2011, 203659, Table 1). Samples were analyzed at off-site fixed laboratories for the COPCs requiring extent sampling as presented in the Phase II report and NMED's approval with modification (NMED 2011, 203825, Comment 4).
- All investigation samples were field-screened for VOCs and gross-alpha, -beta, and -gamma radiation. Field-screening results were recorded on the SCLs (Appendix G).

The sampling locations at AOC C-21-027 are shown in Figure 6.14-1. Table 6.14-1 presents the samples collected and analyses requested for AOC C-21-027. The geodetic coordinates of Phase III sampling locations are presented in Table 3.2-1.

6.14.4.2 Soil, Rock, and Sediment Field-Screening Results

During headspace screening for organic vapors at AOC C-21-027, no organic vapors were detected in the Phase III samples. No radiological screening results exceeded twice the daily site background levels. Field-screening results for the Phase III samples are presented in Table 3.2-2. There were no changes to sampling or other activities because of the field-screening results.

6.14.4.3 Soil, Rock, and Sediment Sampling Analytical Results

Inorganic Chemicals

The inorganic COPCs for AOC C-21-027 as identified in the Phase II report include antimony, barium, calcium, chromium, cobalt, cyanide, lead, nickel, nitrate, perchlorate, selenium, thallium, and zinc.

Seven samples were analyzed for specific TAL metals (calcium, chromium, lead, and/or zinc), nitrate, and/or perchlorate. Table 6.14-2 presents the inorganic chemicals above BVs and detected inorganic chemicals with no BVs. Figure 6.14-2 shows the spatial distribution of inorganic chemicals detected or detected above BVs.

Organic Chemicals

The organic COPCs for AOC C-21-027 as identified in the Phase II report include acetone; Aroclor-1254; Aroclor-1260; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; benzo(g,h,i)perylene; benzo(k)fluoranthene; bis(2-ethylhexyl)phthalate; chrysene; di-n-butylphthalate; fluoranthene; 1,2,3,4,6,7,8-heptachlorodibenzodioxin; 1,2,3,4,6,7,8-heptachlorodibenzofuran; 1,2,3,4,7,8,9-heptachlorodibenzofuran; 1,2,3,4,7,8-hexachlorodibenzodioxin; 1,2,3,6,7,8-hexachlorodibenzodioxin; 1,2,3,7,8,9-hexachlorodibenzodioxin; 1,2,3,4,7,8-hexachlorodibenzofuran; 1,2,3,6,7,8-hexachlorodibenzofuran; 1,2,3,7,8,9-hexachlorodibenzofuran; 2,3,4,6,7,8-hexachlorodibenzofuran; indeno(1,2,3-cd)pyrene; 1,2,3,4,6,7,8,9-octachlorodibenzodioxin; 1,2,3,4,6,7,8,9-octachlorodibenzofuran; 1,2,3,7,8-pentachlorodibenzodioxin; 1,2,3,7,8-pentachlorodibenzofuran; 2,3,4,7,8-pentachlorodibenzofuran; phenanthrene; pyrene; 2,3,7,8-tetrachlorodibenzodioxin; and 2,3,7,8-tetrachlorodibenzofuran.

Two samples were analyzed for dioxins/furans. Table 6.14-3 summarizes the analytical results for detected organic chemicals. Plate 32 shows the spatial distribution of detected organic chemicals.

Radionuclides

The radionuclide COPCs for AOC C-21-027 as identified in the Phase II report include americium-241, cesium-137, plutonium-238, plutonium-239/240, tritium, uranium-234, and uranium-235/236.

Eight samples were analyzed for americium-241, tritium, isotopic plutonium, and/or isotopic uranium. Table 6.14-4 presents the radionuclides detected or detected above BVs/FVs. Figure 6.14-3 shows the spatial distribution of radionuclides detected or detected above BVs/FVs.

6.14.4.4 Nature and Extent of Contamination

The nature and extent of inorganic, organic, and radionuclide COPCs at AOC C-21-027 addressed by the approved Phase III work plan are discussed below.

Inorganic Chemicals

The inorganic COPCs at AOC C-21-027 addressed in the approved Phase III work plan include calcium, chromium, lead, nitrate, perchlorate, and zinc.

Samples were collected at location 21-614583, 20 ft east of location 21-610684, from 0.0–0.5 ft bgs, 5.0–6.0 ft bgs, and 9.0–10.0 ft bgs to define the vertical extent of chromium and the lateral extent of calcium, chromium, lead, nitrate, perchlorate, and zinc. Chromium was not detected above BVs in the 2011

samples. The calcium, chromium, lead, nitrate, perchlorate, and zinc concentrations decreased laterally from location 21-610684. Concentrations also decreased with depth or did not change substantially with depth for calcium, chromium, nitrate, perchlorate, and zinc; calcium concentrations in the shallower soil samples (0.0–0.5 ft and 5.0–6.0 ft bgs) were higher (5730 mg/kg and 5500 mg/kg) than the concentration at 9.0–10.0 ft but were below the soil BV (Appendix G). Lead concentrations increased with depth at location 21-614583, but the residential and industrial SSLs were approximately 20 times and 40 times the concentration at 9.0–10.0 ft bgs, respectively. The vertical extent of chromium is defined, the lateral extent of calcium, chromium, lead, nitrate, perchlorate, and zinc is defined, and further sampling for vertical extent of lead at location 21-614583 is not warranted.

Samples were collected at location 21-614581, 25 ft east of location 21-605338, from 0.0–0.5 ft and 5.0–6.0 ft bgs to define the lateral extent of chromium, nitrate, perchlorate, and zinc. Chromium and zinc were not detected above BVs in the 2011 samples and nitrate and perchlorate concentrations decreased laterally from location 21-605338. Nitrate and perchlorate concentrations also decreased with depth at location 21-614581. The lateral extent of chromium, nitrate, perchlorate, and zinc is defined.

A sample was collected at location 21-605339 from 7.0–8.0 ft bgs to define the vertical extent of calcium. Calcium was detected below the Qbt 2,3,4 BV in the 2011 sample. The vertical extent of calcium is defined.

A sample was collected at location 21-614584, 20 ft west of location 21-605341, from 0.0–0.5 ft bgs to define the lateral extent of nitrate and perchlorate. Nitrate and perchlorate concentrations decreased laterally from location 21-605341. The lateral extent of nitrate and perchlorate is defined.

A sample was collected at location 21-614585 (between locations 21-605340 and 21-605341) from 6.0–7.0 ft bgs to define the vertical extent of chromium at location 21-605340 and the vertical extent of nitrate and perchlorate at location 21-605341. Concentrations of chromium, nitrate, and perchlorate decreased in the 6.0–7.0 ft bgs sample at location 21-614585 from the samples collected at 2.0–3.0 ft bgs at locations 21-605340 and 21-605341. The vertical extent of chromium, nitrate, and perchlorate is defined.

Organic Chemicals

The organic COPCs at AOC C-21-027 addressed in the approved Phase III work plan include dioxins/furans.

A sample was collected at location 21-614585 (between locations 21-605340 and 21-605341) from 6.0–7.0 ft bgs to define the vertical extent of dioxins/furans at location 21-605340. Concentrations of dioxin and furan congeners decreased in the sample collected at 6.0–7.0 ft bgs at location 21-614585 from the samples collected at 2.0–3.0 ft bgs at location 21-605340. The vertical extent of dioxins and furans is defined.

A sample was collected from 0.0–0.5 ft bgs at location 21-614582 approximately 45 ft downslope from location 21-610686 to define the lateral extent of dioxins/furans. Concentrations decreased downgradient of location 21-610686, and fewer congeners were detected in the 2011 sample (7 congeners at location 21-614582 versus 17 congeners at location 21-610686). The lateral extent of dioxins and furans is defined.

Radionuclides

The radionuclide COPCs at AOC C-21-027 addressed in the approved Phase III work plan include americium-241, plutonium-238, plutonium-239/240, tritium, uranium-234, and uranium-235/236.

Samples were collected at location 21-614583, 20 ft east of location 21-610684, from 0.0–0.5 ft, 5.0–6.0 ft, and 9.0–10.0 ft bgs to define the lateral extent of americium-241, plutonium-238, plutonium-239/240, tritium, uranium-234, and uranium-235/236. The activities decreased laterally for all radionuclide COPCs from location 21-610684 to location 21-614583, except for plutonium-239/240 at one depth; plutonium-238, tritium, and uranium-234 were not detected or not detected above BVs/FVs in the 2011 samples. The plutonium-239/240 activity increased between the two locations by 1.63 pCi/g at 5.0–6.0 ft bgs but decreased with depth (the residential SAL was approximately 45 times the activity at location 21-614583 [1.77 pCi/g]). Activities also decreased or did not change substantially with depth for americium-241, plutonium-239/240, and uranium-235/236; activities for uranium-235/236 were slightly higher in the shallower soil samples (0.146 pCi/g and 0.14 pCi/g) but were below the soil BV (Appendix G). The lateral extent of americium-241, plutonium-238, plutonium-239/240, tritium, uranium-234, and uranium-235/236 is defined.

Samples were collected at location 21-614581, 25 ft east of location 21-605338 and 20 ft east of location 21-610683, from 0.0–0.5 ft and 5.0–6.0 ft bgs to define the lateral extent of americium-241, plutonium-238, and plutonium-239/240. Americium-241, plutonium-238, and plutonium-239/240 activities did not change substantially from either location 21-605338 or location 21-610683; americium-241 changed by 0.081 pCi/g, plutonium-238 changed by 0.054 pCi/g, and plutonium-239/240 changed by 2.5 pCi/g. The residential SALs were approximately 200 times, 860 times, and 18 times the maximum activities at location 21-614581. Activities decreased with depth at location 21-614581. Further sampling for lateral extent of americium-241, plutonium-238, and plutonium-239/240 is not warranted.

A sample was collected at location 21-614584, 20 ft west of location 21-605341, from 0.0–0.5 ft bgs to define the lateral extent of americium-241, plutonium-238, plutonium-239/240, uranium-234, and uranium-235/236. Americium-241, plutonium-238, plutonium-239/240, uranium-234, and uranium-235/236 activities decreased laterally from location 21-605341; plutonium-238, uranium-234, and uranium-235/236 were not detected or not detected above BVs/FVs in the 2011 sample. The lateral extent of americium-241, plutonium-238, plutonium-239/240, uranium-234, and uranium-235/236 is defined.

A sample was collected at location 21-614585 (between locations 21-605340 and 21-605341) from 6.0–7.0 ft bgs to define the vertical extent of americium-241, plutonium-238, and plutonium-239/240 at location 21-605340. However, the analytical laboratory did not conduct the requested analyses of americium-241, plutonium-238, and plutonium-239/240 on the sample submitted in 2011. The activities do not change substantially from location 21-605340 to location 21-605341, which is approximately 5.0–6.0 ft bgs west of location 21-605340, in the sample collected at 0.0–0.5 ft bgs but decrease laterally in the sample collected at 2.0–3.0 ft bgs. The vertical extent of these radionuclides is defined to 3.0 ft bgs at location 21-605341. The activities increased with depth at location 21-605340 by approximately 0.21 pCi/g, 2.5 pCi/g, and 17 pCi/g, respectively. The residential SALs were approximately 30 times, 340 times, and 3.9 times the maximum activities (5.0–6.0 ft bgs) at location 21-605340. The industrial SAL was approximately 60 times the maximum plutonium-239/240 activity (5.0–6.0 ft bgs) at location 21-605340. Further sampling for vertical is not warranted.

Samples were collected at location 21-614580, 20 ft east of location 21-610682, from 0.0–0.5 ft and 5.0–6.0 ft bgs to define the lateral and vertical extent of americium-241, plutonium-238, and plutonium-239/240. Plutonium-238 and plutonium-239/240 activities decreased laterally from location 21-610682 and decreased with depth. However, americium-241 was not analyzed for in the sample collected at location 21-610682 and was detected at location 21-614580 (10.4 pCi/g). Americium-241 activities decreased with depth at location 21-614580. The residential SAL for americium-241 was approximately 8 times and the industrial SAL was approximately 95 times the maximum activity at

location 21-614580. The lateral extent of plutonium-238 and plutonium-239/240 is defined, and further sampling for lateral extent of americium-241 is not warranted.

6.14.4.5 Summary of Human Health Risk Screening

Risk and dose assessments were not previously conducted for AOC C-21-027. The main area of contamination is around the outfall. The contamination area is on the steep slope/cliff portion of the AOC, which is next to Consolidated Unit 21-006(c)-99 and SWMU 21-027(a) (Plate 1), and described in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). The outfall area is on a steep cliff, with 45- to 90-degree slopes (Figure 6.14-1 and Appendix C, Photo 5) and consists of unstable, highly weathered, fractured bedrock with approximately 15% soil, filling fractures and voids between rocks.

In addition to evaluating the entire site for potential risk/dose, the mesa-top portion of the AOC was evaluated separately for potential risk/dose under the industrial, construction worker, and residential scenarios. Because of the site conditions on the slope/cliff described above, the outfall area would not serve as an exposure area to residents, construction workers, or industrial workers. Therefore, the exposure of human receptors over this portion of the site has no likelihood of occurring because there is currently no access to the slope/cliff, there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff, and there are major safety concerns regarding any activity on the slope/cliff. The steep slope/cliff portion of the site will not result in human exposure to contamination.

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is approximately 3×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD. The industrial HI is approximately 0.05, which is below the NMED target HI of 1. The total dose is approximately 4 mrem/yr, which is below the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the industrial scenario for the mesa top is approximately 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5}. The HI is approximately 0.08, which is less than the NMED target HI of 1. The total dose is approximately 0.4 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is approximately 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1. The total dose is approximately 16 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the construction worker scenario for the mesa top is approximately 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 2 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is approximately 9×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD and PAHs. The residential HI is approximately 0.4, which is less than the NMED target HI of 1. The total dose is approximately 25 mrem/yr, which is equivalent to the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The total excess cancer risk for the residential scenario for the mesa top is approximately 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5}. The residential HI is approximately 0.5, which is less than the NMED target HI of 1. The total dose is approximately 3 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Based on the screening-assessment results, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios on the mesa top. There are also no potential unacceptable HIs and doses under the scenarios for the entire site. There are potential unacceptable cancer risks for the industrial and residential scenarios for the entire site. However, the elevated dioxin and furan concentrations are on the slope/cliff portion of the site where no human exposure to the contamination exists.

6.14.4.6 Summary of Ecological Risk Screening

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at AOC C-21-027.

7.0 CONCLUSIONS

7.1 Nature and Extent of Contamination

Based on the 2011 data and the revised evaluation of the data, the nature and extent of contamination have been defined, and/or no further sampling for extent is warranted for the 27 sites included in the DP Site Aggregate Area Phase III investigation. Therefore, no further sampling for extent at any of the sites evaluated in this report is necessary.

Los Alamos and DP Canyons are included in the Los Alamos/Pueblo Watershed Sediment Transport Mitigation Project (LANL 2015, 600438; LANL 2016, 601434). As part of this project, the Laboratory has undertaken several activities to reduce flood energy and associated sediment transport. Because contaminants migrate with sediment entrained in runoff, reducing sediment transport will thus reduce contaminant transport, which is the primary objective of these activities. Monitoring of storm water and sediment is included to assess the performance of sediment-control measures installed in the canyons. Controls applicable to sites in the DP Site Aggregate Area include a grade-control structure installed in DP Canyon at the east end of TA-21 and the Los Alamos Canyon low-head weir installed in Los Alamos Canyon below the confluence with DP Canyon at the Laboratory boundary. The grade-control structure has been installed to encourage channel aggradation, thus reducing the potential for erosion of contaminated sediment deposits in adjacent banks during floods. Channel aggradation in reach DP-2 should also encourage the spreading of floodwaters, thereby reducing peak discharge because of transmission loss within the reach and enhancing sediment deposition. Lower flood peaks should also reduce the erosion of contaminated sediment deposits downcanyon of the DP grade-control structure.

The Los Alamos Canyon low-head weir and associated sediment detention basins have also been installed approximately 2.5 mi downcanyon from TA-21, which facilitates a reduction in flows and accumulate sediment from upper and middle Los Alamos and DP Canyons. Storm water quality monitoring is conducted at storm water sampler locations below several outfalls and drainage areas from TA-21 and several gage stations within the Los Alamos Canyon watershed. Sampling locations include a gage in DP Canyon adjacent to TA-21, a gage in DP Canyon downgradient of the grade-control structure, gages in Los Alamos Canyon upstream and downstream of the confluence with DP Canyon, and gages in Los Alamos Canyon upstream and downstream of the low-head weir. Monitoring results are reported annually to NMED (e.g., LANL 2016, 601433). Run-on and runoff controls have also been installed at sites as part of storm water controls required under the Laboratory's NPDES Individual Permit (the Permit). The Permit regulates those SWMUs and AOCs that have the potential to release contaminants to surface water via storm water runoff. These controls are designed to decrease and divert storm water flow at individual SWMUs and AOCs and include straw wattles, berms, curbing, retention basins, rock check dams, and vegetated areas. Seven of the SWMUs addressed by the Phase III investigation report are regulated under the Permit: SWMUs 21-006(b), 21-022(h), 21-024(c), 21-024(d) 21-024(l), 21-024(n), and 21-027(a).

7.2 Summary of Risk-Screening Assessments

Sites were evaluated for potential risk by human health and ecological risk-screening assessments.

- Human health risk-screening assessments were either revised or conducted for the first time for 20 sites (discussed further below). An assessment was not performed for SWMU 21-022(j) because samples were collected at depths greater than 10.0 ft bgs where no complete pathways to receptors are present.
- Ecological risk-screening assessments were either revised or conducted for the first time for 20 sites (discussed further below). An assessment was not performed for SWMU 21-022(j) because samples were collected at depths greater than 5.0 ft bgs where no complete pathways to receptors are present.
- The human health and ecological risk-screening assessments for Consolidated Unit 21-006(c)-99 and SWMUs 21-024(d) and 21-024(g) were not reassessed because the results of the Phase III sampling did not affect the risk/dose screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H). Based on the Phase II risk/dose screening-assessment results, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios and no potential ecological risk exists at any of these sites.

7.2.1 Human Health Risk-Screening Assessments

The human health risk-screening assessments are presented in Appendix H, section H-4.0.

As noted in the approved Phase III work plan for DP Site Aggregate Area (LANL 2011, 203659; NMED 2011, 203825), the steep slope/cliff portions of four sites [Consolidated Unit 21-026(a), SWMUs 21-022(h), 21-024(b), and 21-027(a)] as well as an adjacent AOC (AOC C-21-027) not mentioned in the work plan as requiring remediation because risk-screening assessments had not been conducted, were not remediated because of safety concerns over personnel and equipment access and activity, and the lack of receptor exposure. The main areas of contamination are around the outfalls, which are on a steep slope/cliff with 45- to 90-degree slopes, and unstable, highly weathered, fractured bedrock with approximately 15% soil, filling fractures and voids between rocks. Therefore, the entire sites were evaluated for potential risk/dose under the industrial, construction worker, and residential scenarios

as well as only the mesa-top portions of the sites. Because of the site conditions on the slope/cliff described above, the outfall areas would not serve as exposure areas to residents, construction workers, or industrial workers. Therefore, the exposure of human receptors over this portion of the sites has no likelihood of occurring because there is currently no access to the slope/cliff, there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff, and there are major safety concerns regarding any activity on the slope/cliff. The steep slope/cliff portion of the sites will not result in human exposure to contamination.

The human health risk-screening assessments were conducted on the entire site for each consolidated unit, SWMU, or AOC as well as for the mesa-top portion of the site at Consolidated Unit 21-026(a)-99, SWMUs 21-022(h), 21-024(b), and 21-027(a), and AOC C-21-027. These five sites were evaluated in this manner because the steep slope/cliff portions of the sites do not result in exposure to human receptors (LANL 2011, 203659; NMED 2011, 203825). The bases for the no exposure condition are (1) the areas are on a steep slope/cliff, with 45- to 90-degree slopes (Appendix C); (2) the areas consist of unstable, highly weathered, fractured bedrock with approximately 15% to 30% soil, filling fractures and voids between rocks; (3) the slope/cliff portions of the sites are inaccessible; (4) no trail or path is available for someone to traverse if he or she were to gain access to the slope/cliff; and (5) major safety concerns arise regarding any activity on the slope/cliff because of the steepness, the unstable bedrock, and the lack of any trail. AOC C-21-027 is also included because it is next to SWMU 21-027(a) and has the same restrictions for human exposure (Plate 1).

Industrial Scenario: No potential unacceptable risks or doses exist under the industrial scenario for the sites evaluated in this report [not evaluated at Consolidated Unit 21-023(a)-99 because no samples from 0.0–1.0 ft were collected]. Although the HI at SWMU 21-022(h) and the total excess cancer risks at Consolidated Unit 21-026(a)-99, SWMUs 21-022(h) and 21-027(a), and AOC C-21-027 were above the NMED target risk levels, the contamination causing the potential risks was on the slope/cliff portions of the sites to which no exposure to a worker exists (LANL 2011, 203659; NMED 2011, 203825). Lead at one location (the outfall) and PAHs at SWMU 21-022(h), PAHs at two locations (at and around the outfall) at Consolidated Unit 21-026(a)-99, and dioxins and furans at one location each (the outfalls) at SWMU 21-027(a) and AOC C-21-027 were the cause of elevated HI and cancer risks. Concentrations were several orders of magnitude higher around the outfalls than elsewhere within the sites. The mesa-top portions of each of these sites did not pose a potential unacceptable risk or dose under the industrial scenario [the industrial scenario was not evaluated for SWMUs 21-022(h), 21-024(b), and 21-027(a) because there are no data from the 0.0–1.0-ft depth interval on the mesa top].

Construction Worker Scenario: No potential unacceptable risks or doses under the construction worker scenario exist for the sites evaluated in this report. Although the HI at SWMU 21-027(a) was above the NMED target risk level, the contamination causing the potential risk was on the slope/cliff portion of the site to which there is no exposure to a construction worker (LANL 2011, 203659; NMED 2011, 203825). Dioxins and furans at one location (the outfall) at SWMU 21-027(a) was the cause of elevated HI. The entire sites, except for SWMU 21-027(a), and/or the mesa-top portions of sites when evaluated did not pose a potential unacceptable risk or dose under the construction worker scenario.

Residential Scenario: Potential unacceptable risks for the entire site under the residential scenario exist at six sites evaluated in this report [SWMU 21-022(h), Consolidated Unit 21-023(a)-99, Consolidated Unit 21-024(l)-99, Consolidated Unit 21-026(a)-99, SWMU 21-027(a), and AOC C-21-027]. These sites had total excess cancer risks above the NMED target risk level. The primary contributors to the elevated cancer risks were arsenic and PAHs at Consolidated Units 21-023(a)-99, 21-024(l)-99, and 21-026(a)-99; PAHs at SWMU 21-022(h); and PAHs and dioxins/furans at SWMU 21-027(a) and AOC C-21-027. There is also a potential unacceptable risk from lead for the entire site at SWMU 21-022(h). However, when only

the mesa-top portions of SWMU 21-022(h), Consolidated Unit 21-026(a)-99, SWMU 21-027(a), and AOC C-21-027 are evaluated, no potential unacceptable risks exist under the residential scenario. The contamination causing the potential risks is on the slope/cliff portion of the sites to which no exposure to a resident exists. No potential unacceptable risks exist at SWMU 21-024(b) both for the entire site and for the mesa-top portion only and at Consolidated Unit 21-003-99 along with SWMUs 21-024(c), 21-024(k), and 21-024(n) for the entire site. There are no potential unacceptable doses under the residential scenario at any site.

The total doses were below or equivalent to the DOE target dose limit of 25 mrem/yr for all three scenarios at each site. The total doses were equivalent to total risks for the entire site ranging from 1×10^{-6} to 4×10^{-5}, based on a comparison with EPA's 2014 preliminary remediation goals for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls). The total doses were equivalent to total risks for only the mesa-top portions of sites ranging from 2×10^{-7} to 1×10^{-5}. The maximum potential doses/equivalent risks for the entire site were at SWMU 21-027(a) and AOC C-21-027 and were primarily from plutonium-239/240 (50% and 87%, respectively). However, the potential equivalent total risks for the mesa-top portions of SWMU 21-027(a) and AOC C-21-027 were 1×10^{-5} and 4×10^{-6}, respectively.

Sites at TA-21 are not accessible by the public and are not planned for release by DOE in the foreseeable future. Therefore, an as low as reasonably achievable (ALARA) evaluation of the aggregate area sites for radiological exposure to the public is not currently required. Should DOE's plans for releasing these areas change, an ALARA evaluation will be conducted at that time. It should be noted that the Laboratory addresses considerations for radiation exposures to workers under the Laboratory's occupational radiological protection program in compliance with 10 Code of Federal Regulations 835. The Laboratory's radiation protection program implements ALARA and consists of the following elements: management commitment, training, design review, radiological work review, performance assessments, and documentation.

As noted above, the steep slope/cliff portions of the sites do not result in exposure to human receptors for several reasons, including the steepness of the slope/cliff, the unstable surface, the lack of safe and reasonable access, and the absence of any trail. In addition, fencing is in place to restrict access to these areas. Although samples were collected in the vicinity of the unsafe areas as part of the DP Phase III investigations, this activity was performed using fall protection training and techniques, which involved training workers to procedures as well as the use of active fall protection systems, including fall restraint and fall arrest (anchorage, body harness, and a connecting system). Workers are not and will not be exposed to these areas because of the protection systems required for access, the access restrictions in place, and work is not planned or being conducted in these areas. Public access to these sites as well as TA-21 as a whole is restricted because the area remains DOE property and is fenced and posted with signage, including along the mesa edge above Los Alamos Canyon with access roads fenced and gated to prevent access to the eastern end of DP Mesa. Therefore, access to and the likelihood of human exposure to contamination on the steep slope/cliff portions of the sites at TA-21 are very low.

The access restrictions and controls preventing exposure to the contaminated outfalls on the steep slope/cliff portions of the sites will remain as long as TA-21 is DOE property. If TA-21 (i.e., the mesa top) is transferred from DOE, the presence of access restrictions to the steep slope/cliff, whether contaminated or not, would remain in the form of passive controls (e.g., fencing and signage) because the surrounding land (i.e., the slope/cliff) would remain DOE property.

7.2.2 Ecological Risk-Screening Assessments

The ecological risk-screening assessments are presented in Appendix H, section H-5.0.

No potential ecological risks to populations or T&E individuals related to the DP Site Aggregate Area sites evaluated in this report were found following assessments based on minimum ESL, HI analyses, LOAEL analyses, and potential effects to populations (individuals for T&E species). These lines of evidence and the analysis of COPECs with no ESLs support the conclusion that no potential ecological risk exists at sites within the DP Site Aggregate Area.

8.0 RECOMMENDATIONS

The determination of site status is based on the results of the risk-screening assessments and the nature and extent evaluation. Depending upon the decision scenario used, the sites are recommended as corrective actions complete either with or without controls or for additional action. The residential scenario is the only scenario under which corrective action complete without controls is applicable; that is, no additional corrective actions or conditions are necessary. The other decision scenarios (industrial, construction worker, and recreational) result in corrective action complete with controls; that is, some type of institutional controls must be in place to ensure land use remains consistent with site cleanup levels. The current and reasonably foreseeable future land use for the DP Site Aggregate Area is industrial.

8.1 Additional Field Characterization Activities

The nature and extent of contamination have been defined or no further sampling for extent is warranted for all DP Site Aggregate Area sites investigated and evaluated in this report. The sampling conducted for the Phase III investigation along with the previous Phase I and Phase II sampling conducted at these sites addressed all nature and extent issues. Additional sampling is not needed to address the nature and extent of contamination for the 27 sites (Table 8.1-1).

8.2 Recommendations for Corrective Actions Complete

Twenty-seven SWMUs/AOCs evaluated in this report do not pose a potential unacceptable risk or dose under the industrial, construction worker, and/or residential scenarios either for the entire site or for the mesa-top portion of the site; have no potential ecological risks for any receptor; and have the nature and extent of contamination defined and/or no further sampling for extent is warranted (Table 8.1-1). Therefore, the Laboratory recommends no further investigation or remediation activities are warranted at these sites.

Thirteen SWMUs have been found to pose no potential unacceptable risks to human health under the residential scenario for the entire site and to ecological receptors; these sites are appropriate for corrective actions complete without controls. Consolidated Unit 21-003-99 plus SWMU 21-024(c) and SWMU 21-024(n) are included based on the use of the EPA regional screening value for arsenic under the residential scenario (http://www.epa.gov/risk/risk-based-screening-table-generic-tables). The 13 sites include the following:

- Consolidated Unit 21-003-99 [SWMUs 21-003 and 21-013(f)], PCB container storage area, and SWMU 21-024(c), septic system
- Consolidated Unit 21-006(c)-99 [SWMUs 21-006(a), 21-006(b), 21-006(c), and 21-006(d)], Seepage pits

- SWMU 21-022(j), Sump
- SWMU 21-024(b), Septic system
- SWMU 21-024(d), Septic system
- SWMU 21-024(g), Septic system
- SWMU 21-024(k), Septic system
- SWMU 21-024(n), Septic system

Fourteen SWMUs/AOCs have been found to pose no potential unacceptable risks to human health under the industrial and construction worker scenarios either for the site as a whole or on the mesa top and to ecological receptors; these sites are appropriate for corrective actions complete with controls. It should be noted that no potential unacceptable risk/doses under the residential scenario exist on the mesa-top portion only for eight SWMUs or AOCs. The 14 sites include the following:

- SWMU 21-022(h), Sump, drainline, and outfall
- Consolidated Unit 21-023(a)-99 [SWMUs 21-023(a), 21-023(b), and 21-023(d)], Septic systems
- Consolidated Unit 21-024(l)-99 [SWMU 21-022(a), SWMU 21-024(l), and AOC 21-004(a)], Sump and associated lines, outfall, aboveground storage tank and associated lines
- Consolidated Unit 21-026(a)-99 [SWMUs 21-013(a), 21-026(a), and 21-026(b), and AOCs 21-026(c) and 21-026(d)], Sewage treatment plant
- SWMU 21-027(a), Drainlines, surface drainage, and outfall
- AOC C-21-027, Cooling tower

The controls for the above sites will be maintenance of an industrial land use for DP Mesa and continued access restriction to the steep cliff along the mesa edge.

PAHs are ubiquitous across TA-21 as would be expected because of extensive asphalt paving in the form of roads and parking areas. Much of this pavement is weathered and pieces have been “incorporated” in surface and subsurface environmental media over time as a result of construction and demolition activities. Given the widespread presence of asphalt at TA-21, PAHs were detected to some degree at all sites investigated at TA-21, including the sites evaluated in this report. Because of the nature of the operations conducted at TA-21(e.g., production of metal and alloys of plutonium, development of new purification techniques for plutonium, processing of polonium and actinium, the production of initiators, and development of the technology for handling and processing deuterium and tritium fuels), it is unlikely that the PAHs detected in soil are from SWMU-related releases at most, if not all, sites. NMED’s Risk Assessment Guidance for Site Investigations and Remediation (NMED 2012, 219971) allows for the use of lines of evidence, such as site history, to justify the exclusion of a constituent as a COPC. Therefore, DOE and the Laboratory reserve the right to reassess the identification of PAHs as COPCs throughout TA-21 and to revise any investigation results and site recommendations accordingly.

The proposed sampling and potential excavation at the diesel spill site are delayed until the work can be rescheduled and the foundation slab of building 21-357 is removed.

9.0 REFERENCES AND MAP DATA SOURCES

9.1 References

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate's Records Processing Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory's Electronic Document Management System and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the ESH Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

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9.2 Map Data Sources

Data sources used in original figures and/or plates created for this report are described below and identified by legend title.

Technical Area Boundaries; Los Alamos National Laboratory, Site Planning & Project Initiation Group, Infrastructure Planning Office; September 2007; as published 13 August 2010.

Former Structures of the Los Alamos Site, Line Feature Representation; Los Alamos National Laboratory, ESH&Q Waste & Environmental Services Division, EP2010-0A; 1:2,500 Scale Data; 09 August 2010.

Paved Parking; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 12 August 2002; as published 29 November 2010.

WQH Drainage_arc; Los Alamos National Laboratory, ENV Water Quality and Hydrology Group; 1:24,000 Scale Data; 03 June 2003.

Waste Storage Features; Los Alamos National Laboratory, Environment and Remediation Support Services Division, GIS/Geotechnical Services Group, EP2007-0032; 1:2,500 Scale Data; 13 April 2007.

Potential Release Sites; Los Alamos National Laboratory, ESH&Q Waste & Environmental Services Division, Environmental Data and Analysis Group, EP2010-1C; 1:2,500 Scale Data; 02 December 2010.

LANL Areas Used and Occupied ; Los Alamos National Laboratory, Site Planning & Project Initiation Group, Infrastructure Planning Office; 19 September 2007; as published 13 August 2010.

Technical Area Boundaries; Los Alamos National Laboratory, Site Planning & Project Initiation Group, Infrastructure Planning Office; September 2007; as published 13 August 2010.

Materials Disposal Areas; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program; ER2004-0221; 1:2,500 Scale Data; 23 April 2004.

Primary Electric Grid; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Primary Gas Distribution Lines; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Hypsography, 2,10,20, and 100 Foot Contour Interval; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Programt; 1991.

Road Centerlines; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 15 December 2005; as published 29 November 2010.

Dirt Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Paved Parking; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Paved Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Sewer Line System; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Steam Line Distribution System; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Structures; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Water Lines; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.

Security and Industrial Fences and Gates; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010.



Figure 1.1-1 Location of DP Site Aggregate Area with respect to Laboratory TAs

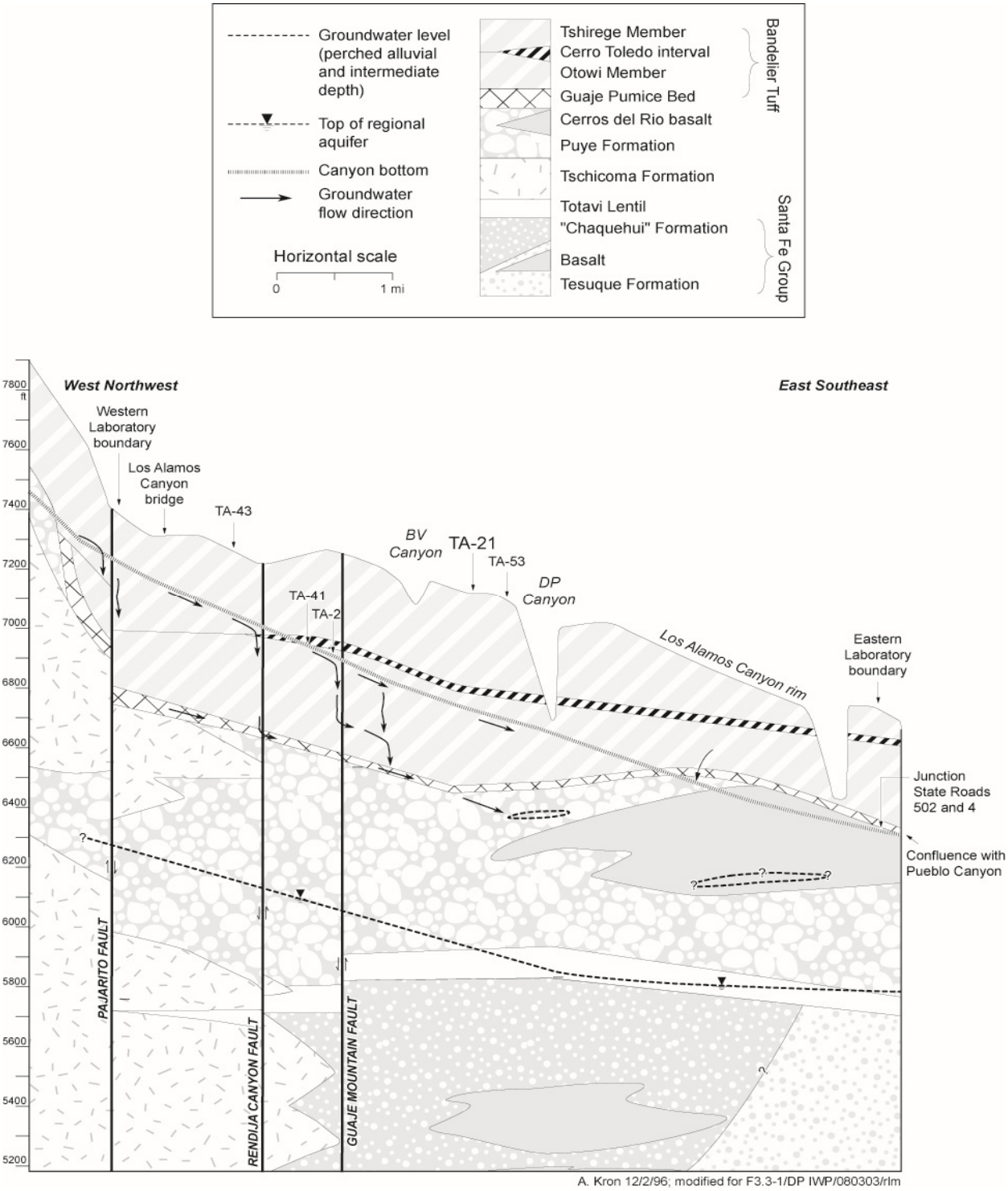


Figure 2.2-1 General stratigraphy beneath TA-21

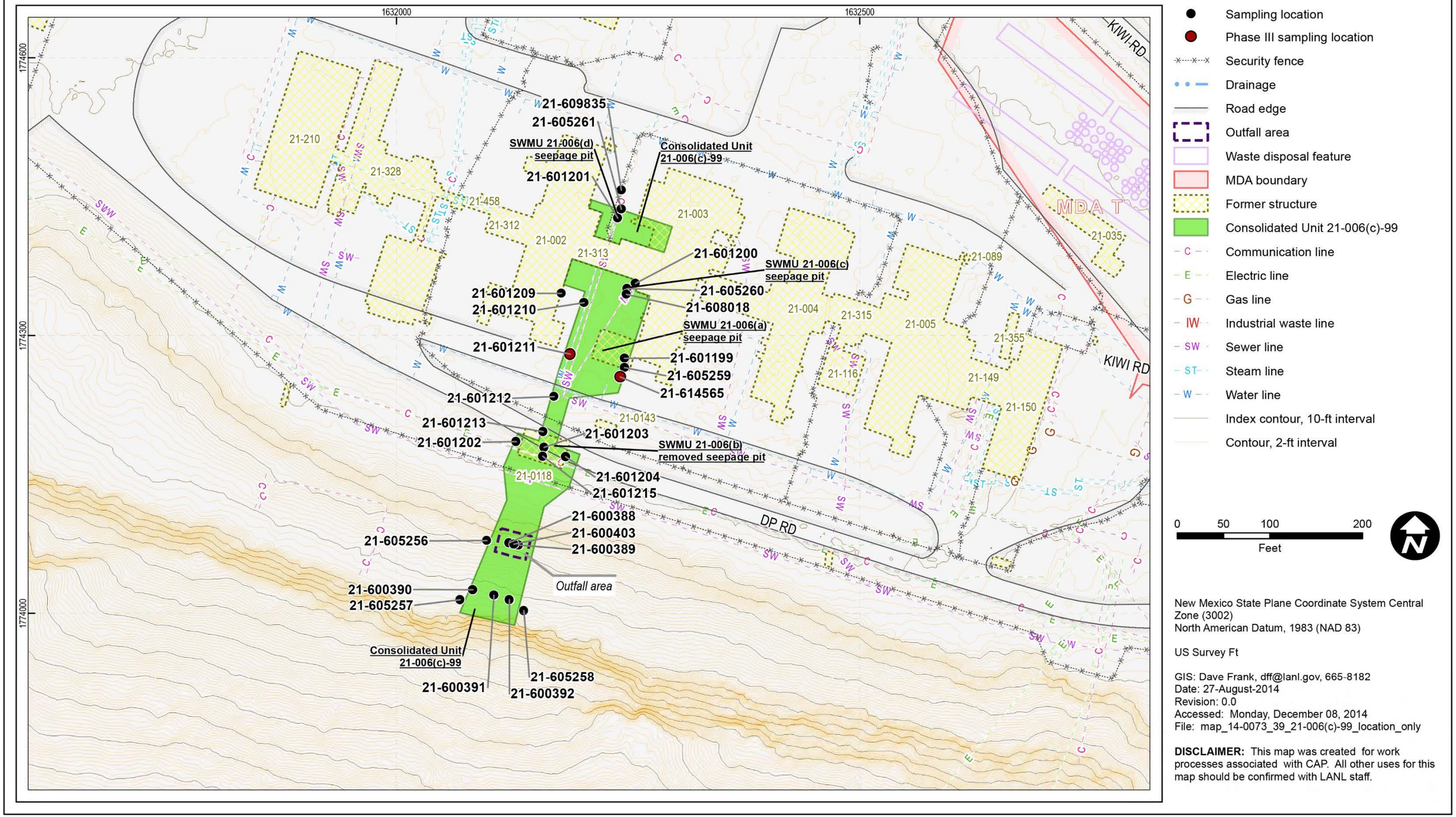


Figure 6.3-1 Sampling locations at Consolidated Unit 21-006(c)-99

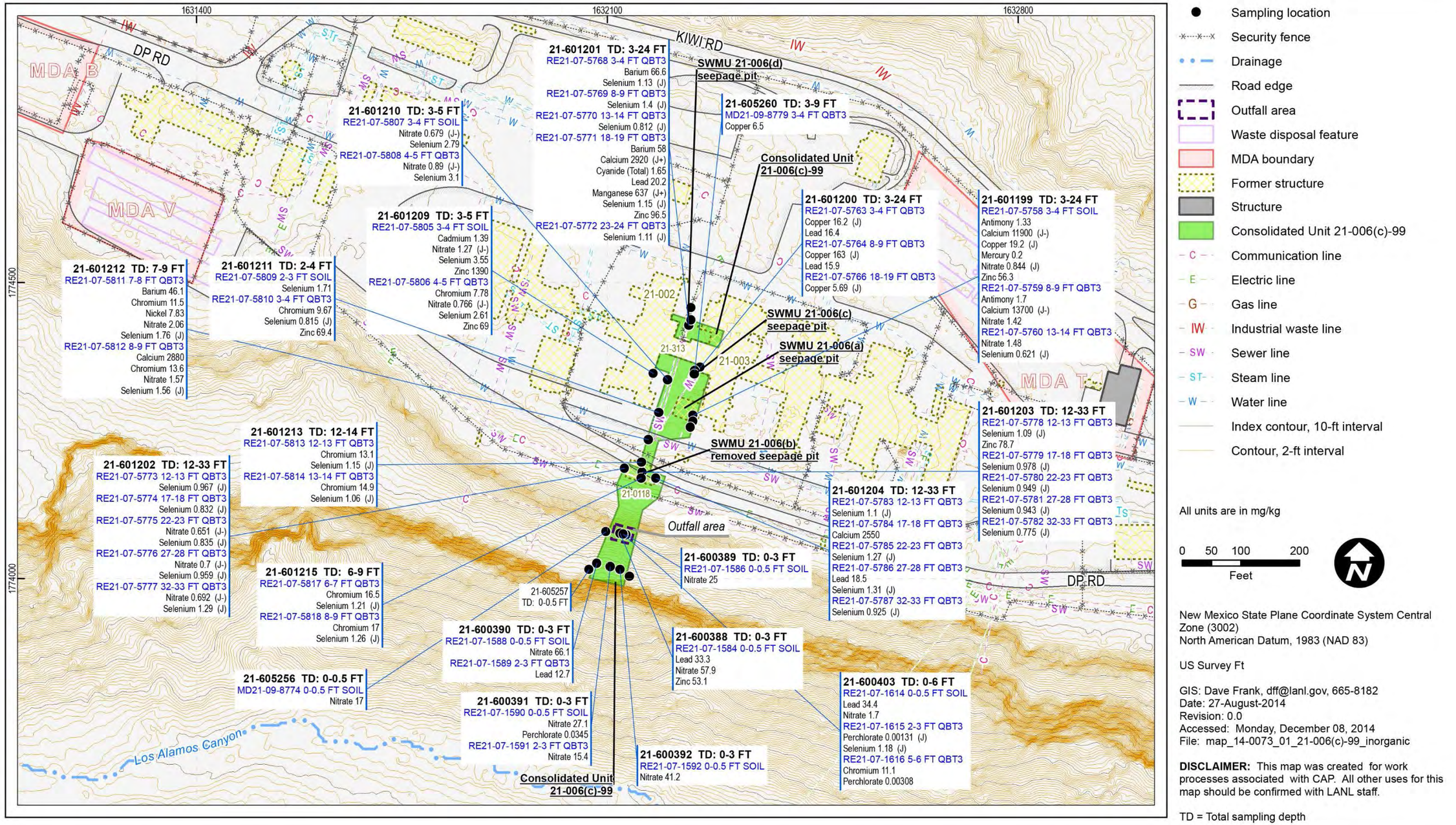


Figure 6.3-2 Inorganic chemicals detected or detected above BVs at Consolidated Unit 21-006(c)-99

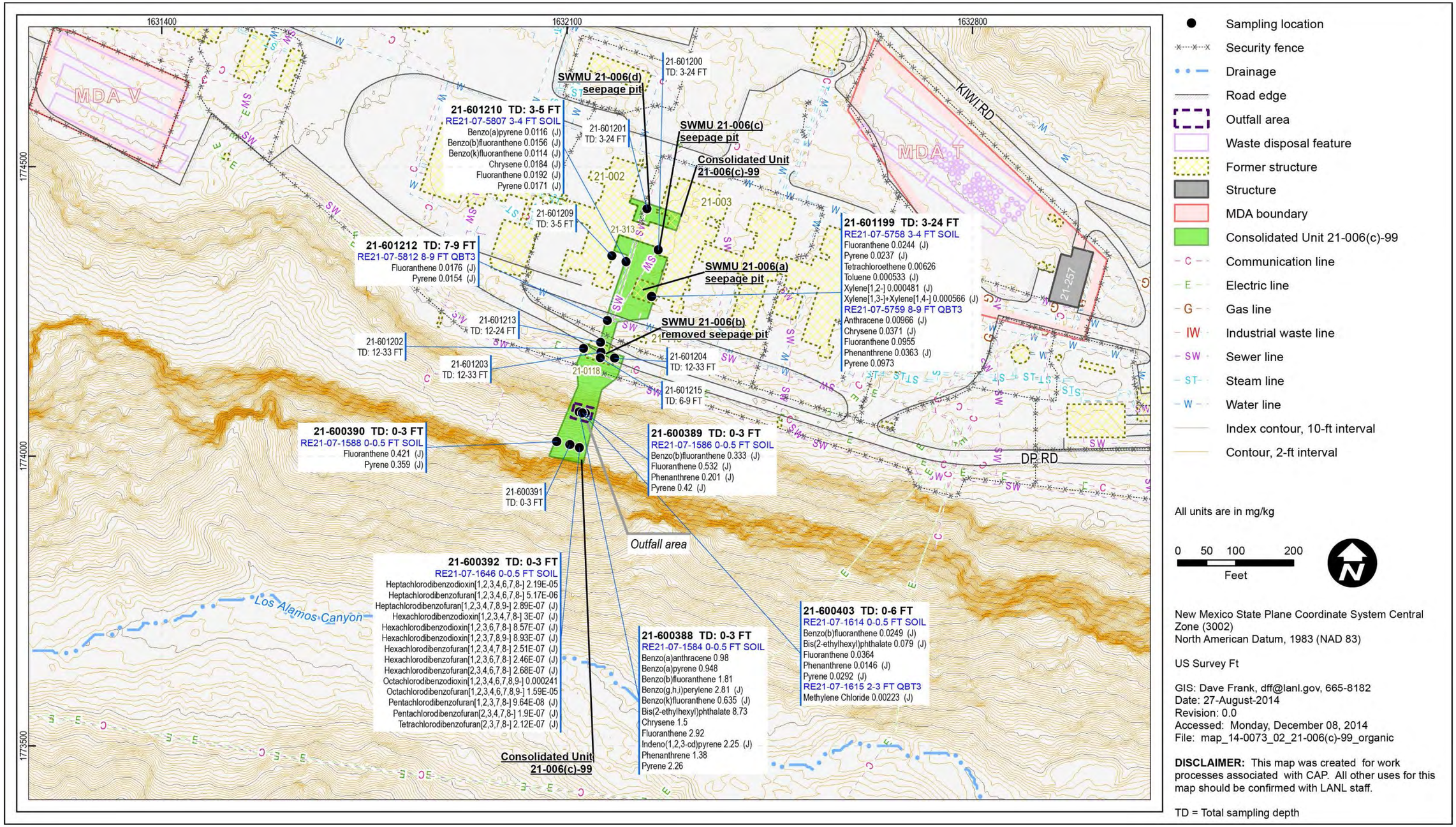


Figure 6.3-3 Organic chemicals detected at Consolidated Unit 21-006(c)-99

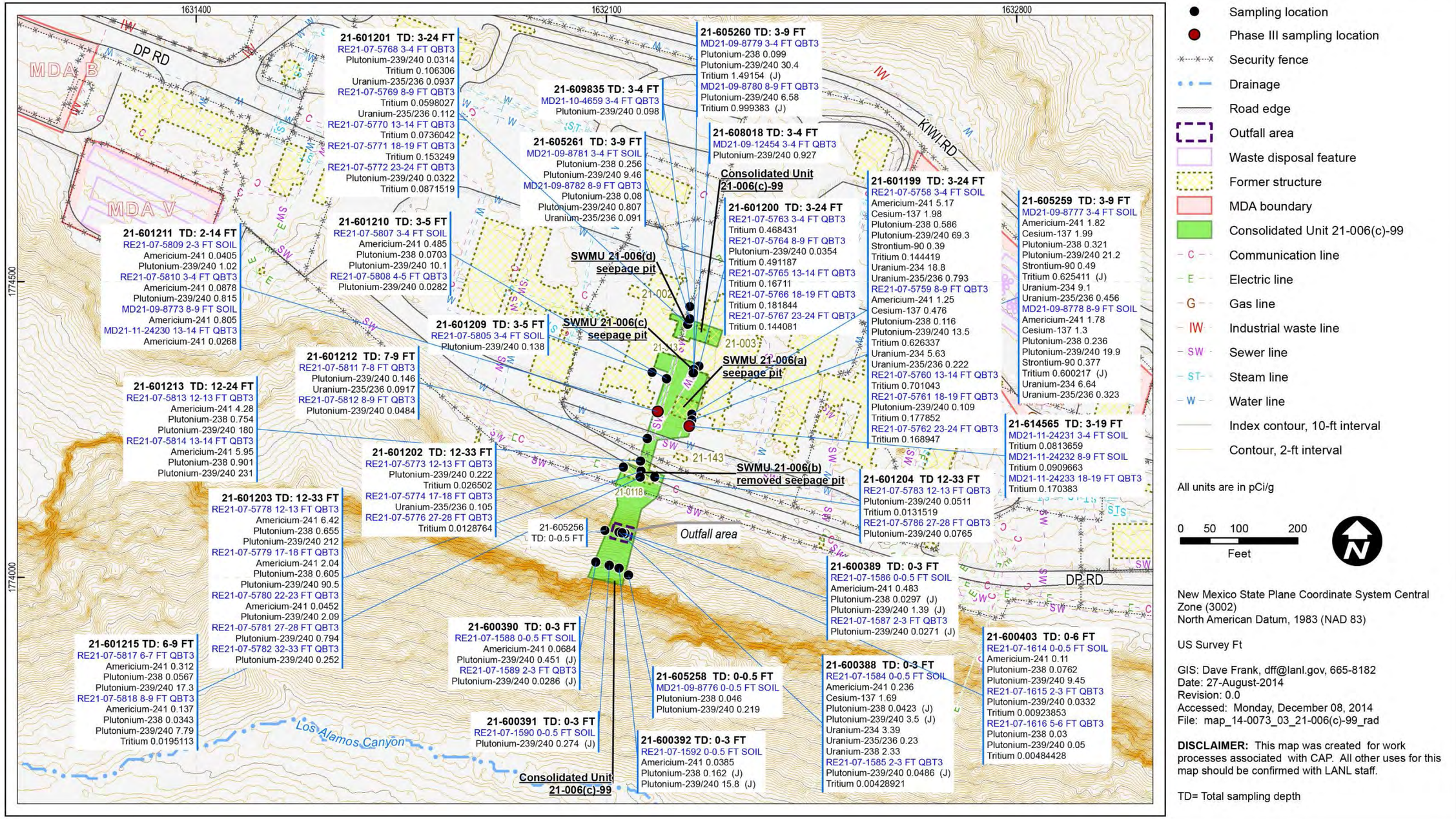


Figure 6.3-4 Radionuclides detected or detected above BVs/FVs at Consolidated Unit 21-006(c)-99

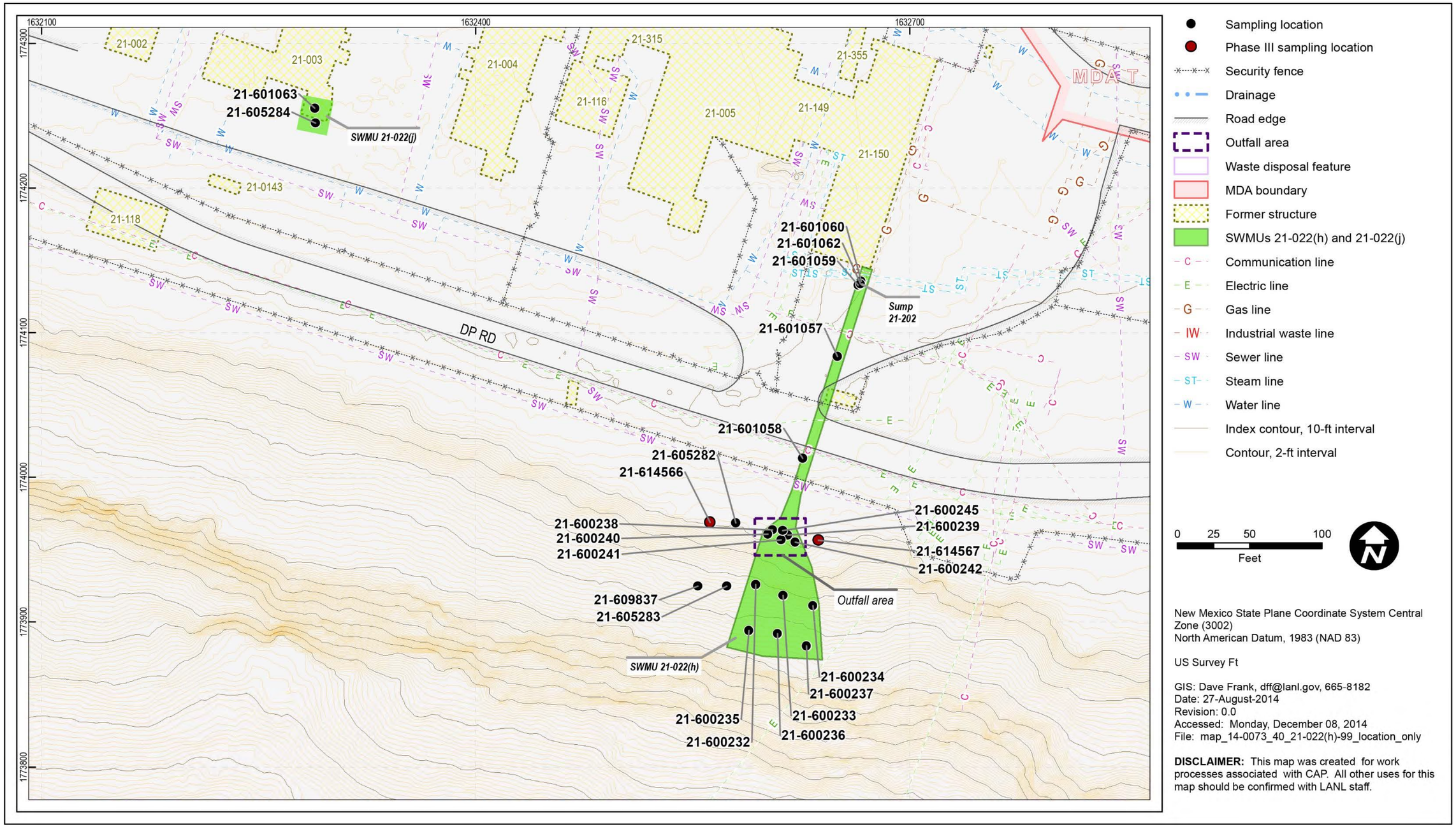
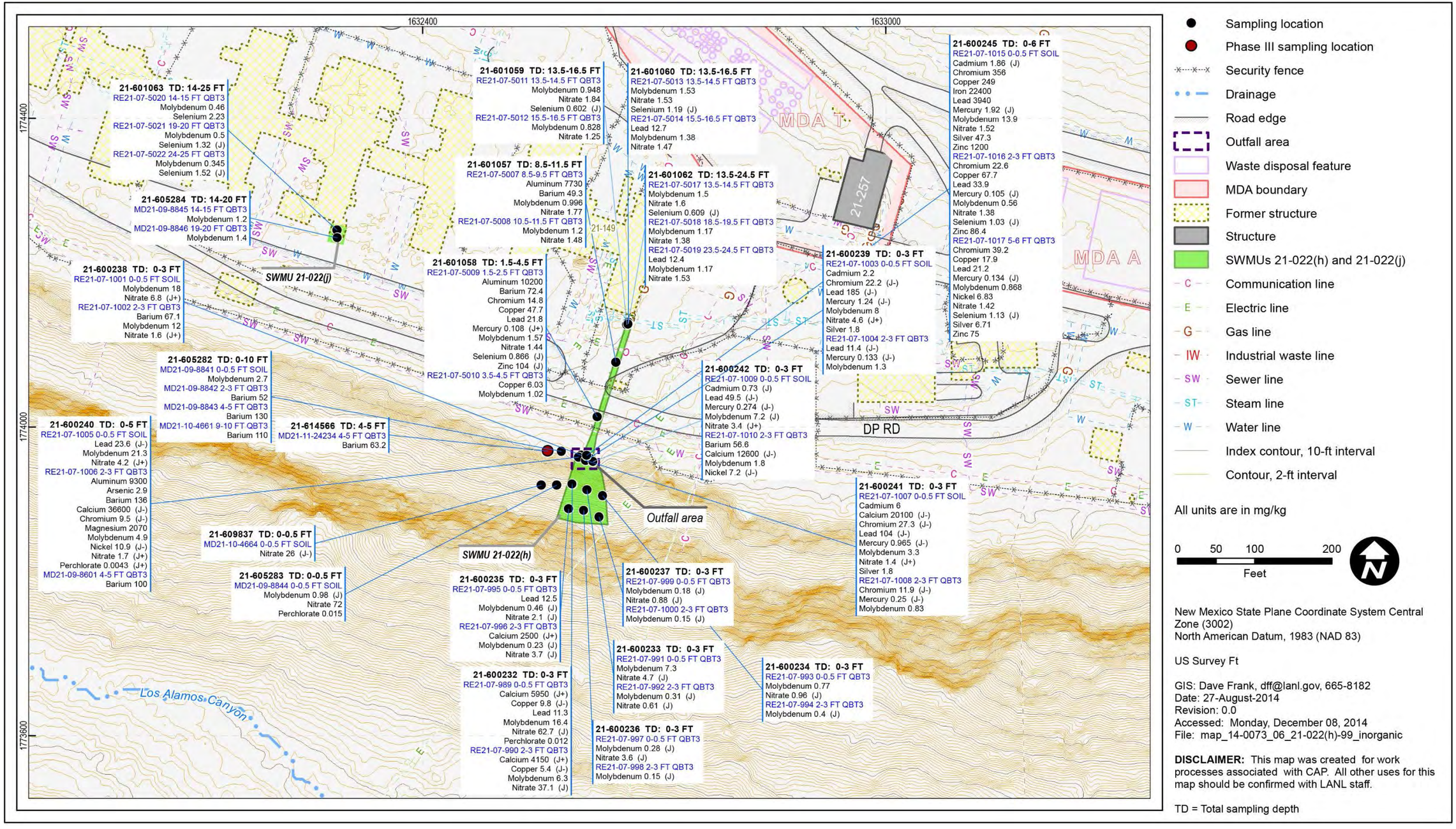


Figure 6.4-1 Sampling locations at SWMUs 21-022(h) and 21-022(j)



Sampling location
Phase III sampling location
Security fence
Drainage
Road edge
Outfall area
Waste disposal feature
MDA boundary
Former structure
Structure
SWMUs 21-022(h) and 21-022(j)
Communication line
Electric line
Gas line
Industrial waste line
Sewer line
Steam line
Water line
Index contour, 10-ft interval
Contour, 2-ft interval

All units are in mg/kg

0 50 100 200
Feet

New Mexico State Plane Coordinate System Central Zone (3002)
North American Datum, 1983 (NAD 83)

US Survey Ft

GIS: Dave Frank, dff@lanl.gov, 665-8182
Date: 27-August-2014
Revision: 0.0
Accessed: Monday, December 08, 2014
File: map_14-0073_06_21-022(h)-99_inorganic

DISCLAIMER: This map was created for work processes associated with CAP. All other uses for this map should be confirmed with LANL staff.

TD = Total sampling depth

Figure 6.4-2 Inorganic chemicals detected or detected above BVs at SWMUs 21-022(h) and 21-022(j)

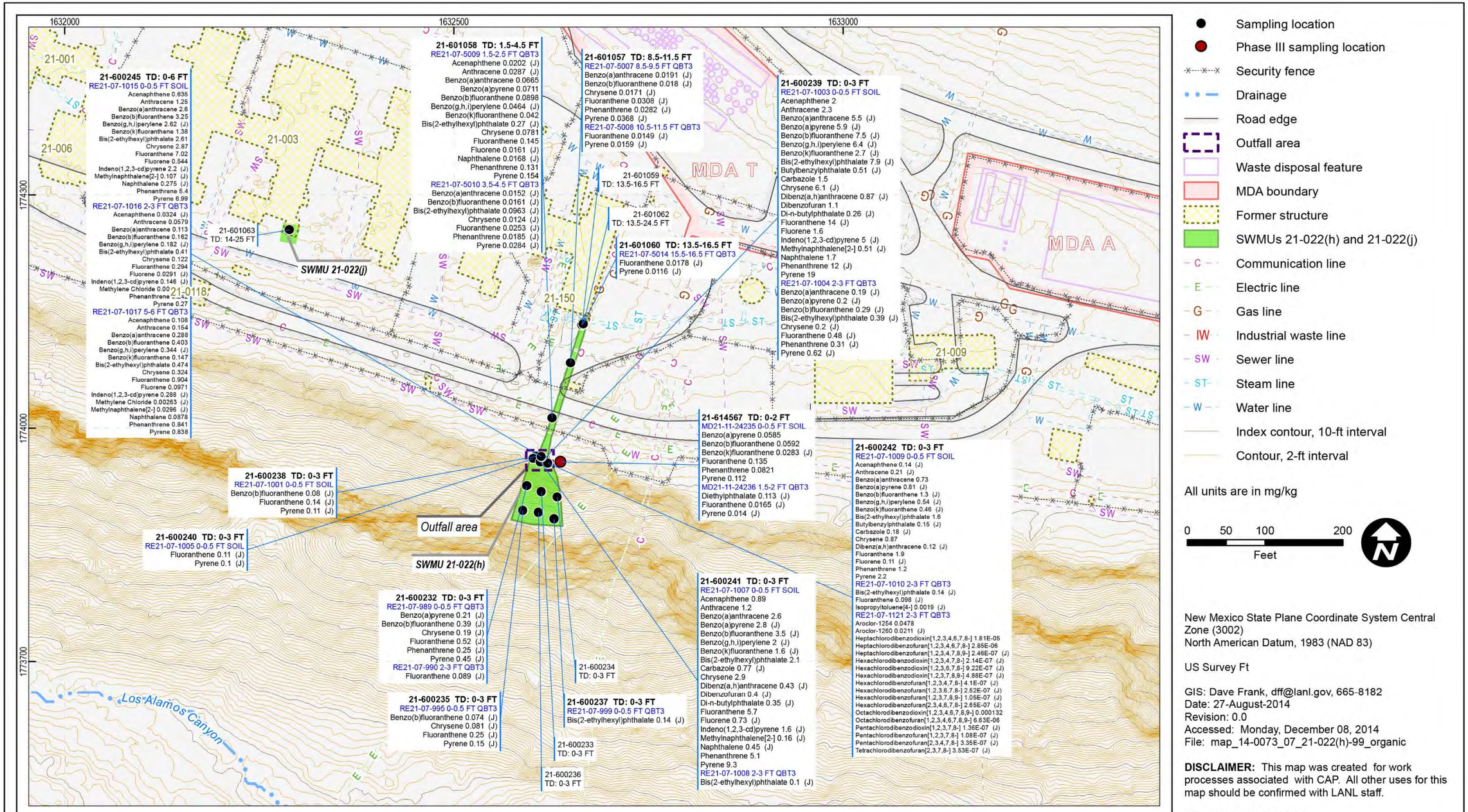


Figure 6.4-3 Organic chemicals detected at SWMUs 21-022(h) and 21-022(j)

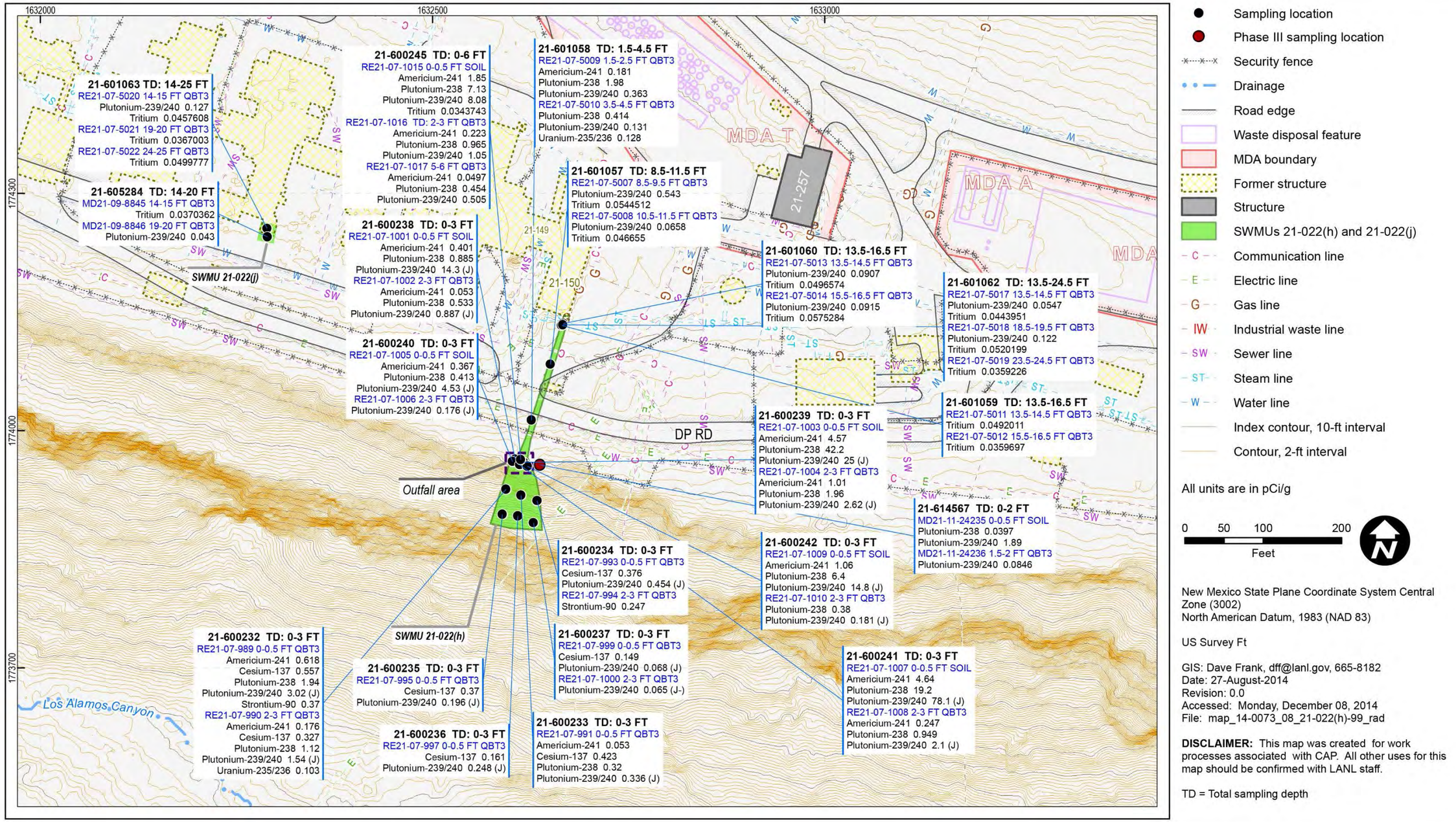


Figure 6.4-4 Radionuclides detected or detected above BVs/FVs at SWMUs 21-022(h) and 21-022(j)

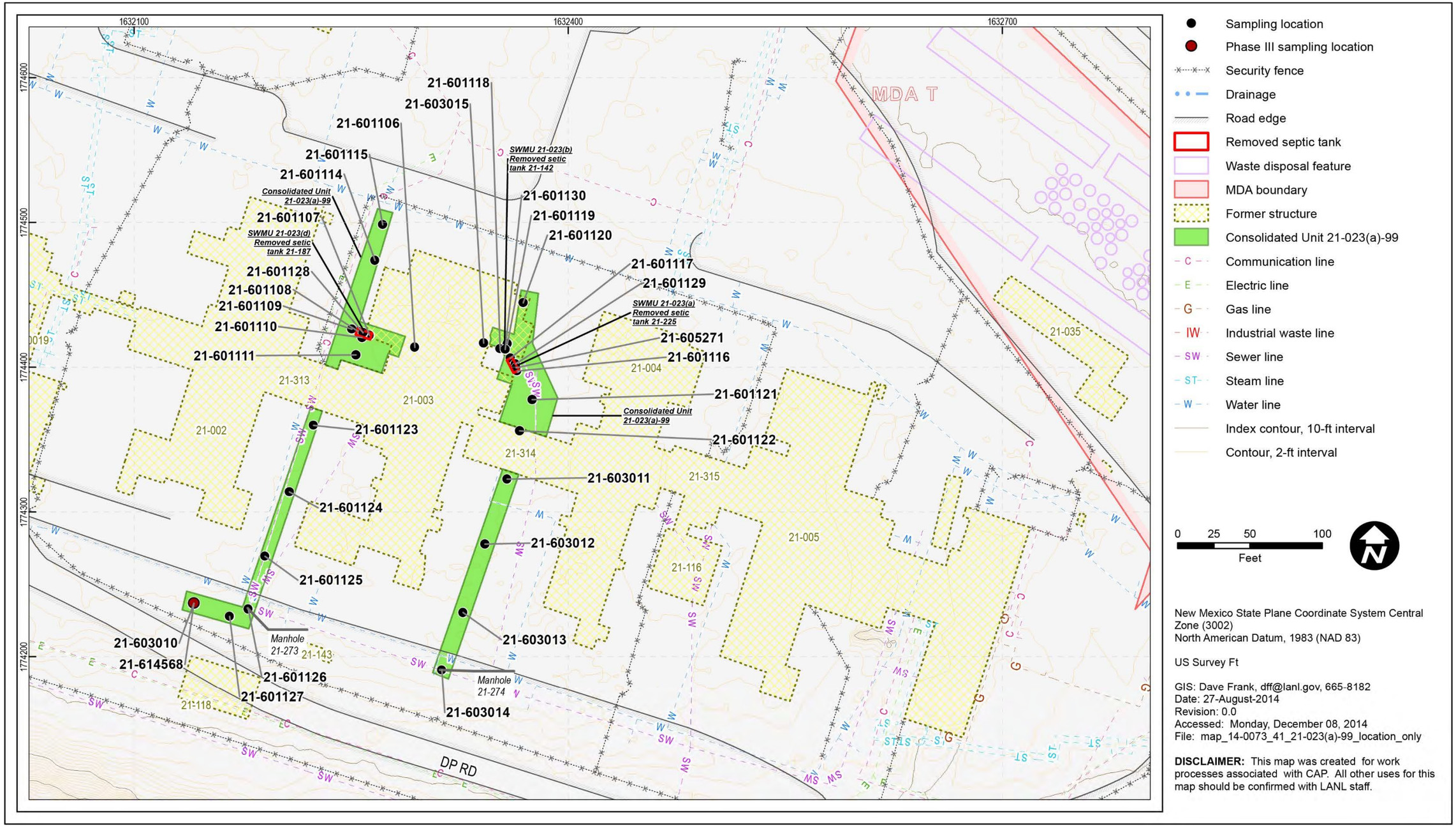


Figure 6.5-1 Sampling locations at Consolidated Unit 21-023(a)-99

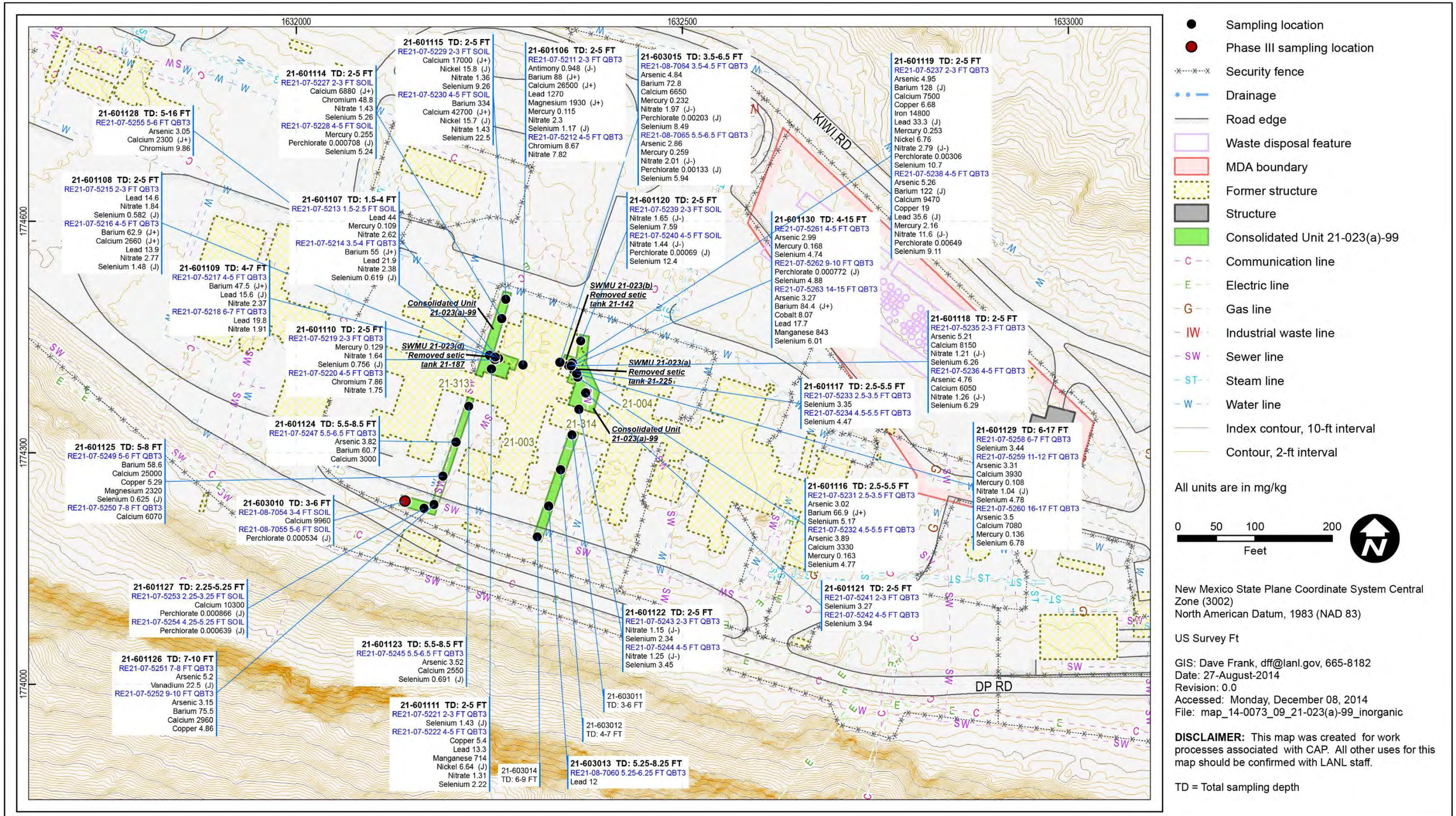


Figure 6.5-2 Inorganic chemicals detected or detected above BVs at Consolidated Unit 21-023(a)-99

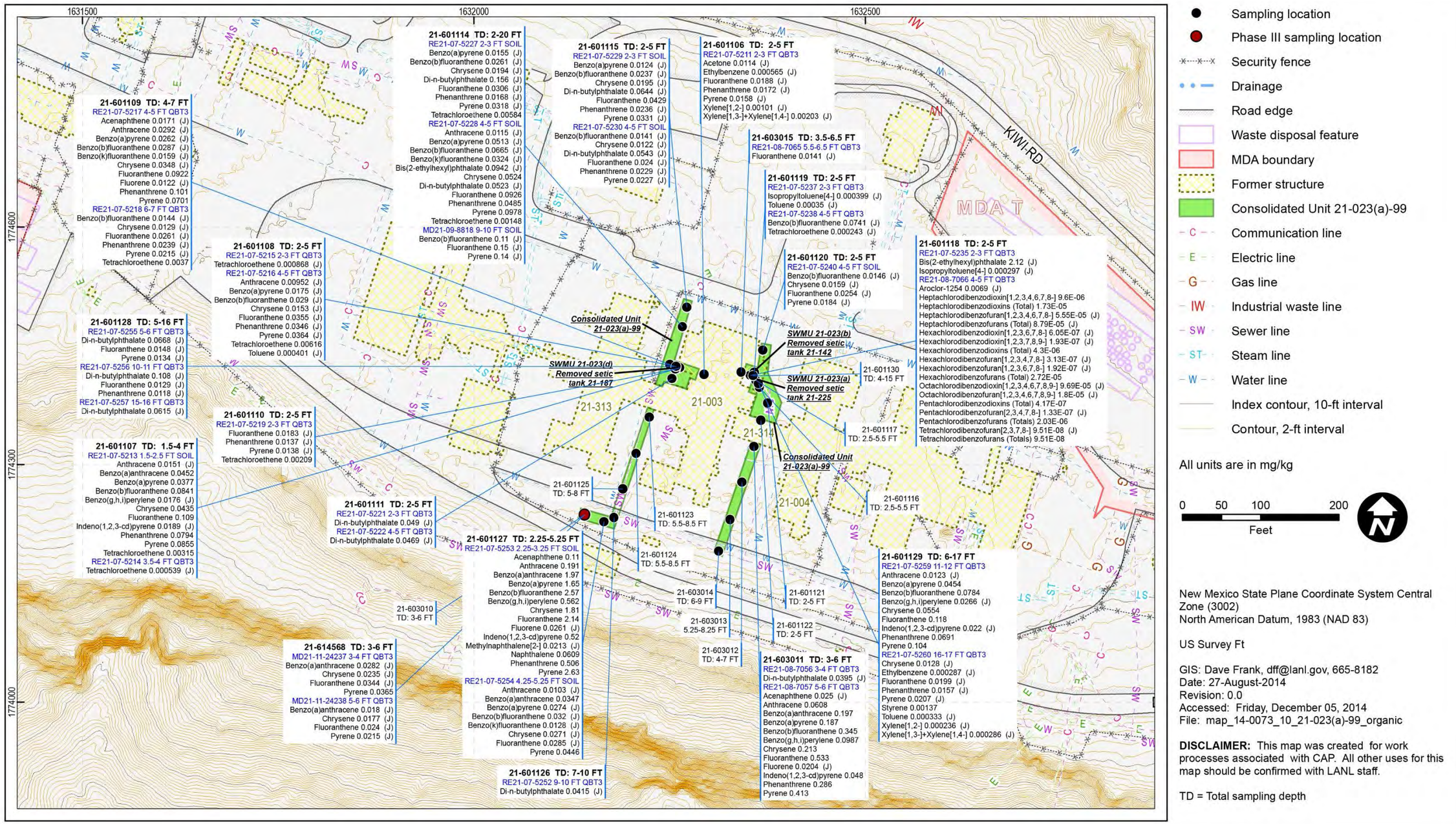


Figure 6.5-3 Organic chemicals detected at Consolidated Unit 21-023(a)-99

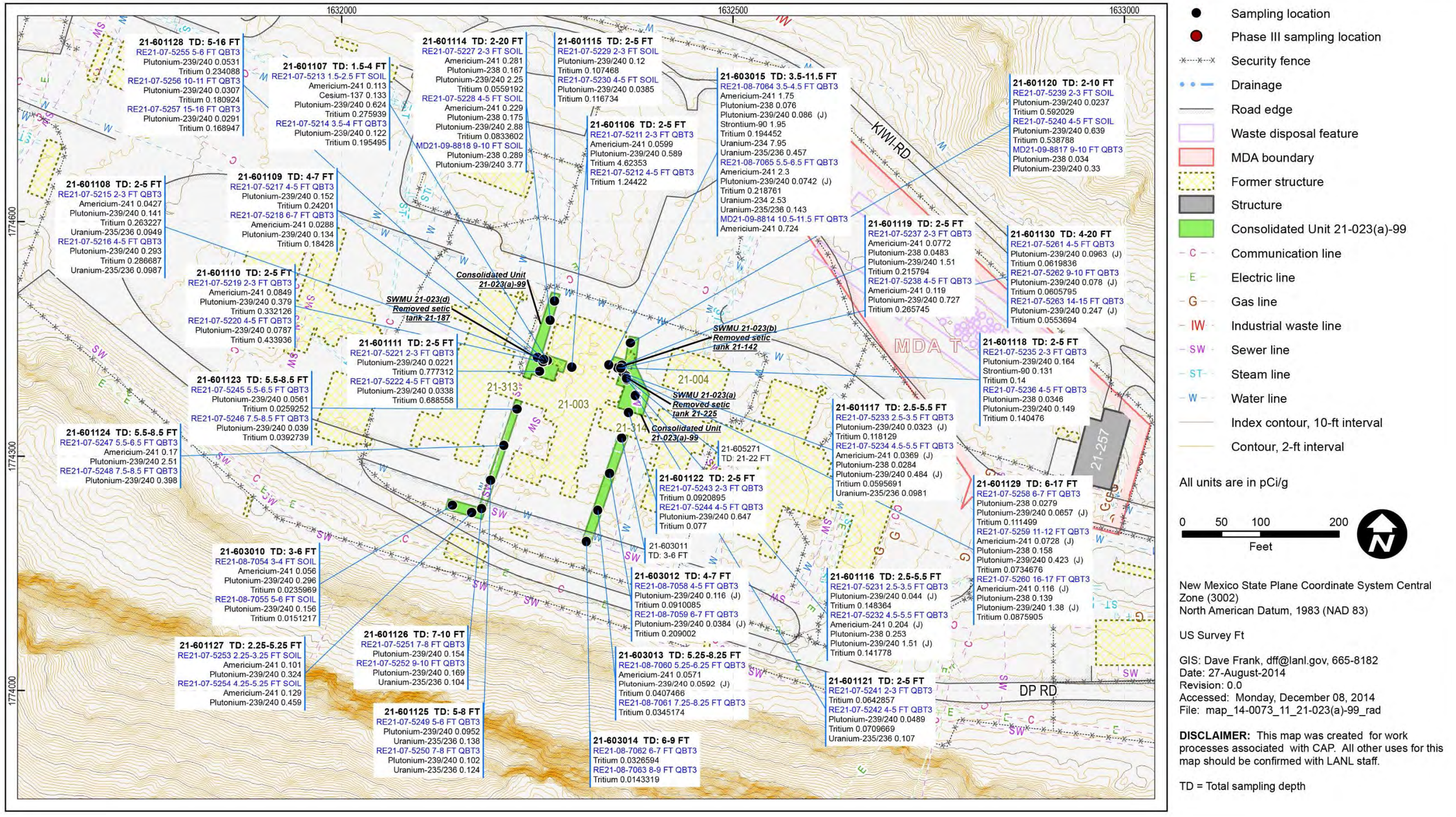


Figure 6.5-4 Radionuclides detected or detected above BVs/FVs at Consolidated Unit 21-023(a)-99

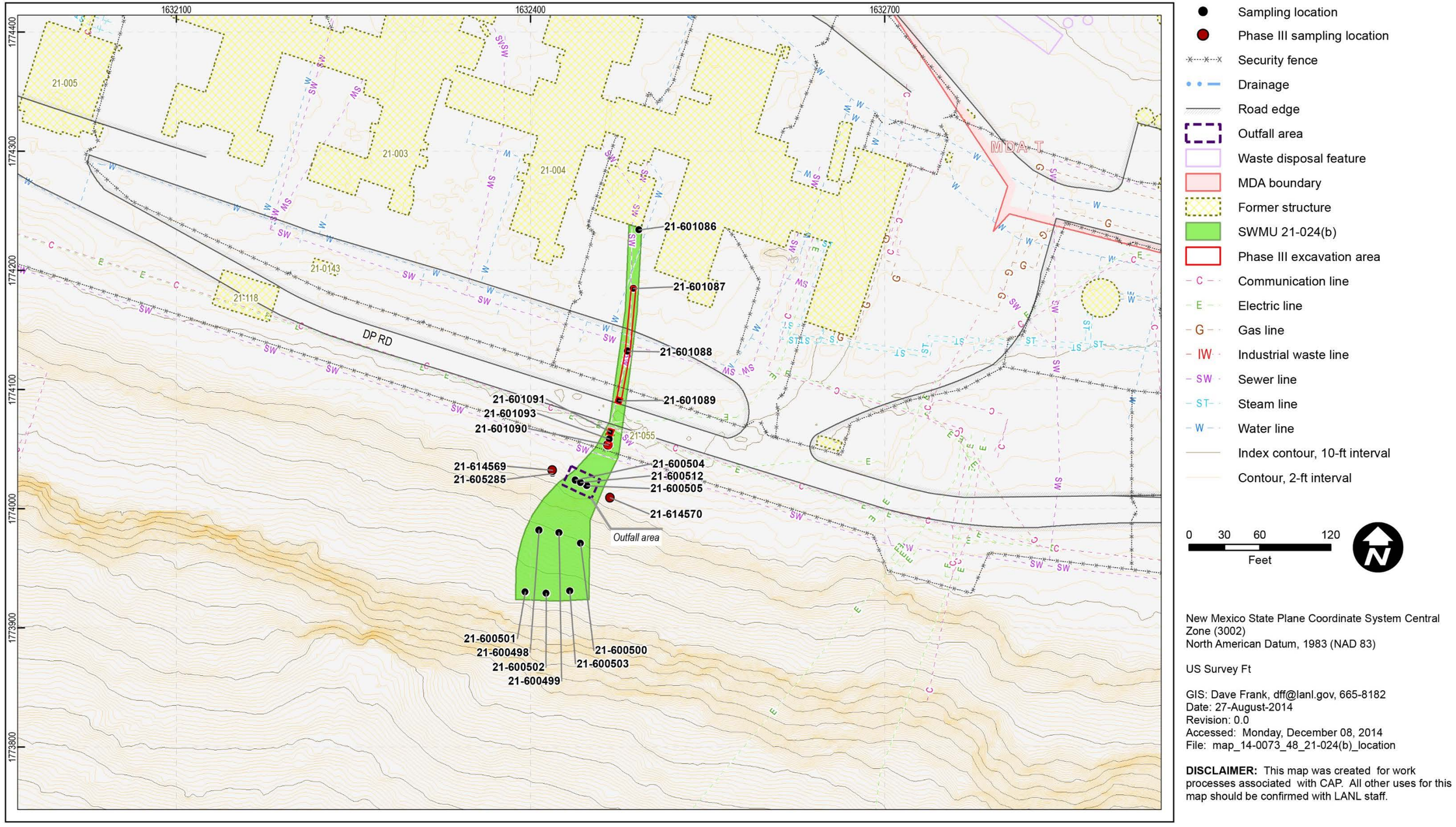


Figure 6.6-1 Sampling locations at SWMU 21-024(b)

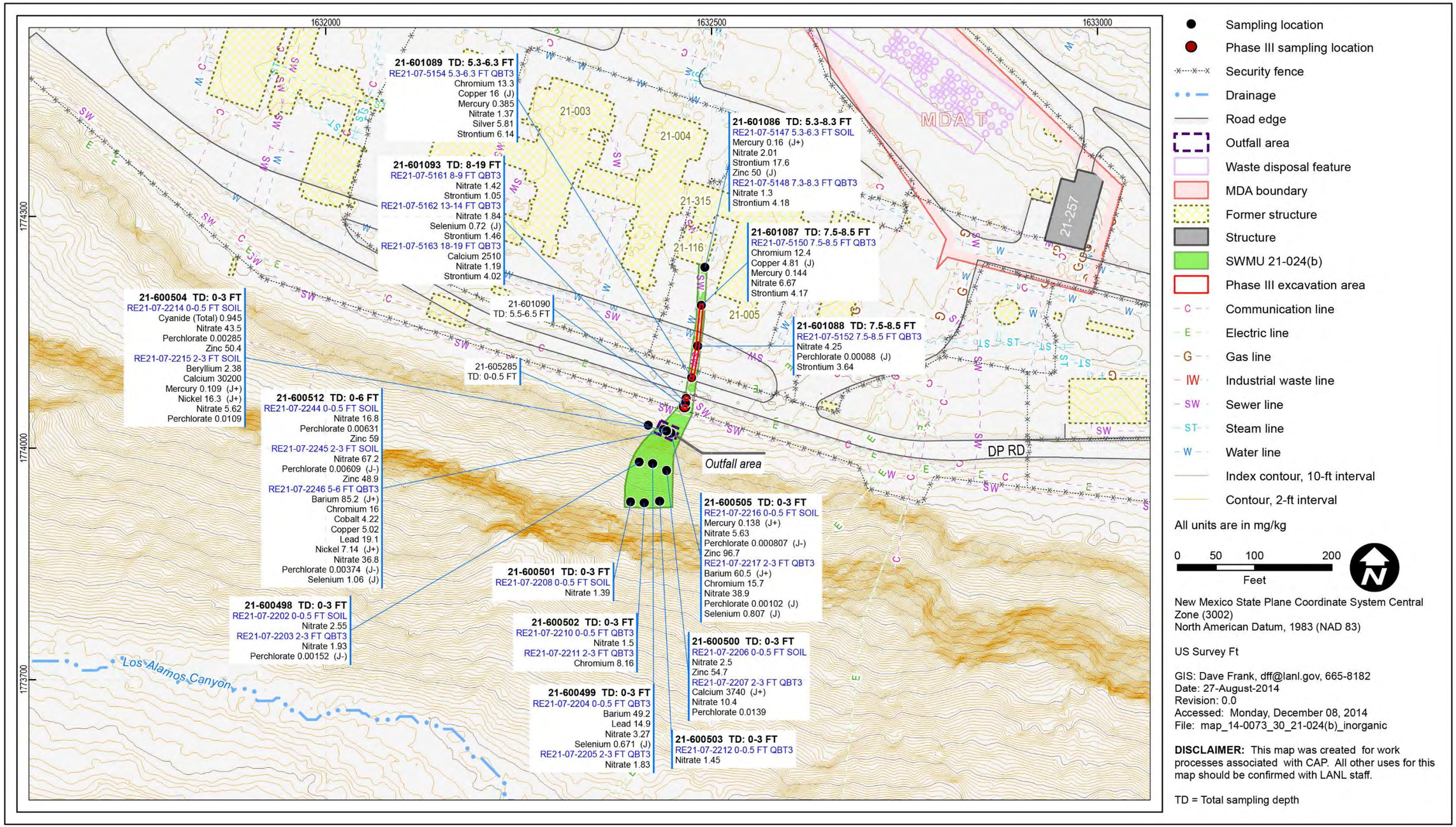


Figure 6.6-2 Inorganic chemicals detected or detected above BVs at SWMU 21-024(b)

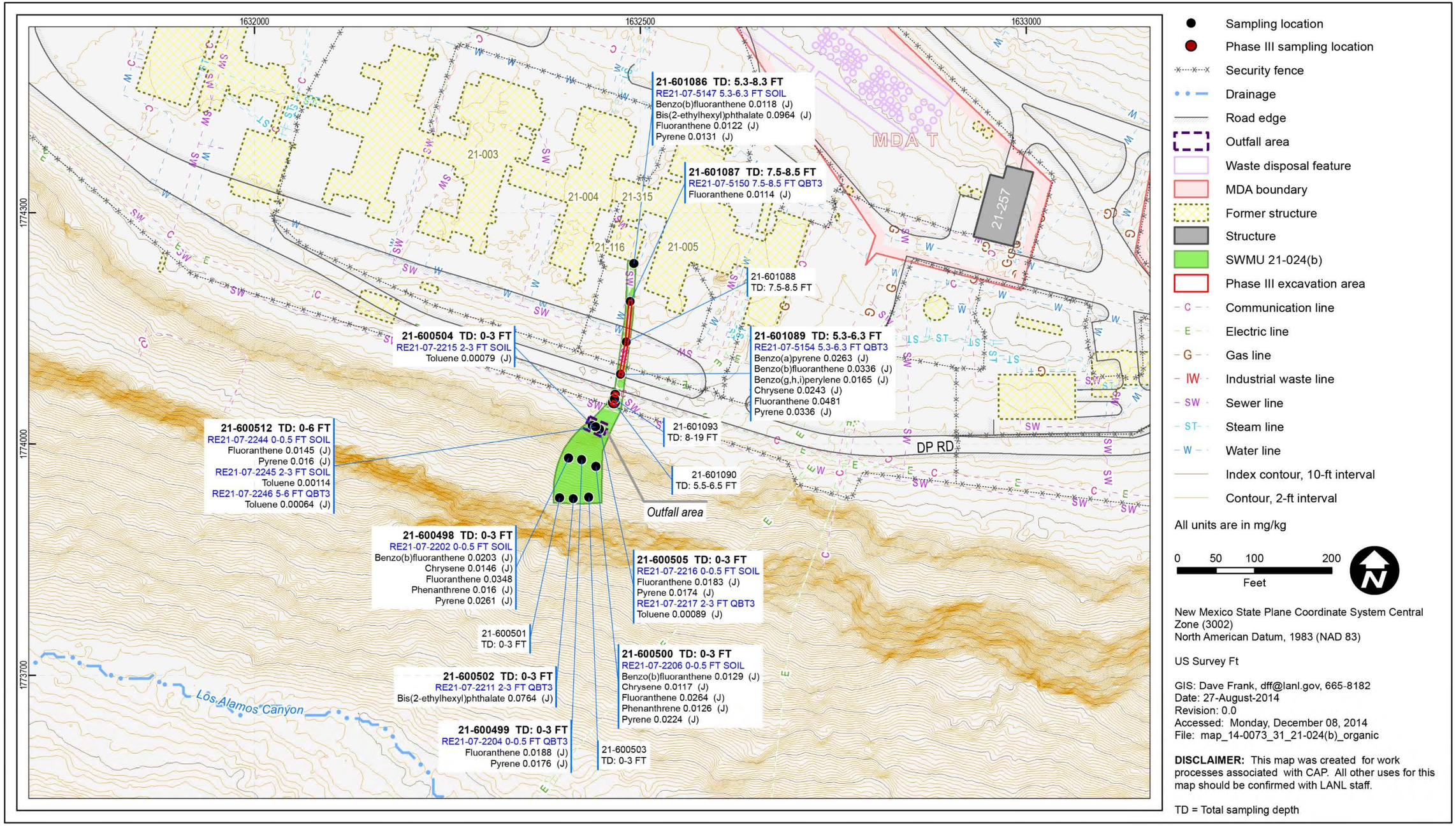


Figure 6.6-3 Organic chemicals detected at SWMU 21-024(b)

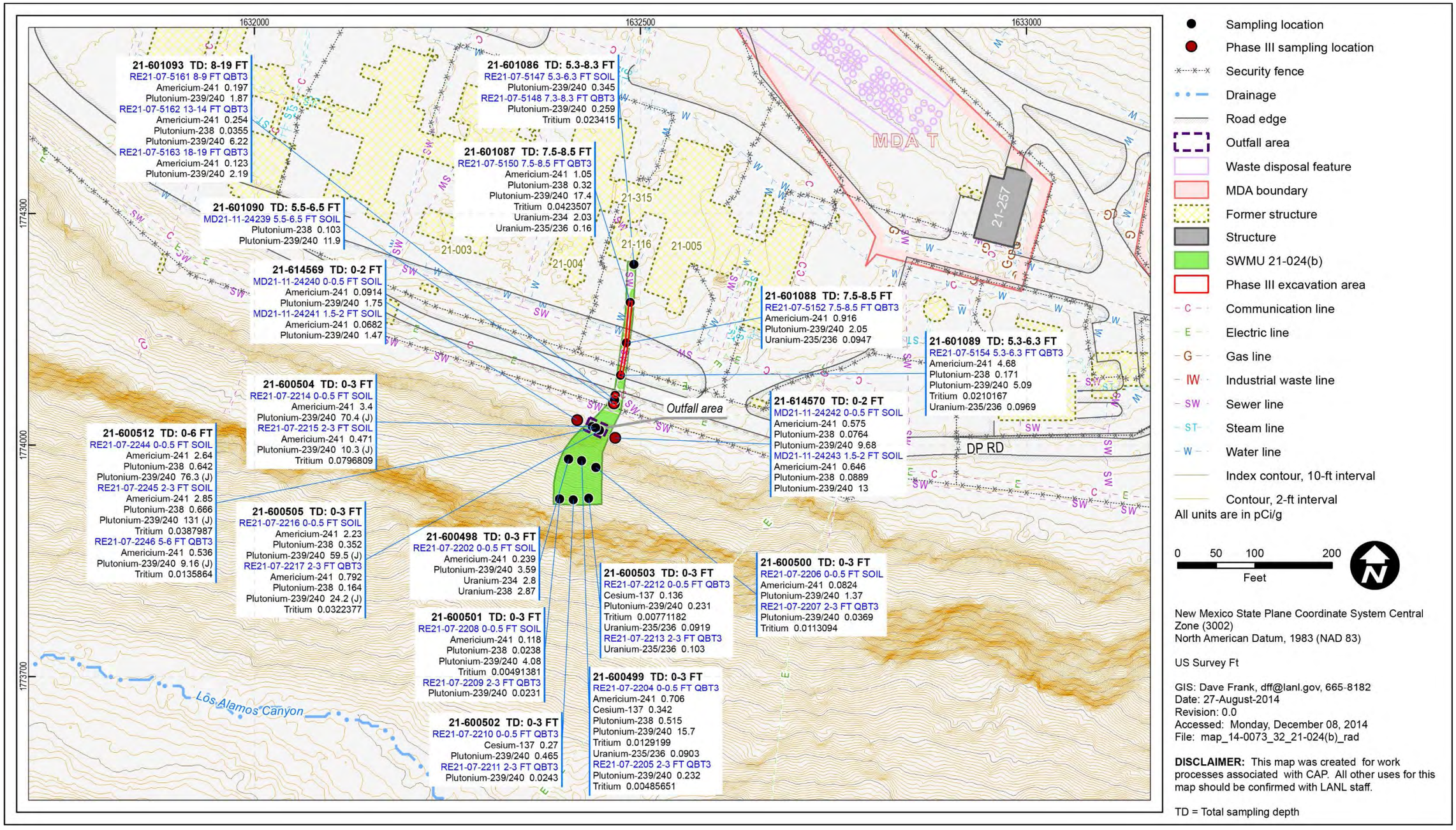


Figure 6.6-4 Radionuclides detected or detected above BVs/FVs at SWMU 21-024(b)

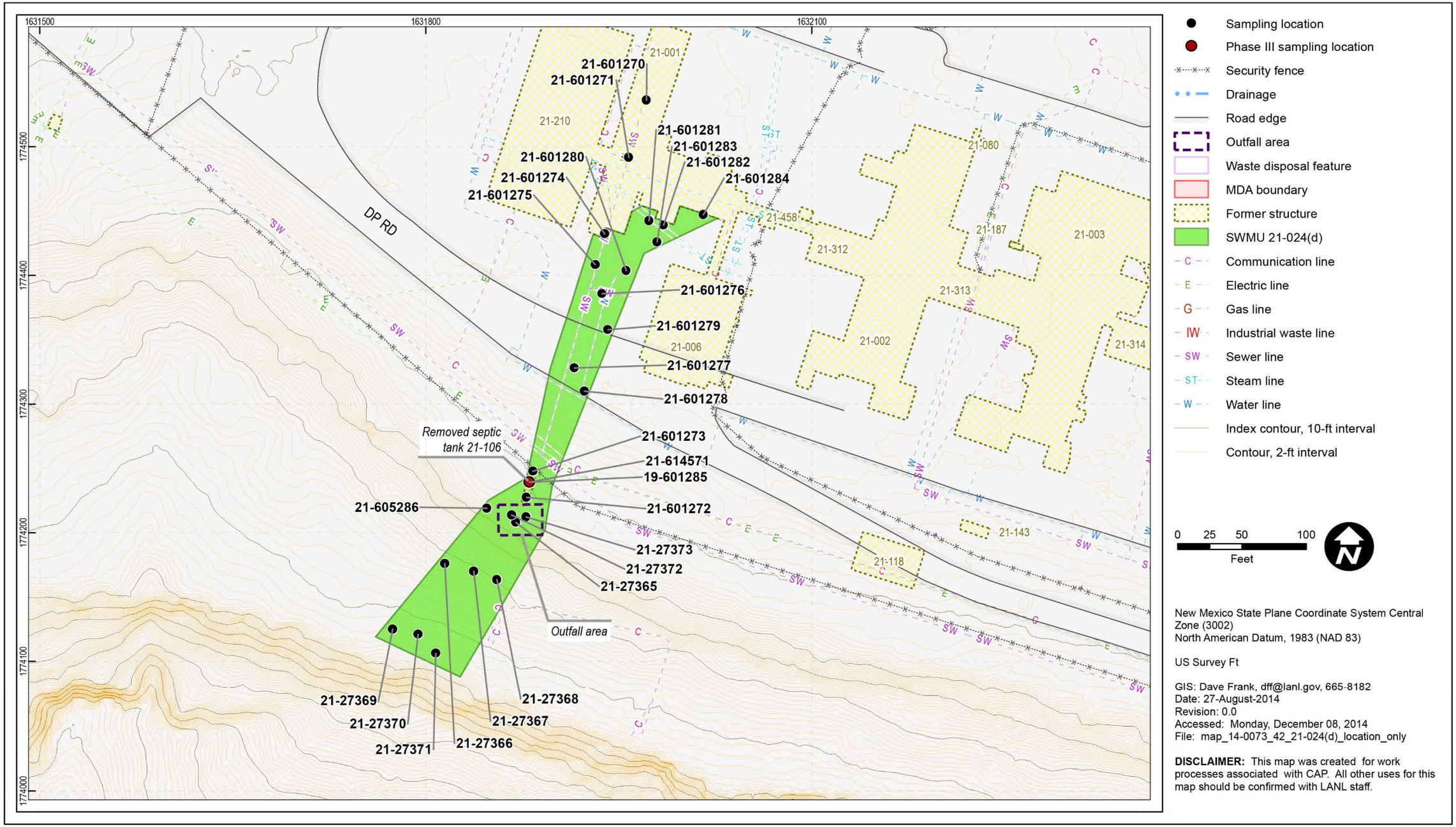


Figure 6.7-1 Sampling locations at SWMU 21-024(d)

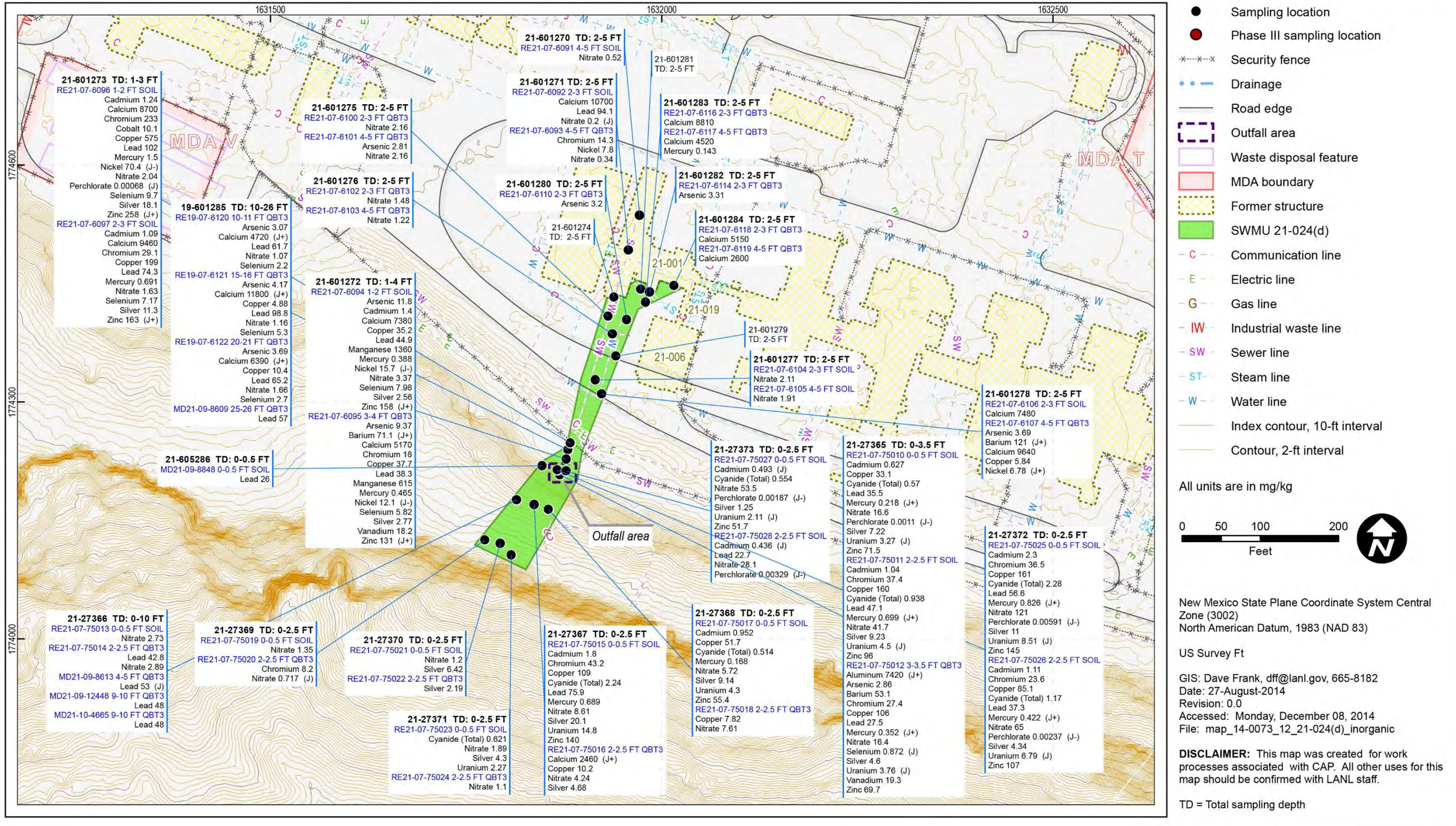


Figure 6.7-2 Inorganic chemicals detected or detected above BVs at SWMU 21-024(d)

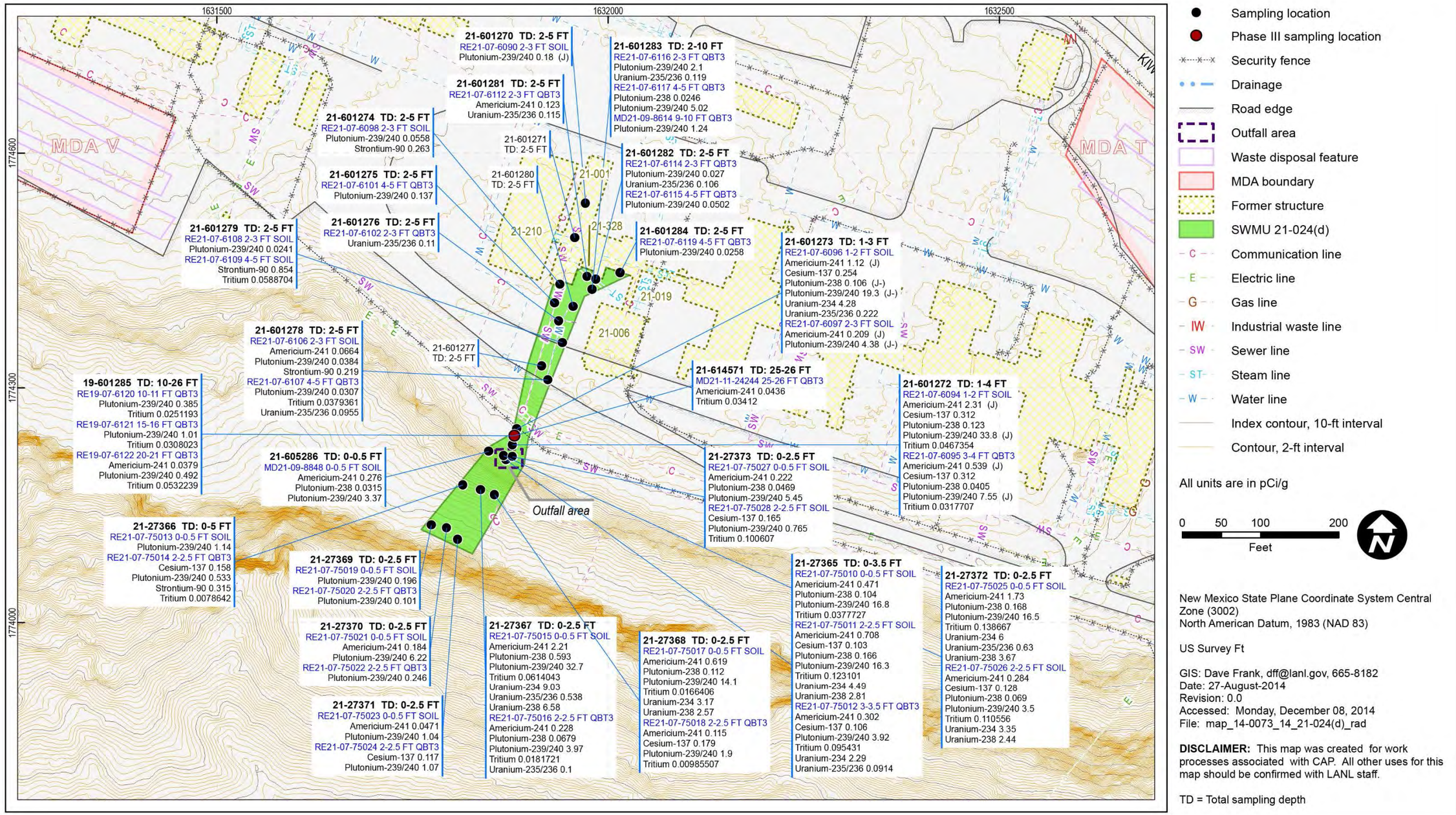


Figure 6.7-3 Radionuclides detected or detected above BVs/FVs at SWMU 21-024(d)

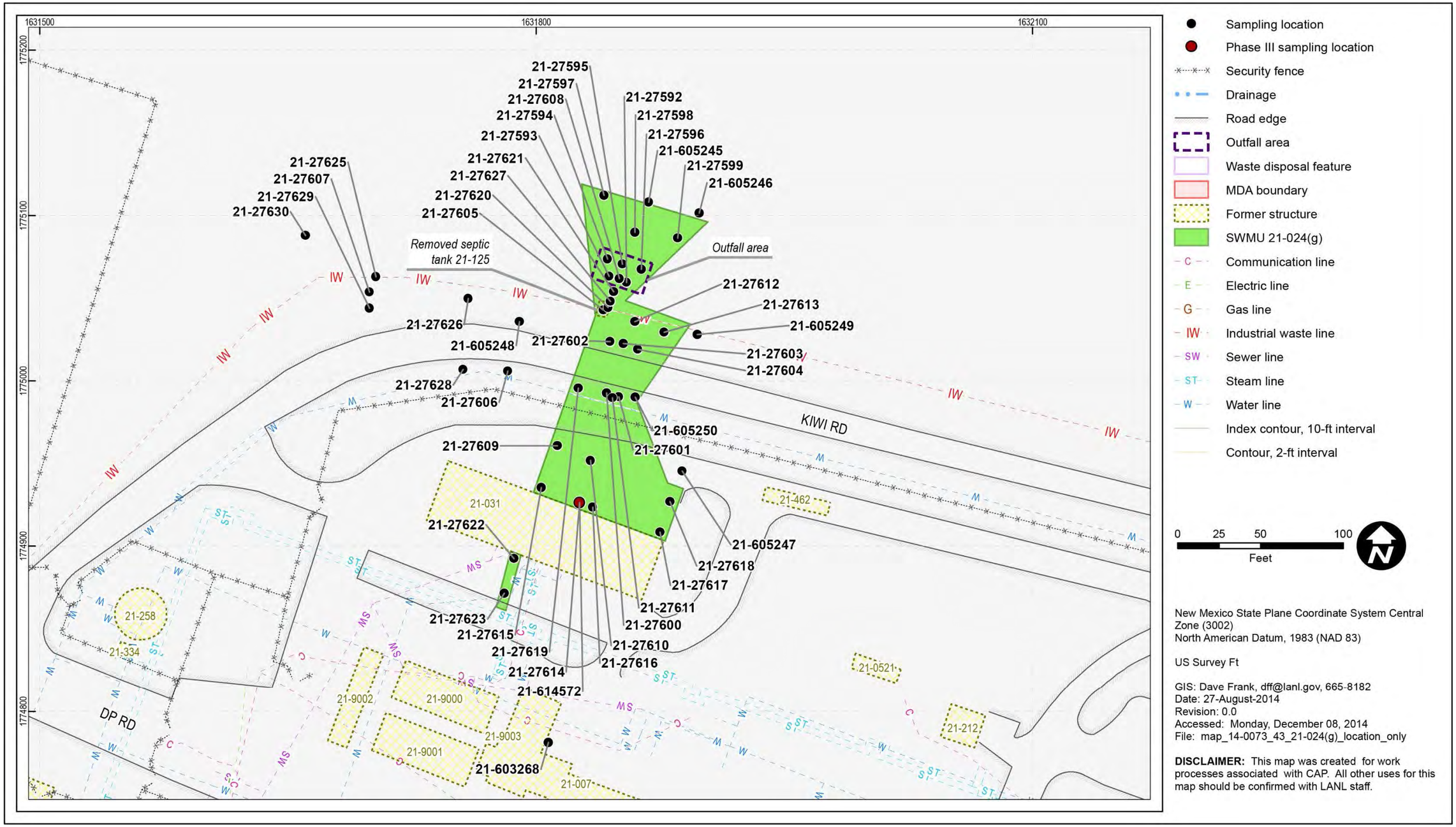


Figure 6.8-1 Sampling locations at SWMU 21-024(g)

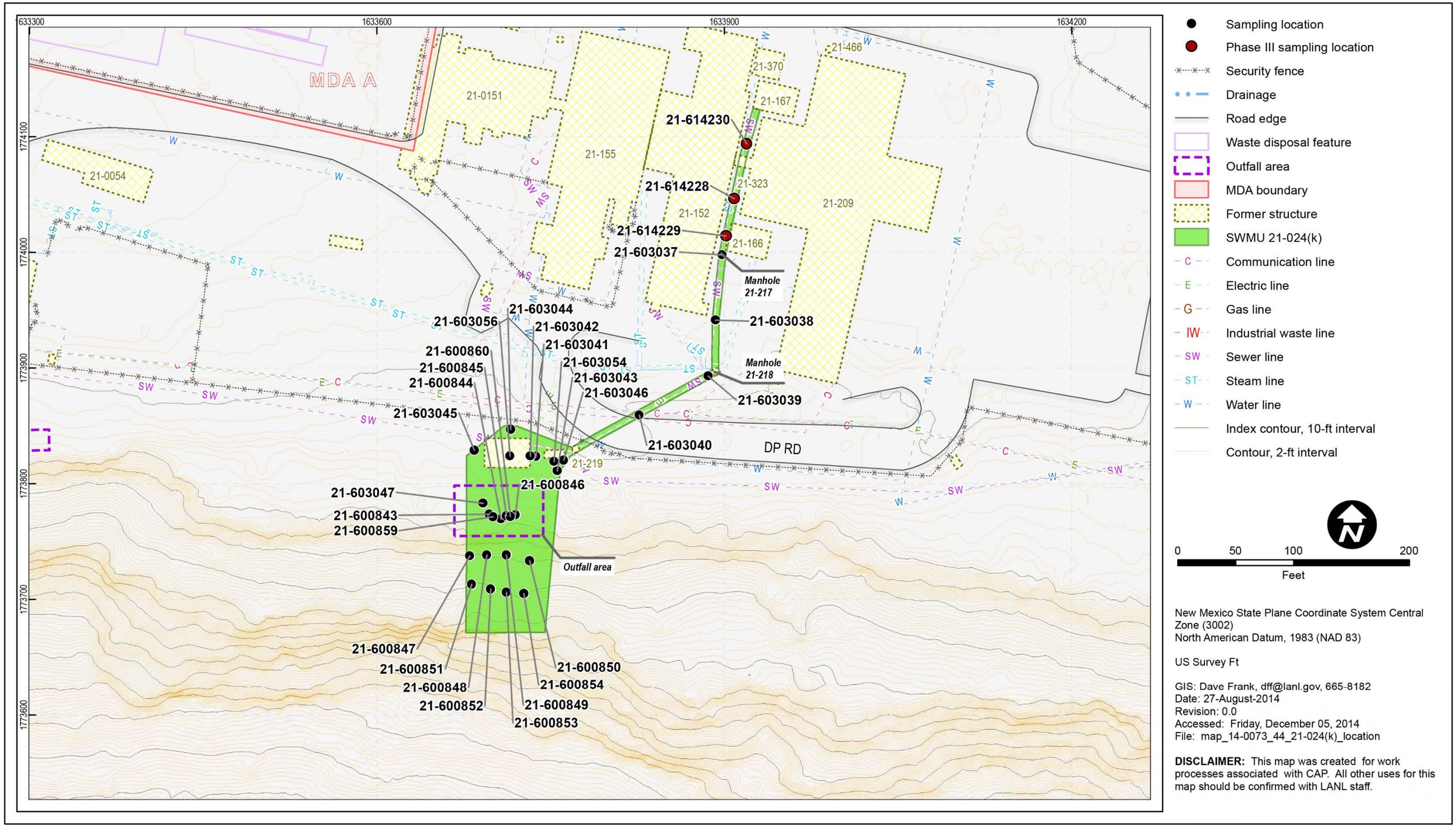


Figure 6.9-1 Sampling locations at SWMU 21-024(k)

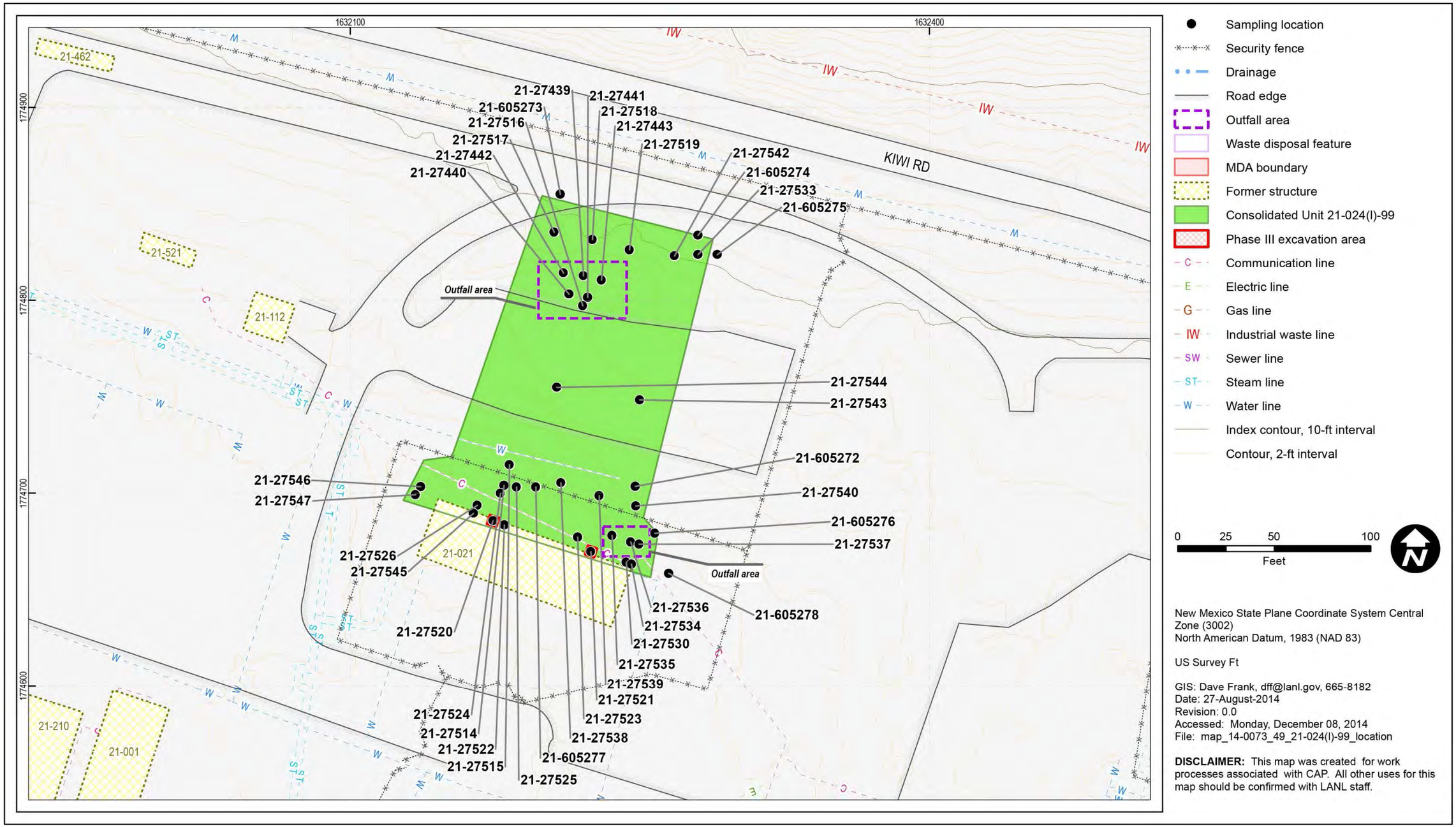


Figure 6.10-1 Sampling locations at Consolidated Unit 21-024(I)-99

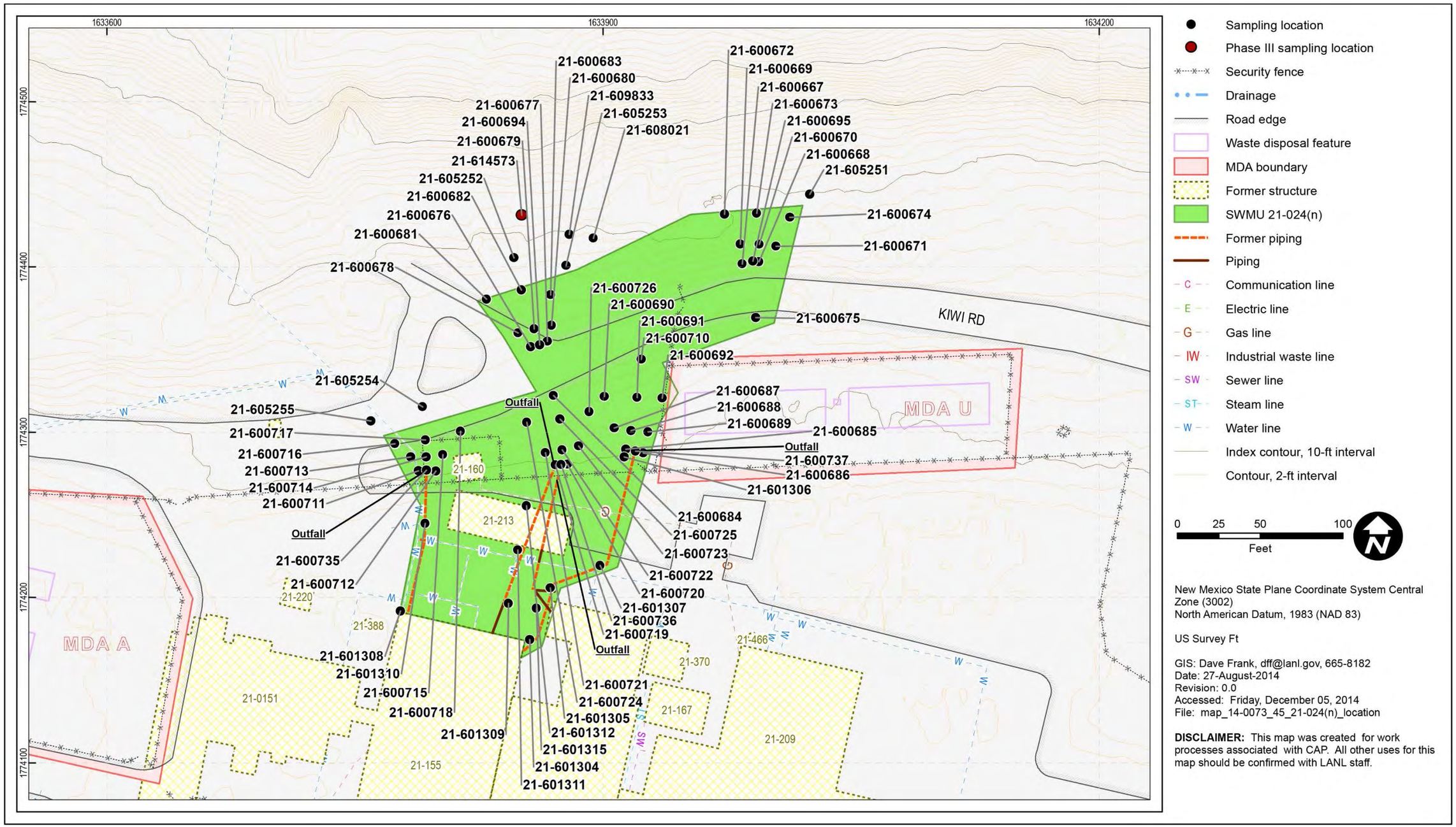


Figure 6.11-1 Sampling locations at SWMU 21-024(n)

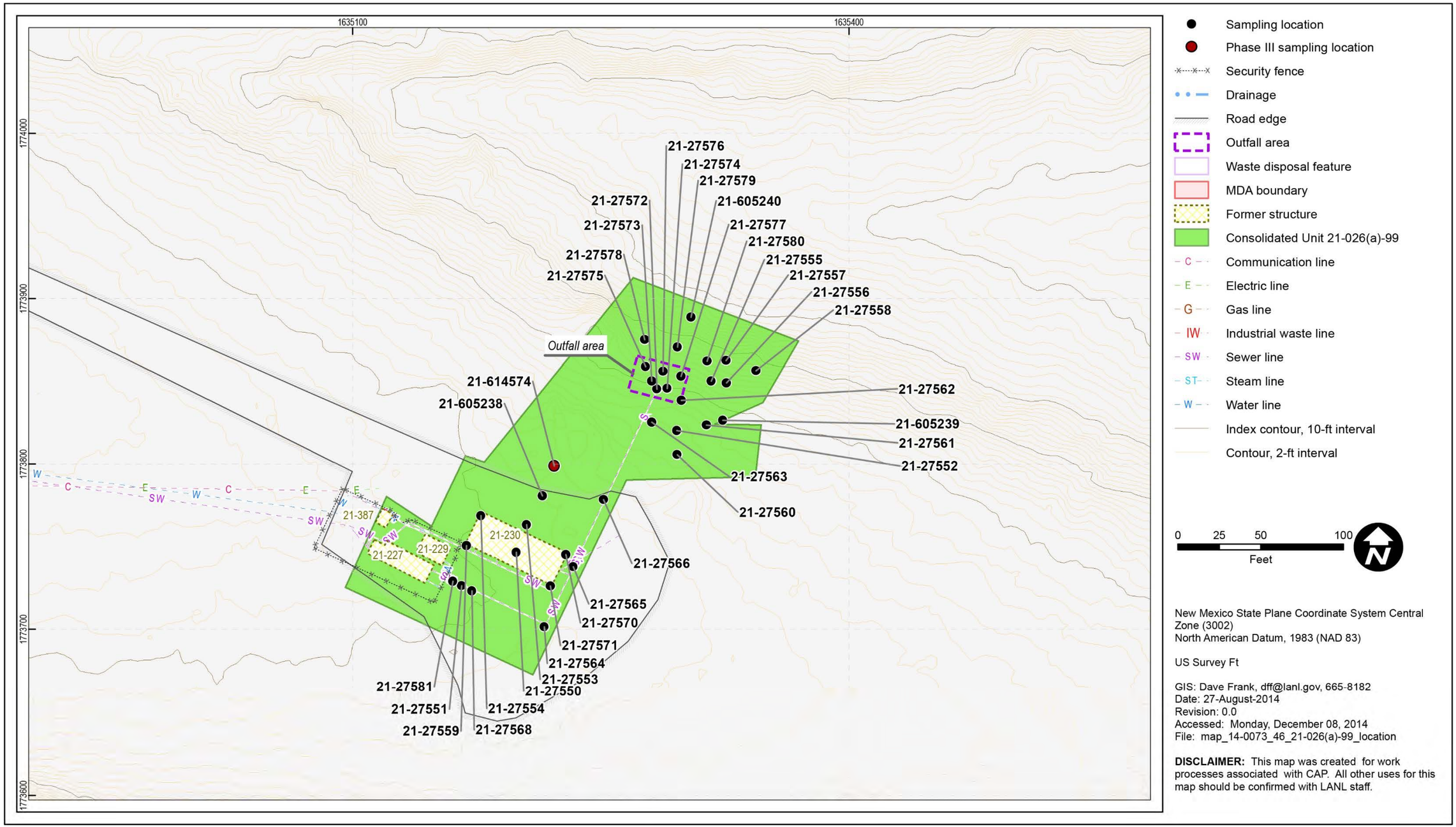


Figure 6.12-1 Sampling locations at Consolidated Unit 21-026(a)-99

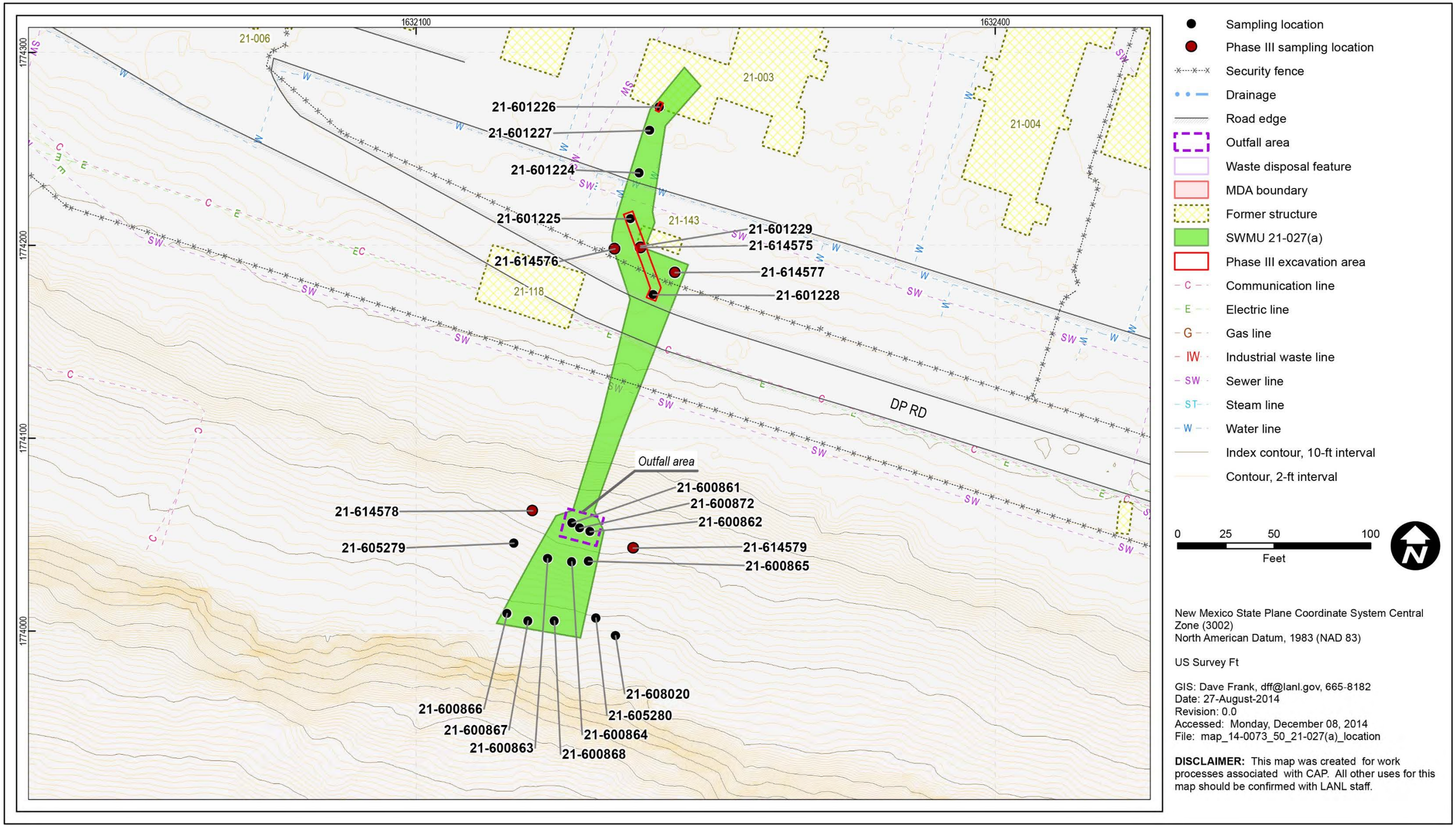


Figure 6.13-1 Sampling locations at SWMU 21-027(a)

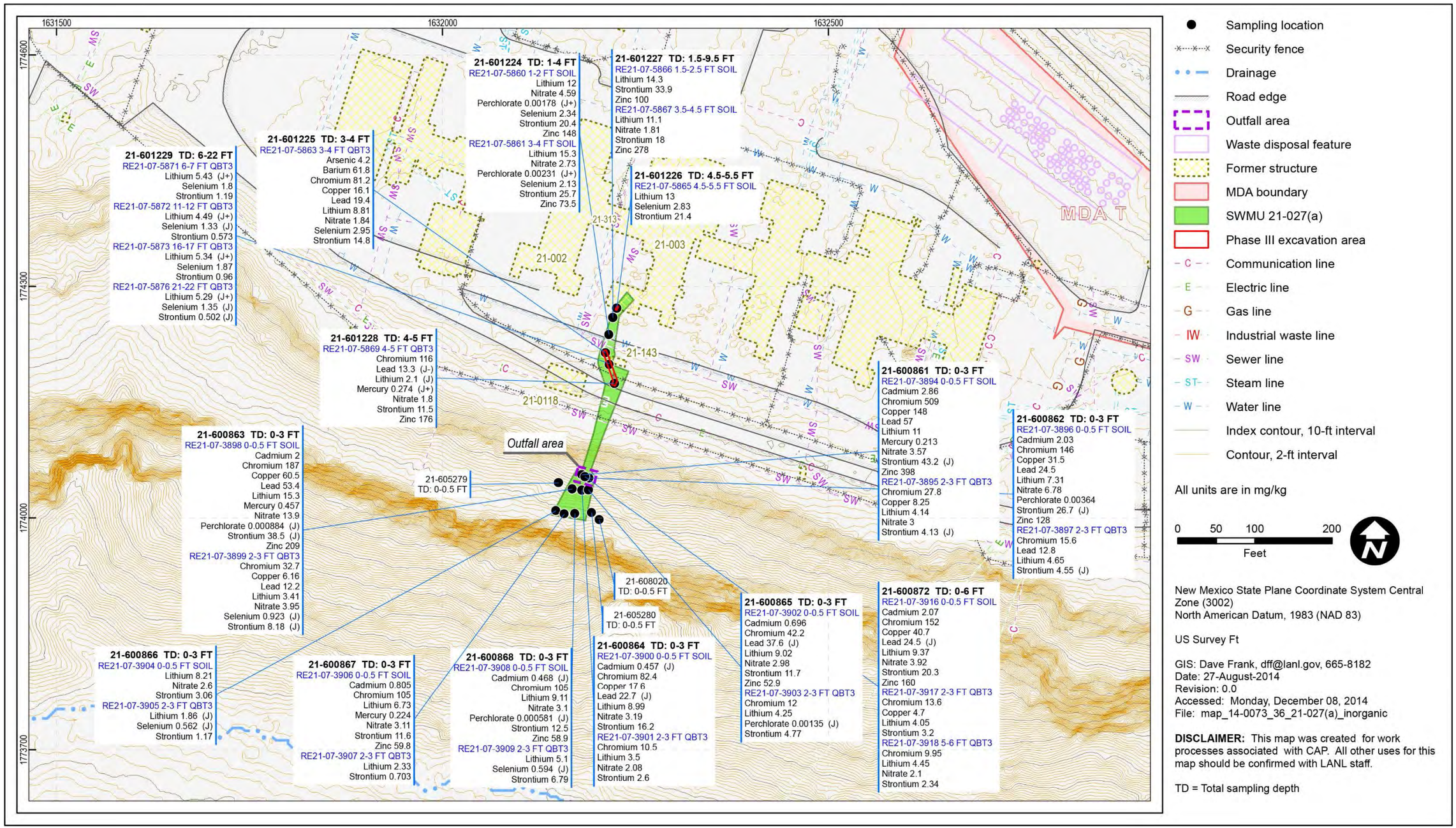


Figure 6.13-2 Inorganic chemicals detected or detected above BVs at SWMU 21-027(a)

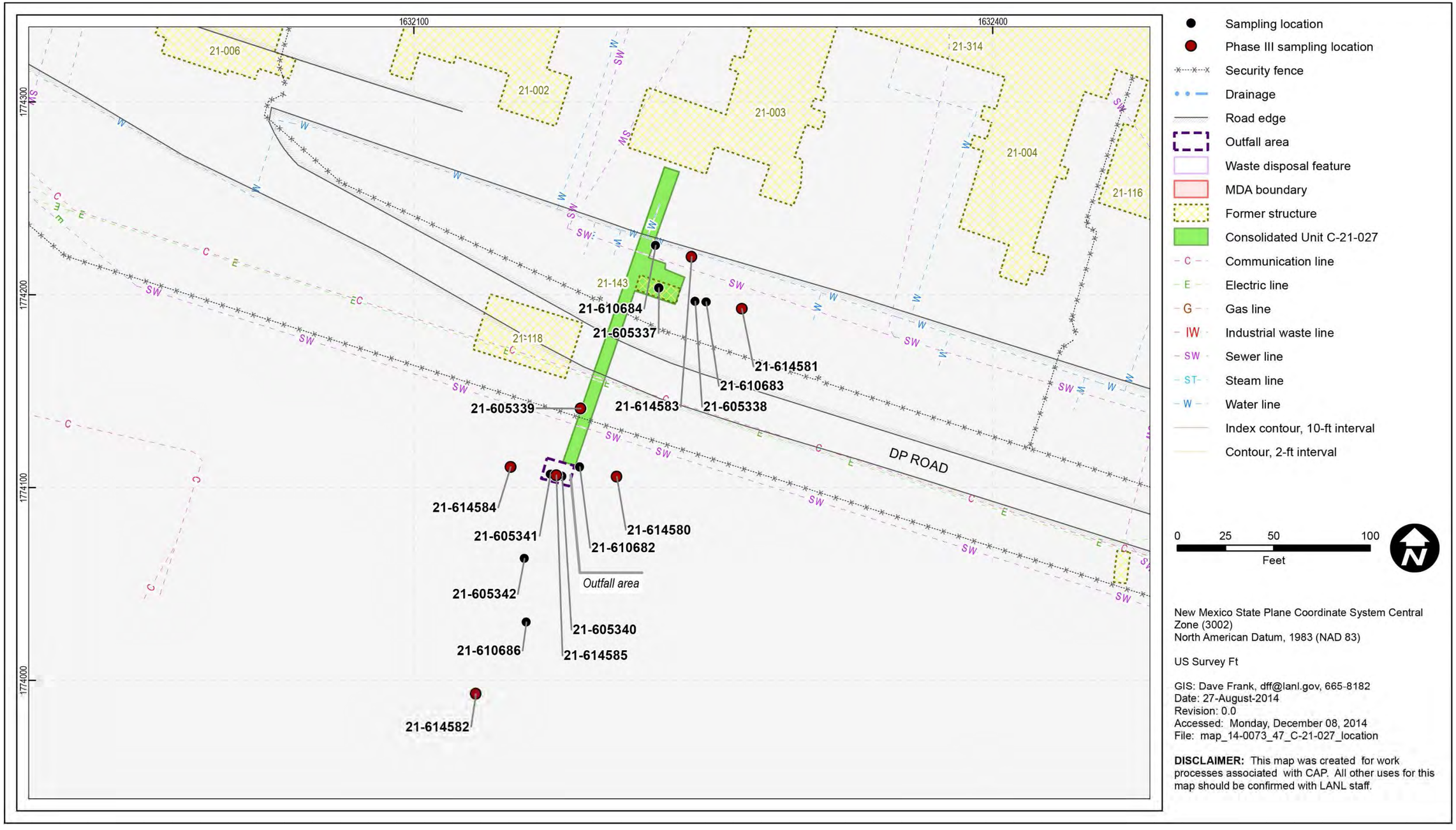


Figure 6.14-1 Sampling locations at AOC C-21-027

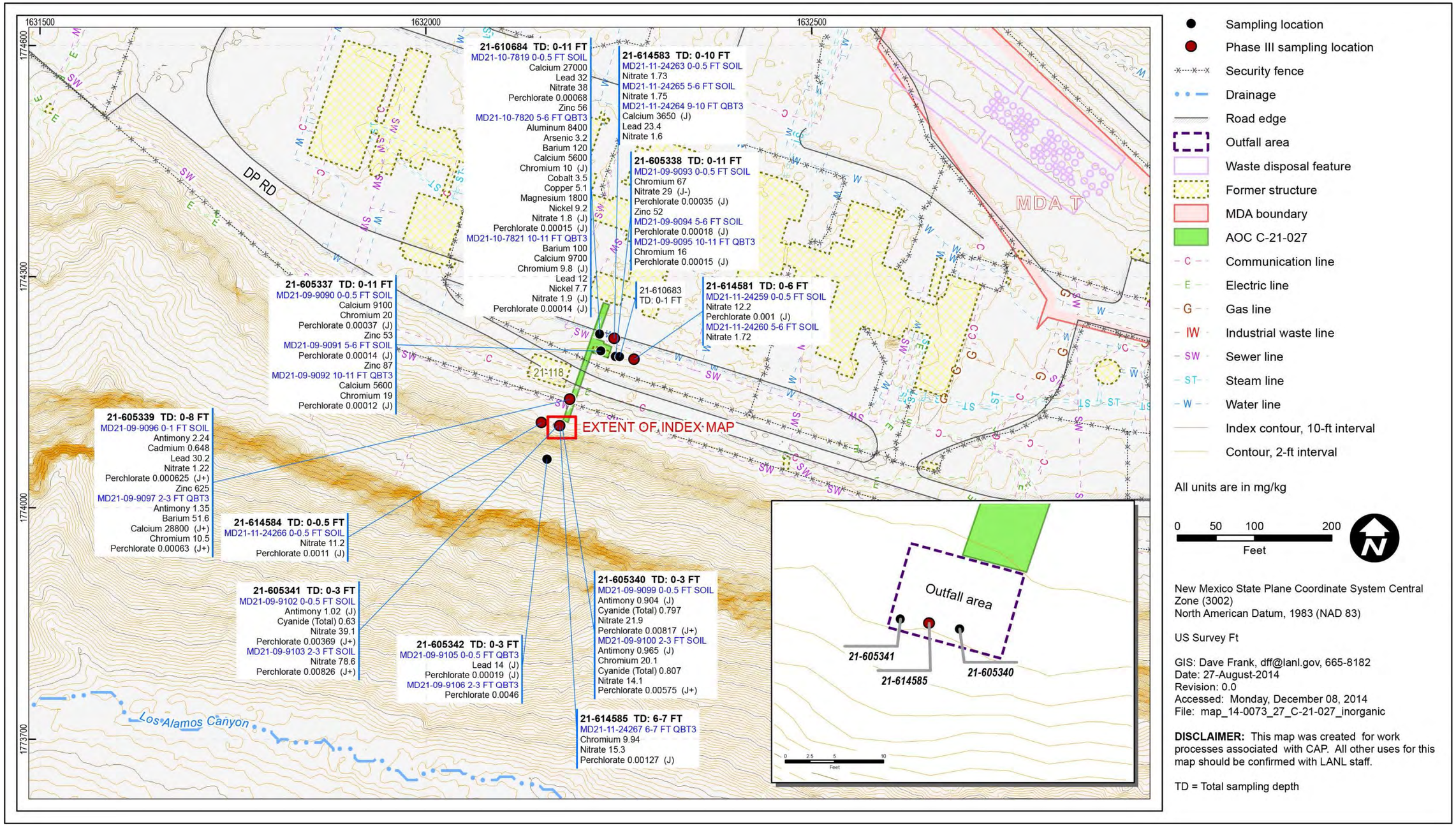


Figure 6.14-2 Inorganic chemicals detected or detected above BVs at AOC C-21-027

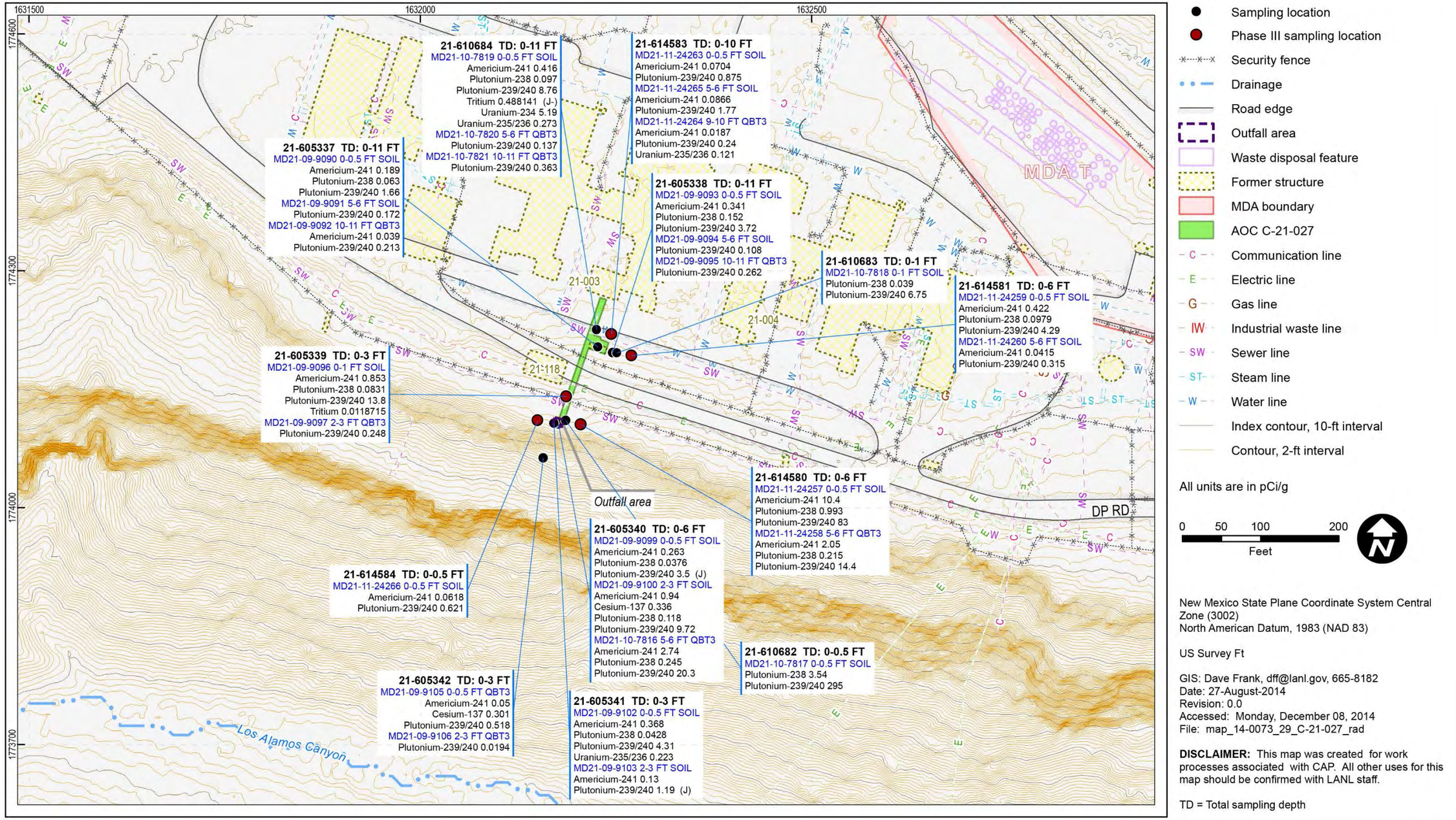


Figure 6.14-3 Radionuclides detected or detected above BVs/FVs at AOC C-21-027

Table 1.1-1
DP Site Aggregate Area Sites Addressed in Phase III Report

Consolidated Unit	SWMU/AOC Number	Site Description	Site Status
21-003-99	SWMU 21-003	Container storage area, PCB Site	Extent sampling and risk assessments conducted
	AOC 21-013(f)	Surface disposal site, PCB Site	
21-006(c)-99	SWMU 21-006(a)	Seepage pits	Extent sampling only; risk assessments included in Phase II report (LANL 2010, 110772.33)
	SWMU 21-006(b)	Seepage pits	
	SWMU 21-006(c)	Seepage pits	
	SWMU 21-006(d)	Seepage pits	
21-022(h)-99	SWMU 21-022(h)	Sump, pipeline, and outfall	Extent sampling; risk assessments updated
	SWMU 21-022(j)	Sump pump	Extent defined and no risk assessment because no complete pathways
21-023(a)-99	SWMU 21-023(a)	Septic system, building 21-3	Extent sampling and risk assessments updated
	SWMU 21-023(b)	Septic system, building 21-3	
	SWMU 21-023(d)	Septic system, building 21-3	
	SWMU 21-024(b)	Septic system	Remediation, extent sampling, and risk assessments updated
	SWMU 21-024(c)	Septic system	Combined with Consolidated Unit 21-003-99; extent sampling and risk assessments conducted
	SWMU 21-024(d)	Septic system	Extent sampling only; risk assessments included in Phase II report (LANL 2010, 110772.33)
	SWMU 21-024(g)	Septic system	Extent sampling only; risk assessments included in Phase II report (LANL 2010, 110772.33)
	SWMU 21-024(k)	Septic system	Nature and extent sampling and risk assessments conducted
21-024(l)-99	AOC 21-004(a)	Aboveground tank	Remediation and risk assessments updated
	SWMU 21-022(a)	Waste line and sump	
	SWMU 21-024(l)	Outfall	
	SWMU 21-024(n)	Drainline	Extent sampling only; risk assessments conducted
21-026(a)-99	SWMU 21-013(a)	Surface disposal area	Risk assessments updated
	SWMU 21-026(a)	Sewage treatment plant	
	SWMU 21-026(b)	Sludge drying/sand filter beds	
	AOC 21-026(c)	Dosing siphon chamber	
	AOC 21-026(d)	Outfall	

Table 1.1-1 (continued)

Consolidated Unit	SWMU/AOC Number	Site Description	Site Status
	SWMU 21-027(a)	Surface drainage and outfall	Remediation, extent sampling, and risk assessments updated
	AOC C-21-027	Cooling tower and outfall	Extent sampling only; risk assessments conducted
n/a*	n/a	Diesel spill from tank 21-57	Remediation and sampling not conducted

Note: Shading denotes SWMUs/AOCs that are not consolidated.

*n/a = Not applicable.

Table 3.2-1
DP Site Phase III Sample Location Coordinates

SWMU/AOC/ Consolidated Unit	Location ID	X Coordinate*	Y Coordinate*
21-003-99, 21-024(c)	21-25719	1633322.74	1773890.5
21-003-99, 21-024(c)	21-614563	1633264.40	1773838.23
21-003-99, 21-024(c)	21-614564	1633279.19	1773825.07
21-006(c)-99	21-601211	1632187.66	1774280.07
21-006(c)-99	21-614565	1632242.01	1774255.39
21-022(h)-99	21-614566	1632562.18	1773969.05
21-022(h)-99	21-614567	1632637.05	1773956.57
21-023(a)-99	21-614568	1632141.51	1774236.78
21-024(b)	21-601090	1632465.96	1774053.33
21-024(b)	21-614569	1632418.70	1774032.33
21-024(b)	21-614570	1632467.65	1774009.31
21-024(d)	21-614571	1631880.78	1774239.09
21-024(g)	21-614572	1631826.45	1774926.25
21-024(k)	21-614228	1633908.63	17774046.42
21-024(k)	21-614229	1633901.80	1774014.14
21-024(k)	21-614230	1633919.66	1774093.86
21-024(n)	21-614573	1633850.94	1774431.36
21-026(a)-99	21-614574	1635221.96	1773798.85
21-027(a)	21-614575	1632216.41	1774198.88
21-027(a)	21-614576	1632203.11	1774198.77
21-027(a)	21-614577	1632234.19	1774185.96
21-027(a)	21-614578	1632160.38	1774062.45
21-027(a)	21-614579	1632212.49	1774043.11
C-21-027	21-614580	1632205.12	1774105.51
C-21-027	21-614581	1632269.98	1774192.59
C-21-027	21-614582	1632132.08	1773992.74
C-21-027	21-614583	1632244.02	1774219.67
C-21-027	21-614584	1632150.22	1774110.64
C-21-027	21-614585	1632173.77	1774106.29

* North American Datum, 1983; New Mexico State Plane Coordinate System, Central Zone (3002); U.S. Survey Feet.

Table 3.2-2
DP Site Phase III Field-Screening Results for Samples Collected in 2011

SWMU/AOC/ Consolidated Unit	Location ID	Depth (ft)	Sample ID	PID (ppm)	Alpha (dpm)*	Beta/Gamma (dpm)*
21-003-99, 21-024(c)	21-25719	14–15	MD21-11-24229	0.0	35	800
21-003-99, 21-024(c)	21-614563	0–0.5	MD21-11-24226	0.0	24	700
21-003-99, 21-024(c)	21-614564	0–0.5	MD21-11-24227	0.0	33	850
21-003-99, 21-024(c)	21-614564	1.5–2	MD21-11-24228	0.0	45	1200
21-006(c)-99	21-601211	13–14	MD21-11-24230	0.0	15	600
21-006(c)-99	21-614565	3–4	MD21-11-24231	0.0	15	450
21-006(c)-99	21-614565	8–9	MD21-11-24232	0.0	8	700
21-006(c)-99	21-614565	18–19	MD21-11-24233	0.0	28	750
21-022(h)-99	21-614566	0–0.5	MD21-11-24234	0.0	24	750
21-022(h)-99	21-614567	0–0.5	MD21-11-24235	0.0	35	640
21-022(h)-99	21-614567	1.5–2	MD21-11-24236	0.0	50	740
21-023(a)-99	21-614568	3–4	MD21-11-24237	0.0	32	700
21-023(a)-99	21-614568	5–6	MD21-11-24238	0.0	14	650
21-024(b)	21-601090	5.5–6.5	MD21-11-24239	0.0	24	380
21-024(b)	21-614569	0–0.5	MD21-11-24240	0.0	24	760
21-024(b)	21-614569	1.5–2	MD21-11-24241	0.0	24	780
21-024(b)	21-614570	0–0.5	MD21-11-24242	0.0	26	550
21-024(b)	21-614570	1.5–2	MD21-11-24243	0.0	24	630
21-024(d)	21-614571	25–26	MD21-11-24244	0.0	23	770
21-024(g)	21-614572	9–10	MD21-11-24245	0.0	24	700
21-024(k)	21-614228	7–8	RE21-11-7968	0.0	31	420
21-024(k)	21-614228	9–10	RE21-11-7969	0.0	46	560
21-024(k)	21-614229	7–8	RE21-11-7970	0.0	0	560
21-024(k)	21-614229	9–10	RE21-11-7971	0.0	46	560
21-024(k)	21-614230	7–8	RE21-11-7972	0.0	46	560
21-024(k)	21-614230	9–10	RE21-11-7973	0.0	46	700
21-024(n)	21-614573	0–0.5	MD21-11-24246	0.0	18	650
21-026(a)-99	21-614574	9–10	MD21-11-24247	0.0	10	1400
21-027(a)	21-614575	4–5	MD21-11-24248	0.0	16	380
21-027(a)	21-614576	1–2	MD21-11-24249	0.0	32	380
21-027(a)	21-614576	4–5	MD21-11-24250	0.0	8	250
21-027(a)	21-614577	1–2	MD21-11-24251	0.0	32	250
21-027(a)	21-614577	4–5	MD21-11-24252	0.0	40	250
21-027(a)	21-614578	0–0.5	MD21-11-24253	0.0	42	850
21-027(a)	21-614578	1.5–2	MD21-11-24254	0.0	28	650
21-027(a)	21-614579	0–0.5	MD21-11-24255	0.0	39	750

Table 3.2-2 (continued)

SWMU/AOC/ Consolidated Unit	Location ID	Depth (ft)	Sample ID	PID (ppm)	Alpha (dpm)*	Beta/Gamma (dpm)*
21-027(a)	21-614579	1.5–2	MD21-11-24256	0.0	39	700
C-21-027	21-614580	0–0.5	MD21-11-24257	0.0	29	800
C-21-027	21-614580	5–6	MD21-11-24258	0.0	34	850
C-21-027	21-614581	0–0.5	MD21-11-24259	0.0	24	500
C-21-027	21-614581	5–6	MD21-11-24260	0.0	6	380
C-21-027	21-605339	7–8	MD21-11-24261	0.0	10	650
C-21-027	21-614582	0–0.5	MD21-11-24262	0.0	24	850
C-21-027	21-614583	0–0.5	MD21-11-24263	0.0	8	500
C-21-027	21-614583	5–6	MD21-11-24265	0.0	16	500
C-21-027	21-614583	9–10	MD21-11-24264	0.0	8	380
C-21-027	21-614584	0–0.5	MD21-11-24266	0.0	24	850
C-21-027	21-614585	6–7	MD21-11-24267	0.0	32	750

*Result reported represents site background level.

Table 3.2-3
Crosswalk of Proposed and Sampled Phase III Locations

SWMU/AOC/ Consolidated Unit	Field Location ID	Work Plan Proposed Location ID
21-003-99 and 21-024(c)	21-25719	24c-3
21-003-99 and 21-024(c)	21-614563	24c-1
21-003-99 and 21-024(c)	21-614564	24c-2
21-006(c)-99	21-601211	6c-1
21-006(c)-99	21-614565	6c-2
21-022(h)-99	21-614566	22h-1
21-022(h)-99	21-614567	22h-2
21-023(a)-99	21-614568	23a-1
21-024(b)	21-601090	24b-1
21-024(b)	21-614569	24b-2
21-024(b)	21-614570	24b-3
21-024(d)	21-614571	24d-1
21-024(g)	21-614572	24g-1
21-024(k)	21-614230	52
21-024(k)	21-614229	53
21-024(k)	21-614228	54
21-024(n)	21-614573	24n-1
21-026(a)-99	21-614574	26a-1
21-027(a)	21-614575	27a-1
21-027(a)	21-614576	27a-2
21-027(a)	21-614577	27a-3
21-027(a)	21-614578	27a-4
21-027(a)	21-614579	27a-5
C-21-027	21-605339	C27-3
C-21-027	21-614580	C27-6
C-21-027	21-614581	C27-2
C-21-027	21-614582	C27-7
C-21-027	21-614583	C27-1
C-21-027	21-614584	C27-4
C-21-027	21-614585	C27-5

Table 6.2-1
Samples Collected and Analyses Requested at Consolidated Unit 21-003-99 and SWMU 21-024(c)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-06-68436	21-25704	1.5–2	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—*	—	5583S	5584S
RE21-06-68440	21-25706	0–0.5	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	—	5582S	—	—	5583S	5584S
RE21-06-68441	21-25706	0.5–1	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68442	21-25706	1.5–2	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68443	21-25707	0–0.5	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	—	5582S	—	—	5583S	5584S
RE21-06-68444	21-25707	0.5–1	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68445	21-25707	1.5–2	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68446	21-25708	0–0.5	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	—	5582S	—	—	5583S	5584S
RE21-06-68447	21-25708	0.5–1	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68448	21-25708	1.5–2	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68449	21-25709	0–0.5	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	—	5582S	—	—	5583S	5584S
RE21-06-68450	21-25709	0.5–1	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68451	21-25709	1.5–2	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68452	21-25710	0–0.5	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	—	5582S	—	—	5583S	5584S
RE21-06-68453	21-25710	0.5–1	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68454	21-25710	1.5–2	ALLH	5583S	5585S	5585S	5585S	5585S	5585S	5585S	5583S	5583S	5582S	5582S	5582S	—	—	5583S	5584S
RE21-06-68458	21-25712	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S
RE21-06-68459	21-25712	0.5–1	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68460	21-25712	1.5–2	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68461	21-25713	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S
RE21-06-68462	21-25713	0.5–1	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68463	21-25713	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68464	21-25714	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S
RE21-06-68465	21-25714	0.5–1	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68466	21-25714	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68467	21-25715	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S
RE21-06-68468	21-25715	0.5–1	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68469	21-25715	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68470	21-25716	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S
RE21-06-68471	21-25716	0.5–1	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68472	21-25716	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
MD21-09-8986	21-25716	6.5–7.5	QBT3	—	—	—	—	—	—	—	10-107	—	—	—	—	—	—	—	—
RE21-06-68474	21-25717	0.5–1	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68475	21-25717	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68476	21-25718	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-06-68477	21-25718	0.5–1	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68478	21-25718	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68479	21-25719	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S
RE21-06-68480	21-25719	0.5–1	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68481	21-25719	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
MD21-09-8978	21-25719	7–8	QBT3	—	—	—	—	—	—	—	10-121	—	—	—	—	—	—	—	—
MD21-10-7815	21-25719	9–10	QBT3	—	—	—	—	—	—	—	10-889	—	—	—	—	—	—	—	—
MD21-11-24229	21-25719	14–15	QBT3	—	—	—	—	—	—	—	11-3121	—	—	—	—	—	—	—	—
RE21-06-68482	21-25720	0–0.5	ALLH	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	—	5587S	—	—	5588S	5588S
RE21-06-68483	21-25720	0.5–1	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68484	21-25720	1.5–2	QBT3	5588S	5589S	5589S	5589S	5589S	5589S	5589S	5588S	5588S	5587S	5587S	5587S	—	—	5588S	5588S
RE21-06-68502	21-25722	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	—	5619S	5620S
RE21-06-68503	21-25722	0.5–1	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68504	21-25722	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68507	21-25723	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68508	21-25723	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68511	21-25724	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68512	21-25724	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68514	21-25725	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	—	5619S	5620S
RE21-06-68515	21-25725	0.5–1	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-72611	21-25725	3–3.5	ALLH	5598S	5598S	5598S	5598S	5598S	5598S	5598S	5598S	5598S	5598S	5598S	5598S	5608S	5598S	5598S	5598S
RE21-06-68538	21-25725	4–4.5	ALLH	—	—	—	—	—	—	—	—	—	—	5618S	—	—	—	—	—
RE21-06-68518	21-25726	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	—	5619S	5620S
RE21-06-68519	21-25726	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68520	21-25726	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	—	5619S	5620S
RE21-06-68521	21-25727	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	5618S	5619S	5620S
RE21-06-68522	21-25727	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68523	21-25727	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68524	21-25728	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	5618S	5619S	5620S
RE21-06-68525	21-25728	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68526	21-25728	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68527	21-25729	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	5618S	5619S	5620S
RE21-06-68528	21-25729	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68529	21-25729	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68530	21-25730	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	5618S	5619S	5620S
RE21-06-68532	21-25730	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-06-68533	21-25730	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68534	21-25731	0–0.5	ALLH	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	—	5618S	—	5618S	5619S	5620S
RE21-06-68536	21-25731	0.5–1	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68537	21-25731	1.5–2	QBT3	5619S	5621S	5621S	5621S	5621S	5621S	5621S	5619S	5619S	5618S	5618S	5618S	—	5618S	5619S	5620S
RE21-06-68548	21-25732	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68549	21-25732	0.5–1	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68550	21-25732	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68551	21-25733	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68552	21-25733	0.5–1	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68553	21-25733	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68554	21-25734	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68555	21-25734	0.5–1	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68556	21-25734	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68557	21-25735	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68558	21-25735	0.5–1	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68559	21-25735	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68560	21-25736	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68561	21-25736	0.5–1	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68562	21-25736	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68563	21-25737	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68564	21-25737	0.5–1	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68565	21-25737	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68567	21-25738	0.5–1	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68568	21-25738	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68569	21-25739	0–0.5	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68570	21-25739	0.5–1	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68571	21-25739	1.5–2	QBT3	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68572	21-25740	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68573	21-25740	0.5–1	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68574	21-25740	1.5–2	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68575	21-25741	0–0.5	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	—	5630S	—	—	5631S	5632S
RE21-06-68576	21-25741	0.5–1	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
RE21-06-68577	21-25741	1.5–2	ALLH	5631S	5633S	5633S	5633S	5633S	5633S	5633S	5631S	5631S	5630S	5630S	5630S	—	—	5631S	5632S
MD21-07-74338	21-25748	14–15	QBT3	6905S	6906S	6906S	6906S	6906S	6906S	6906S	6905S	6905S	6904S	6904S	6904S	—	—	6905S	6905S
MD21-09-8979	21-25748	19–20	QBT3	—	—	—	—	09-2101	09-2101	—	09-2101	—	09-2101	—	09-2101	—	—	—	—
MD21-09-9768	21-25748	26–27	QBT3	—	—	—	—	09-2101	09-2101	—	09-2101	—	09-2101	—	09-2101	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-07-74339	21-25750	2.5–3	ALLH	6420S	6421S	6421S	6421S	6421S	6421S	6421S	6420S	6420S	6418S	6418S	6418S	—	—	6420S	6419S
MD21-07-74340	21-25750	4–4.5	ALLH	6420S	6421S	6421S	6421S	6421S	6421S	6421S	6420S	6420S	6418S	6418S	6418S	—	—	6420S	6419S
MD21-09-8990	21-25750	9–10	QBT3	—	—	—	—	—	—	—	—	—	—	09-2356	—	—	—	—	—
MD21-07-74341	21-25751	4–4.5	QBT3	6420S	6421S	6421S	6421S	6421S	6421S	6421S	6420S	6420S	6418S	6418S	6418S	—	—	6420S	6419S
MD21-07-74342	21-25751	6–6.5	QBT3	6420S	6421S	6421S	6421S	6421S	6421S	6421S	6420S	6420S	6418S	6418S	6418S	—	—	6420S	6419S
MD21-07-142	21-25752	2.33–3.33	ALLH	—	—	—	—	—	—	—	—	—	—	07-20	—	—	—	—	—
MD21-07-74343	21-25752	2.33–3.33	ALLH	6716S	6717S	6717S	6717S	6717S	6717S	6717S	6716S	6716S	—	—	6715S	—	—	6716S	6716S
MD21-09-9860	21-25752	3.8–4.8	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-07-74344	21-25752	3.83–4.83	QBT3	6716S	6717S	6717S	6717S	6717S	6717S	6717S	6716S	6716S	—	6715S	6715S	—	—	6716S	6716S
MD21-09-9861	21-25753	2.3–3.3	QBT3	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-07-74345	21-25753	2.33–3.33	ALLH	6727S	6728S	6728S	6728S	6728S	6728S	6728S	6727S	6727S	—	—	6726S	—	—	6727S	6727S
MD21-07-143	21-25753	2.33–3.33	ALLH	—	—	—	—	—	—	—	—	—	—	07-20	—	—	—	—	—
MD21-09-9862	21-25753	3.8–4.8	QBT3	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-07-74346	21-25753	3.83–4.83	QBT3	6727S	6728S	6728S	6728S	6728S	6728S	6728S	6727S	6727S	—	6726S	6726S	—	—	6727S	6727S
RE21-06-68640	21-25758	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68646	21-25761	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68648	21-25762	1.5–2	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
MD21-09-8980	21-25763	5–6	ALLH	—	—	—	—	—	—	—	10-107	—	—	—	—	—	—	—	—
RE21-06-68652	21-25764	1.5–2	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68653	21-25765	0–0.5	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	—	5636S	—	—	5637S	5638S
RE21-06-68654	21-25765	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68655	21-25766	0–0.5	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	—	5636S	—	—	5637S	5638S
RE21-06-68656	21-25766	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68657	21-25767	0–0.5	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	—	5636S	—	—	5637S	5638S
RE21-06-68658	21-25767	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68659	21-25768	0–0.5	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	—	5636S	—	—	5637S	5638S
RE21-06-68660	21-25768	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68661	21-25769	0–0.5	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	—	5636S	—	—	5637S	5638S
RE21-06-68662	21-25769	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68663	21-25770	0–0.5	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	—	5636S	—	—	5637S	5638S
RE21-06-68664	21-25770	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-06-68665	21-25771	0–0.5	ALLH	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	—	5636S	—	—	5637S	5638S
RE21-06-68666	21-25771	1.5–2	QBT3	5637S	5639S	5639S	5639S	5639S	5639S	5639S	5637S	5637S	5636S	5636S	5636S	—	—	5637S	5638S
RE21-09-2642	21-604461	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2643	21-604461	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2644	21-604461	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-09-2645	21-604462	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2646	21-604462	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2647	21-604462	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2648	21-604463	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2649	21-604463	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2650	21-604463	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2651	21-604464	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2652	21-604464	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2653	21-604464	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2655	21-604465	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2656	21-604465	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2657	21-604466	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2658	21-604466	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2659	21-604466	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2662	21-604467	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-1561	—	—	—	—	—	—
RE21-09-2665	21-604468	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2669	21-604470	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2670	21-604470	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2671	21-604470	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2672	21-604471	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2673	21-604471	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2674	21-604471	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2675	21-604472	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2676	21-604472	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2677	21-604472	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2680	21-604473	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2681	21-604474	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2682	21-604474	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2683	21-604474	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1586	—	—	—	—	—	—
RE21-09-2685	21-604475	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2686	21-604475	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2687	21-604476	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2688	21-604476	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2689	21-604476	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2696	21-604479	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2697	21-604479	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-09-2698	21-604479	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2699	21-604480	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2700	21-604480	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2701	21-604480	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2702	21-604481	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2703	21-604481	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2704	21-604481	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2705	21-604482	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2706	21-604482	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2707	21-604482	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2708	21-604483	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2709	21-604483	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2710	21-604483	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1597	—	—	—	—	—	—
RE21-09-2711	21-604484	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2712	21-604484	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2713	21-604485	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2714	21-604485	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2715	21-604486	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2716	21-604486	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2719	21-604488	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2720	21-604488	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2721	21-604489	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
RE21-09-2722	21-604489	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-1628	—	—	—	—	—	—
MD21-09-8981	21-605289	0–0.5	ALLH	—	—	—	—	—	—	—	09-2488	—	—	—	—	—	—	—	—
MD21-09-8982	21-605290	0–0.5	ALLH	—	—	—	—	—	—	—	09-2504	—	—	—	—	—	—	—	—
MD21-09-8984	21-605292	1.5–2	QBT3	—	—	—	—	—	—	—	09-2356	—	—	—	—	—	—	—	—
MD21-09-8985	21-605292	6.5–7.5	QBT3	—	—	—	—	—	—	—	09-2356	—	—	—	—	—	—	—	—
MD21-09-8987	21-605293	0–0.5	ALLH	—	—	—	—	—	—	10-107	10-107	—	—	—	—	—	—	—	—
MD21-09-8988	21-605294	0–0.5	ALLH	10-107	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-8989	21-605295	0–0.5	ALLH	09-2488	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-9864	21-605366	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9865	21-605366	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9867	21-605367	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9868	21-605367	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9869	21-605368	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9870	21-605368	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-10518	21-605368	3–3.5	QBT3	—	—	—	—	—	—	—	—	—	09-2411	—	—	—	—	—	—
MD21-09-9872	21-605369	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9873	21-605369	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9874	21-605369	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9876	21-605370	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-2160	—	—	—	—	—	—
MD21-09-9877	21-605370	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9878	21-605370	3–3.5	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9879	21-605371	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9880	21-605371	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9881	21-605371	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9884	21-605372	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9885	21-605373	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9886	21-605373	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9887	21-605373	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9888	21-605374	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9889	21-605374	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9890	21-605374	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9891	21-605375	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9892	21-605375	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9893	21-605375	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2161	—	—	—	—	—	—
MD21-09-9895	21-605376	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9896	21-605376	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9897	21-605377	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9898	21-605377	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9899	21-605377	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9900	21-605378	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9901	21-605378	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9902	21-605378	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9903	21-605378	3–3.5	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9904	21-605379	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9905	21-605379	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9906	21-605379	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9907	21-605380	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9908	21-605380	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-9909	21-605380	1.5–2	ALLH	—	—	—	—	—	—	—	—	—	09-2163	—	—	—	—	—	—
MD21-09-10519	21-605532	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	09-2411	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-10520	21-605532	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	09-2411	—	—	—	—	—	—
MD21-09-10521	21-605533	0.5–1	ALLH	—	—	—	—	—	—	—	—	—	09-2411	—	—	—	—	—	—
MD21-09-10522	21-605533	1–1.5	ALLH	—	—	—	—	—	—	—	—	—	09-2411	—	—	—	—	—	—
MD21-09-10523	21-605533	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	09-2411	—	—	—	—	—	—
MD21-09-9415	21-605617	10–10.5	QBT3	—	—	—	—	—	—	—	—	—	09-2738	—	—	—	—	—	—
MD21-09-9416	21-605618	10–10.5	QBT3	—	—	—	—	—	—	—	—	—	09-2738	—	—	—	—	—	—
MD21-09-9417	21-605619	10–10.5	QBT3	—	—	—	—	—	—	—	—	—	09-2738	—	—	—	—	—	—
MD21-09-9418	21-605620	4.75–5.25	QBT3	—	—	—	—	—	—	—	—	—	09-2738	—	—	—	—	—	—
MD21-09-10409	21-605698	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10410	21-605699	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10411	21-605700	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10412	21-605701	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10413	21-605702	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10414	21-605703	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10415	21-605704	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10418	21-605707	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10419	21-605708	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10420	21-605709	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10421	21-605710	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10422	21-605711	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10423	21-605712	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10424	21-605713	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10425	21-605714	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10426	21-605715	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10427	21-605716	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10428	21-605717	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10429	21-605718	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10430	21-605719	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10431	21-605720	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10432	21-605721	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10433	21-605722	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10434	21-605723	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10435	21-605724	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2747	—	—	—	—	—	—
MD21-09-10438	21-605727	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10439	21-605728	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10440	21-605729	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-10443	21-605732	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10445	21-605734	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10446	21-605735	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10448	21-605737	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10449	21-605738	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10450	21-605739	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10451	21-605740	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10452	21-605741	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10453	21-605742	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10454	21-605743	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10455	21-605744	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10456	21-605745	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10457	21-605746	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10458	21-605747	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10459	21-605748	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10460	21-605749	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10462	21-605751	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10463	21-605752	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10464	21-605753	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10465	21-605754	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10466	21-605755	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10467	21-605756	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-10-1940	21-605759	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	10-156	—	—	—	—	—	—
MD21-09-10475	21-605764	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10476	21-605765	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2763	—	—	—	—	—	—
MD21-09-10768	21-605766	1.5–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3195	—	—	—	—	—	—
MD21-09-10479	21-605768	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2785	—	—	—	—	—	—
MD21-09-10480	21-605769	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2785	—	—	—	—	—	—
MD21-09-10481	21-605770	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2785	—	—	—	—	—	—
MD21-09-10482	21-605771	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-2785	—	—	—	—	—	—
MD21-09-13221	21-605772	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	10-155	—	—	—	—	—	—
MD21-09-10487	21-605776	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2785	—	—	—	—	—	—
MD21-09-10488	21-605777	2.16–2.25	ALLH	—	—	—	—	—	—	—	—	—	09-2785	—	—	—	—	—	—
MD21-09-13202	21-605777	2.16–2.25	ALLH	—	—	—	—	—	—	—	—	—	09-3295	—	—	—	—	—	—
MD21-09-10510	21-607149	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10511	21-607150	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-10512	21-607151	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10514	21-607153	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10528	21-607687	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10529	21-607688	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10530	21-607689	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10531	21-607690	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10532	21-607691	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10533	21-607692	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10534	21-607693	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10535	21-607694	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10536	21-607695	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10540	21-607699	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10541	21-607700	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10546	21-607705	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10547	21-607706	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10548	21-607707	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2784	—	—	—	—	—	—
MD21-09-10550	21-607709	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-13220	21-607710	3.16–3.25	QBT3	—	—	—	—	—	—	—	—	—	10-155	—	—	—	—	—	—
MD21-09-10552	21-607711	1.66–1.76	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10553	21-607712	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10554	21-607713	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10555	21-607714	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10556	21-607715	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10559	21-607718	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10560	21-607719	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10563	21-607722	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2794	—	—	—	—	—	—
MD21-09-10564	21-607723	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-2833	—	—	—	—	—	—
MD21-09-10565	21-607724	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-2833	—	—	—	—	—	—
MD21-09-10566	21-607725	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-2833	—	—	—	—	—	—
MD21-09-10567	21-607726	4.16–4.25	QBT3	—	—	—	—	—	—	—	—	—	09-2867	—	—	—	—	—	—
MD21-09-10568	21-607727	10.16–10.25	QBT3	—	—	—	—	—	—	—	—	—	09-2867	—	—	—	—	—	—
MD21-09-10569	21-607728	4.16–4.25	ALLH	—	—	—	—	—	—	—	—	—	09-2867	—	—	—	—	—	—
MD21-09-10570	21-607729	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-2867	—	—	—	—	—	—
MD21-09-10571	21-607730	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-2867	—	—	—	—	—	—
MD21-09-10572	21-607731	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-2867	—	—	—	—	—	—
MD21-09-10574	21-607733	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-2867	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-13199	21-607738	5.16–5.25	QBT3	—	—	—	—	—	—	—	—	—	09-3295	—	—	—	—	—	—
MD21-09-10582	21-607741	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2934	—	—	—	—	—	—
MD21-09-10583	21-607742	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2934	—	—	—	—	—	—
MD21-10-1948	21-607744	5.16–5.25	QBT3	—	—	—	—	—	—	—	—	—	10-200	—	—	—	—	—	—
MD21-09-10586	21-607745	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-10587	21-607746	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-10588	21-607747	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-10589	21-607748	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-10590	21-607749	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-10591	21-607750	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-10592	21-607751	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-10594	21-607753	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-2972	—	—	—	—	—	—
MD21-09-13210	21-607754	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	10-36	—	—	—	—	—	—
MD21-09-13211	21-607756	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	10-36	—	—	—	—	—	—
MD21-10-1947	21-607763	5.16–5.25	QBT3	—	—	—	—	—	—	—	—	—	10-200	—	—	—	—	—	—
MD21-09-10605	21-607764	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10606	21-607765	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10607	21-607766	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10608	21-607767	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10609	21-607768	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10610	21-607769	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10611	21-607770	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10612	21-607771	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10613	21-607772	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10614	21-607773	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3032	—	—	—	—	—	—
MD21-09-10615	21-607774	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-09-10616	21-607775	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-09-10617	21-607776	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-09-10618	21-607777	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-09-10620	21-607779	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-09-10621	21-607780	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-09-10622	21-607781	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-10-1946	21-607782	2.66–2.75	QBT3	—	—	—	—	—	—	—	—	—	10-200	—	—	—	—	—	—
MD21-09-10625	21-607784	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3034	—	—	—	—	—	—
MD21-09-10628	21-607787	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10629	21-607788	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-13204	21-607790	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	10-3	—	—	—	—	—	—
MD21-09-10633	21-607792	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10636	21-607795	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10637	21-607796	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10638	21-607797	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10639	21-607798	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10640	21-607799	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10641	21-607800	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10642	21-607801	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10643	21-607802	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10644	21-607803	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-10645	21-607804	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3064	—	—	—	—	—	—
MD21-09-13215	21-607812	5.66–5.75	QBT3	—	—	—	—	—	—	—	—	—	10-36	—	—	—	—	—	—
MD21-09-10654	21-607813	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10655	21-607814	4.66–4.75	ALLH	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10656	21-607815	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10657	21-607816	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10658	21-607817	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10659	21-607818	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10660	21-607819	4.66–4.75	ALLH	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10661	21-607820	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10663	21-607822	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-13214	21-607824	5.66–5.75	QBT3	—	—	—	—	—	—	—	—	—	10-36	—	—	—	—	—	—
MD21-09-10666	21-607825	4.66–4.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10667	21-607826	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10668	21-607827	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10669	21-607828	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10670	21-607829	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10671	21-607830	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-3065	—	—	—	—	—	—
MD21-09-10672	21-607831	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10673	21-607832	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10674	21-607833	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10675	21-607834	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10676	21-607835	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10677	21-607836	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10678	21-607837	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-10679	21-607838	1.66–1.75	QBT3	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10680	21-607839	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10681	21-607840	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10682	21-607841	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10683	21-607842	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10684	21-607843	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3066	—	—	—	—	—	—
MD21-09-10695	21-607844	0.66–75	QBT3	—	—	—	—	—	—	—	—	—	09-3063	—	—	—	—	—	—
MD21-09-10696	21-607845	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3063	—	—	—	—	—	—
MD21-09-10697	21-607846	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10698	21-607847	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10699	21-607848	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10700	21-607849	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10701	21-607850	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10702	21-607851	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10703	21-607852	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10704	21-607853	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-13207	21-607855	1.16–1.25	ALLH	—	—	—	—	—	—	—	—	—	10-3	—	—	—	—	—	—
MD21-09-10707	21-607856	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10708	21-607857	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10709	21-607858	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10710	21-607859	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10711	21-607860	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10712	21-607861	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10713	21-607862	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10714	21-607863	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10715	21-607864	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10716	21-607865	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3078	—	—	—	—	—	—
MD21-09-10717	21-607866	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10718	21-607867	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10719	21-607868	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10721	21-607870	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10722	21-607871	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10723	21-607872	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10724	21-607873	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10725	21-607874	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10726	21-607875	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-10727	21-607876	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10730	21-607879	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3079	—	—	—	—	—	—
MD21-09-10737	21-607886	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10738	21-607887	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-13217	21-607888	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	10-80	—	—	—	—	—	—
MD21-09-10740	21-607889	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10741	21-607890	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10742	21-607891	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10744	21-607893	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10745	21-607894	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10746	21-607895	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10748	21-607897	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10749	21-607898	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3111	—	—	—	—	—	—
MD21-09-10752	21-607901	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10753	21-607902	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10755	21-607904	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10756	21-607905	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10757	21-607906	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10758	21-607907	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10759	21-607908	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10760	21-607909	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10761	21-607910	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10762	21-607911	0.66–0.75	QBT3	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10765	21-607912	4–4.5	QBT3	—	—	—	—	—	—	—	—	—	09-3112	—	—	—	—	—	—
MD21-09-10769	21-607918	1.5–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3195	—	—	—	—	—	—
MD21-09-10771	21-607920	1.5–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3195	—	—	—	—	—	—
MD21-09-10772	21-607921	1.5–1.75	ALLH	—	—	—	—	—	—	—	—	—	09-3195	—	—	—	—	—	—
MD21-09-10774	21-607923	1–1.25	ALLH	—	—	—	—	—	—	—	—	—	09-3195	—	—	—	—	—	—
MD21-09-13197	21-608084	5.16–5.25	ALLH	—	—	—	—	—	—	—	—	—	09-3295	—	—	—	—	—	—
MD21-09-13219	21-608087	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	10-155	—	—	—	—	—	—
MD21-09-13201	21-608088	2.16–2.25	ALLH	—	—	—	—	—	—	—	—	—	09-3295	—	—	—	—	—	—
MD21-09-13205	21-608092	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	10-3	—	—	—	—	—	—
MD21-09-13208	21-608095	1.16–1.25	ALLH	—	—	—	—	—	—	—	—	—	10-3	—	—	—	—	—	—
MD21-09-13209	21-608096	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	10-36	—	—	—	—	—	—
MD21-09-13216	21-608103	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	10-80	—	—	—	—	—	—
MD21-09-13218	21-608105	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	10-106	—	—	—	—	—	—

Table 6.2-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-10-1941	21-608835	0.66–0.75	ALLH	—	—	—	—	—	—	—	—	—	10-156	—	—	—	—	—	—
MD21-10-1942	21-608836	2.66–2.75	ALLH	—	—	—	—	—	—	—	—	—	10-156	—	—	—	—	—	—
MD21-10-1943	21-608837	5.16–5.25	QBT3	—	—	—	—	—	—	—	—	—	10-156	—	—	—	—	—	—
MD21-10-1945	21-608839	1.66–1.75	ALLH	—	—	—	—	—	—	—	—	—	10-200	—	—	—	—	—	—
MD21-10-1949	21-608843	5.16–5.25	QBT3	—	—	—	—	—	—	—	—	—	10-200	—	—	—	—	—	—
MD21-10-1951	21-608845	5.16–5.25	QBT3	—	—	—	—	—	—	—	—	—	10-263	—	—	—	—	—	—
MD21-10-1953	21-608847	3.16–3.25	ALLH	—	—	—	—	—	—	—	—	—	10-353	—	—	—	—	—	—
MD21-11-24226	21-614563	0–0.5	ALLH	11-3183	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24227	21-614564	0–0.5	ALLH	—	11-3183	—	11-3183	—	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24228	21-614564	1.5–2	ALLH	—	11-3183	—	11-3183	—	—	—	—	—	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.2-2
Inorganic Chemicals above BVs at Consolidated Unit 21-003-99 and SWMU 21-024(c)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**1690**	**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**1**	**2.4**	**17**	**63.5**
Soil BV[a]				**29200**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**217000**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**795000**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**78000**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**54800**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**391**	**23500**
RE21-06-68436	21-25704	1.5–2	SOIL	—[g]	—	—	—	—	—	39.8	—	—	—	—	—	—	—	4.86	—	1.56 (U)	—	—	—	—
RE21-06-68440	21-25706	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.02 (J-)	—	1.65 (U)	—	—	—	—
RE21-06-68441	21-25706	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.991 (J-)	—	1.55 (U)	—	—	—	—
RE21-06-68442	21-25706	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6 (U)	—	—	—	—
RE21-06-68443	21-25707	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	0.219 (J-)	—	1.77 (J-)	—	1.6 (U)	—	—	—	—
RE21-06-68444	21-25707	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.78 (J-)	—	—	—	—	—	—
RE21-06-68445	21-25707	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.82 (J-)	—	1.83 (U)	—	—	—	—
RE21-06-68446	21-25708	0–0.5	SOIL	—	—	—	—	1.15	—	—	—	17	—	28.6 (J)	-	3.77 (J-)	—	2.29 (J-)	—	—	—	26.1	—	141
RE21-06-68447	21-25708	0.5–1	SOIL	—	—	—	—	0.987	—	—	—	—	—	—	—	1.09 (J-)	—	1.4 (J-)	—	1.62 (U)	—	9.81	—	140
RE21-06-68448	21-25708	1.5–2	SOIL	—	—	—	—	0.757	—	—	—	—	—	—	—	0.358 (J-)	—	1.2 (J-)	—	1.7 (U)	—	3.89	—	114
RE21-06-68450	21-25709	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6 (U)	—	—	—	—
RE21-06-68451	21-25709	1.5–2	SOIL	—	—	—	—	0.53 (U)	—	—	—	—	—	—	—	—	—	—	—	1.59 (U)	—	—	—	—
RE21-06-68452	21-25710	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.57 (U)	—	—	—	—
RE21-06-68453	21-25710	0.5–1	SOIL	—	—	—	—	0.545 (U)	—	—	—	—	—	—	—	—	—	0.958 (J-)	—	1.64 (U)	—	—	—	—
RE21-06-68454	21-25710	1.5–2	SOIL	—	—	—	—	0.548 (U)	—	23.3	—	—	—	—	—	—	—	—	—	1.64 (U)	—	—	—	—
RE21-06-68459	21-25712	0.5–1	SOIL	—	—	—	—	0.522 (U)	—	—	—	—	—	—	—	—	—	—	—	1.57 (U)	—	—	—	—
RE21-06-68461	21-25713	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.59 (U)	—	—	—	—
RE21-06-68462	21-25713	0.5–1	QBT3	—	—	—	—	—	—	17.7	—	—	—	—	—	—	—	—	—	1.65 (U)	—	—	—	—
RE21-06-68463	21-25713	1.5–2	QBT3	—	—	—	—	—	—	24.4	—	—	—	—	—	—	—	—	—	1.66 (U)	—	—	—	—
RE21-06-68464	21-25714	0–0.5	SOIL	—	—	—	—	—	—	—	—	16.4	—	29.1	—	0.289	—	2.06	—	—	—	5.09	—	187
RE21-06-68465	21-25714	0.5–1	SOIL	—	—	—	—	0.554 (U)	—	20.1	—	—	—	—	—	—	—	1.11 (J)	—	1.66 (U)	—	—	—	—
RE21-06-68466	21-25714	1.5–2	QBT3	—	—	54.5	—	—	—	14.6	—	—	—	—	—	—	—	—	—	1.52 (U)	—	—	—	—
RE21-06-68467	21-25715	0–0.5	SOIL	—	—	—	—	0.548	—	—	—	—	—	60.1	—	0.176	—	1.7	—	—	—	—	—	146
RE21-06-68468	21-25715	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	26.8	—	0.108	—	1.47	—	1.76 (U)	—	—	—	62.1
RE21-06-68469	21-25715	1.5–2	QBT3	8480 (J+)	—	46.9	—	—	—	14	—	—	—	16.1	—	—	—	—	—	1.64 (U)	—	—	—	—
RE21-06-68470	21-25716	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	39.9	—	—	—	2.86	0.000792 (J)	1.62 (U)	—	—	—	74.7
RE21-06-68471	21-25716	0.5–1	QBT3	—	—	—	—	—	—	13.6	—	—	—	—	—	—	—	0.857 (J)	—	1.52 (U)	—	—	—	—
RE21-06-68472	21-25716	1.5–2	QBT3	7380 (J+)	—	107	—	—	—	10.8	22.3	—	—	—	—	—	6.62	0.881 (J)	—	1.53 (U)	—	—	—	—
RE21-06-68474	21-25717	0.5–1	QBT3	8540 (J+)	—	58.4	—	—	—	8.53	—	6.47	—	—	—	—	—	0.798 (J)	—	1.52 (U)	—	—	—	—

Table 6.2-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**1690**	**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**1**	**2.4**	**17**	**63.5**
Soil BV[a]				**29200**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**217000**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**795000**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**78000**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**54800**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**391**	**23500**
RE21-06-68475	21-25717	1.5–2	QBT3	—	—	—	—	—	—	19.6	—	—	—	—	—	—	—	—	—	1.51 (U)	—	—	—	—
RE21-06-68476	21-25718	0–0.5	SOIL	—	—	—	—	0.522 (U)	—	—	—	—	—	—	—	—	—	2.46	0.00105 (J)	1.57 (U)	—	—	—	—
RE21-06-68477	21-25718	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.02	0.00141 (J)	1.55 (U)	—	—	—	—
RE21-06-68478	21-25718	1.5–2	QBT3	—	—	—	—	—	—	7.8	—	—	—	—	—	—	—	2.44	0.000742 (J)	1.51 (U)	—	—	—	—
RE21-06-68479	21-25719	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.11	—	—	—	—	—	62.3
RE21-06-68480	21-25719	0.5–1	QBT3	11500 (J+)	—	59	—	—	—	10.8	—	—	—	—	—	—	—	1.54	—	0.703 (J)	—	—	—	—
RE21-06-68481	21-25719	1.5–2	QBT3	34400 (J+)	3.98	197	2.29	—	4530 (J+)	23.6	4.27	10.1	21600	13.5	5520	—	16	—	0.00238	1.65 (U)	—	—	31.8	—
MD21-09-8978	21-25719	7–8	QBT3	—	—	57	—	—	—	29	—	—	—	—	—	NA[h]	13	NA	NA	0.51 (U)	—	NA	—	—
MD21-10-7815	21-25719	9–10	QBT3	NA	NA	NA	NA	NA	NA	38.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-06-68482	21-25720	0–0.5	SOIL	—	—	—	—	—	—	—	—	18.4	—	—	—	0.117	—	5.29	0.00102 (J)	—	—	2.68 (J)	—	51.2
RE21-06-68483	21-25720	0.5–1	QBT3	14100 (J+)	—	84.5	—	—	—	14	—	5.14	—	—	1940	—	—	1.46	—	1.67 (U)	—	—	—	—
RE21-06-68484	21-25720	1.5–2	QBT3	15800 (J+)	2.99	94.9	—	—	2570 (J+)	11.5	3.36	20.1	—	21.4	2200	0.111	6.72	6.24	0.00235	0.674 (J)	—	3.66 (J)	20.5	—
RE21-06-68502	21-25722	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	24.3	—	0.159	—	10.7	0.00279	—	—	2.41	—	—
RE21-06-68503	21-25722	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.26	0.00102 (J)	1.62 (U)	—	—	—	—
RE21-06-68504	21-25722	1.5–2	QBT3	8930	—	64.6	—	—	—	—	—	—	—	—	—	—	—	2.32	0.00159 (J)	1.58 (U)	—	—	—	—
RE21-06-68507	21-25723	0.5–1	QBT3	10500	4.65	99.2	—	—	3420	8.64	3.16	51.2	—	18	1820 (J+)	—	—	3.33	0.000611 (J)	1.6 (U)	—	2.42	21.2	70.3
RE21-06-68508	21-25723	1.5–2	QBT3	—	—	—	—	—	—	—	—	9.05	—	—	—	—	—	1.28	—	1.48 (U)	—	—	—	—
RE21-06-68511	21-25724	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	15.7	—	0.446	—	1.83	—	1.55 (U)	—	5.37	—	—
RE21-06-68512	21-25724	1.5–2	QBT3	—	—	—	—	—	—	7.79	—	—	—	—	—	—	—	1.14	—	1.52 (U)	—	—	—	—
RE21-06-68514	21-25725	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	29.1	—	—	—	9.66	0.000608 (J)	1.76 (U)	—	2.72	—	—
RE21-06-68515	21-25725	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.44	—	1.58 (U)	—	—	—	—
RE21-06-72611	21-25725	3–3.5	SOIL	—	—	—	—	—	11700	—	—	—	—	—	—	—	16.3	—	0.00323	1.57 (U)	—	—	—	—
RE21-06-68518	21-25726	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85.2	0.00148 (J)	1.69 (U)	—	—	—	—
RE21-06-68519	21-25726	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.2	0.00116 (J)	1.62 (U)	—	—	—	—
RE21-06-68520	21-25726	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.46	—	1.46 (U)	—	—	—	—
RE21-06-68521	21-25727	0–0.5	SOIL	—	—	—	—	0.567 (U)	—	—	—	—	—	—	—	—	—	6.24	0.00086 (J)	2.29	—	—	—	—
RE21-06-68522	21-25727	0.5–1	QBT3	10700 (J+)	4.15	74	—	—	2560	—	—	4.68	—	—	1700	—	—	3.14	0.00141 (J)	2.25	—	—	—	—
RE21-06-68523	21-25727	1.5–2	QBT3	11600 (J+)	5	97	—	—	8280	—	—	5.47	—	—	1900	—	6.82	2.99	0.00159 (J)	0.995 (J)	—	—	—	—
RE21-06-68524	21-25728	0–0.5	SOIL	—	—	—	—	0.584 (U)	—	—	—	—	—	30.4	—	—	—	24.3	0.0022 (J)	3.27	—	2.14	—	50.9
RE21-06-68525	21-25728	0.5–1	QBT3	13300 (J+)	3.43	152	—	—	49000	8.28	—	8.48	—	12.3	2660	—	10.4	6.4	0.0038	1.62 (U)	—	—	—	—
RE21-06-68526	21-25728	1.5–2	QBT3	11800 (J+)	5.32	111	—	—	19700	7.65	—	9.11	—	15.5	2260	—	7.27	24.6	0.00347	1.58 (U)	—	—	—	—

Table 6.2-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**1690**	**0.1**	**6.58**	**na**[b]	**na**	**0.3**	**1**	**2.4**	**17**	**63.5**
Soil BV[a]				**29200**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**144**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**217000**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**795000**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**78000**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**54800**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**391**	**23500**
RE21-06-68527	21-25729	0–0.5	SOIL	—	—	—	—	0.503 (U)	—	—	—	—	—	—	—	—	—	7.22	0.000951 (J)	2.89	—	—	—	—
RE21-06-68528	21-25729	0.5–1	QBT3	15700 (J+)	4.75	69.8	1.69	—	2320	9.46	—	5.2	—	—	2370	—	7.82	2.43	0.00104 (J)	4.22	—	—	—	—
RE21-06-68529	21-25729	1.5–2	QBT3	13500 (J+)	5.74	72.6	1.94	—	3850	15.5	—	5.32	—	—	2200	—	10.1	1.68	0.000911 (J)	2.93	—	—	—	—
RE21-06-68530	21-25730	0–0.5	SOIL	—	—	—	—	0.505 (U)	—	—	—	—	—	—	—	—	-	3.64	0.000771 (J)	3.35	—	—	—	62.7
RE21-06-68532	21-25730	0.5–1	QBT3	—	4.03	—	—	—	—	—	—	—	—	—	—	—	-	1.83	—	1.97	—	—	—	—
RE21-06-68533	21-25730	1.5–2	QBT3	—	4.31	—	—	—	2850	11	—	—	—	—	—	—	11.5	1.27	—	1.03 (J)	—	—	—	—
RE21-06-68534	21-25731	0–0.5	SOIL	—	—	—	—	0.522 (U)	—	—	—	—	—	—	—	—	—	1.27	—	3.63	—	—	—	—
RE21-06-68536	21-25731	0.5–1	QBT3	10600 (J+)	7.04	65	—	—	3740	8.92	—	6.12	—	12.1	—	—	—	1.37	—	1.49 (J)	—	—	—	—
RE21-06-68537	21-25731	1.5–2	QBT3	—	3.61	—	—	—	—	—	—	—	—	—	—	—	—	1.2	—	2.13	—	—	—	—
RE21-06-68548	21-25732	0–0.5	SOIL	—	—	—	—	—	—	—	—	18.8	—	—	—	—	—	2.82	—	—	—	—	—	57.5
RE21-06-68549	21-25732	0.5–1	QBT3	10500	—	74.2 (J+)	—	—	—	8.26	—	—	—	—	—	—	—	1.48	—	1.56 (U)	—	—	—	—
RE21-06-68550	21-25732	1.5–2	QBT3	10700	—	73.2 (J+)	—	-	2740	8.76	—	4.9	—	16.5	—	—	—	1.11	—	1.55 (U)	—	—	—	—
RE21-06-68551	21-25733	0–0.5	SOIL	—	—	—	—	0.763	—	—	—	25.3	—	58.4	—	0.69	—	3.31	0.000912 (J)	—	—	26.2	—	93.5
RE21-06-68552	21-25733	0.5–1	QBT3	—	—	—	—	—	—	—	—	9.25	—	12.2	—	0.304	—	1.29	—	1.57 (U)	—	5.16	—	—
RE21-06-68553	21-25733	1.5–2	QBT3	—	—	—	—	—	—	9.67	—	—	—	—	—	—	—	1.33 (J-)	—	1.64 (U)	—	—	—	—
RE21-06-68554	21-25734	0–0.5	SOIL	—	—	—	—	—	—	—	—	22.2	—	—	—	—	—	17.7 (J-)	0.00136 (J)	1.58 (U)	—	2.02	—	52.6
RE21-06-68555	21-25734	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.84 (J-)	0.000584 (J)	1.65 (U)	—	—	—	—
RE21-06-68556	21-25734	1.5–2	QBT3	12400	—	91 (J+)	—	—	3220	9.97	—	6.51	—	—	1730 (J+)	—	—	5.25 (J-)	0.000742 (J)	1.56 (U)	—	—	—	—
RE21-06-68557	21-25735	0–0.5	SOIL	—	—	—	—	0.524 (U)	—	—	—	18.8	—	—	—	—	—	3.2 (J-)	—	1.57 (U)	—	—	—	—
RE21-06-68558	21-25735	0.5–1	QBT3	8560	—	55 (J+)	—	—	—	21.6	—	—	—	—	—	—	—	0.865 (J-)	—	1.59 (U)	—	—	—	—
RE21-06-68559	21-25735	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.854 (J-)	—	1.57 (U)	—	—	—	—
RE21-06-68560	21-25736	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.11 (J-)	—	1.55 (U)	—	—	—	—
RE21-06-68561	21-25736	0.5–1	QBT3	10500	—	102 (J+)	—	—	2400	13.8	3.62	6.87	-	15.4	1850 (J+)	—	—	0.996 (J-)	—	1.55 (U)	—	—	20.1	—
RE21-06-68562	21-25736	1.5–2	QBT3	14000	—	109 (J+)	—	—	—	16.2	-	5.3	—	—	2040 (J+)	—	7.5	0.985 (J-)	—	1.69 (U)	—	—	—	—
RE21-06-68563	21-25737	0–0.5	SOIL	30000	—	—	—	—	—	—	—	—	—	—	—	—	—	1.57 (J-)	—	1.68 (U)	—	2.5	—	50.7
RE21-06-68564	21-25737	0.5–1	QBT3	30200	4.36	237 (J+)	—	—	2990	23.9	—	8.18	17200	—	3650 (J+)	—	8	0.99 (J-)	—	1.7 (U)	—	—	25.7	—
RE21-06-68565	21-25737	1.5–2	QBT3	11400	—	159 (J+)	—	—	—	7.38	—	—	—	—	1930 (J+)	—	—	0.947 (J-)	—	1.57 (U)	—	—	—	—
RE21-06-68567	21-25738	0.5–1	QBT3	14700	2.9	95.9 (J+)	—	—	2240	11.3	—	6.89	-	11.6	1780 (J+)	—	—	1.67 (J-)	—	1.6 (U)	—	—	19.9	—
RE21-06-68568	21-25738	1.5–2	QBT3	—	—	85.1 (J+)	—	—	10600 (J)	22.9	—	—	—	—	—	—	—	3.23	—	1.56 (U)	—	—	—	—
RE21-06-68569	21-25739	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.09	—	1.56 (U)	—	—	—	—
RE21-06-68570	21-25739	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.02 (J)	0.000896 (J)	1.59 (U)	—	—	—	—

Table 6.2-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**1690**	**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**1**	**2.4**	**17**	**63.5**
Soil BV[a]				**29200**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**217000**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**795000**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**78000**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**54800**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**391**	**23500**
RE21-06-68571	21-25739	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.948 (J)	—	1.59 (U)	—	—	—	—
RE21-06-68572	21-25740	0–0.5	SOIL	—	—	—	—	0.513 (U)	—	—	—	—	—	—	—	—	—	0.982 (J)	—	—	—	—	—	—
RE21-06-68573	21-25740	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.985 (J)	—	—	—	—	—	—
RE21-06-68574	21-25740	1.5–2	SOIL	—	—	—	—	0.586 (U)	—	—	—	—	—	—	—	—	—	1.03 (J)	—	1.76 (U)	—	—	—	—
RE21-06-68575	21-25741	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.02	—	—	—	2.07	—	55
RE21-06-68576	21-25741	0.5–1	SOIL	—	—	—	—	—	—	—	—	15.2	—	23	—	0.11	—	1.47	—	—	—	2.44	—	99.9
RE21-06-68577	21-25741	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.09	—	1.68 (U)	—	—	—	63.1
MD21-07-74338	21-25748	14–15	QBT3	—	—	67.7	—	—	10400	18.4	—	30.8 (J)	—	35.9 (J)	1980 (J+)	1.77 (J)	—	2.35	0.000568 (J)	1.53 (U)	1.22	8.56	—	—
MD21-07-74339	21-25750	2.5–3	SOIL	—	—	—	—	—	—	—	—	—	—	23.6 (J+)	—	0.111	—	—	0.000882 (J)	1.72 (U)	—	—	—	64
MD21-07-74340	21-25750	4–4.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.000821 (J)	—	—	—	—	49.9
MD21-07-74341	21-25751	4–4.5	QBT3	7680 (J+)	2.88	135	—	—	3010 (J)	7.42	—	24.3	15400	32.4 (J+)	—	1.7	—	1.47	0.000885 (J)	0.897 (J)	—	9.56 (J+)	—	105
MD21-07-74342	21-25751	6–6.5	QBT3	—	—	80.2	—	—	3600 (J)	—	—	11.2	—	14 (J+)	—	1.64	—	1.18	0.000978 (J)	1.61 (U)	—	10.2 (J+)	—	69.3
MD21-07-74343	21-25752	2.33–3.33	SOIL	—	—	—	—	—	12700 (J)	—	—	—	—	-	—	0.399	—	0.611 (J)	0.000799 (J)	1.96	—	4.88 (J-)	—	—
MD21-07-74344	21-25752	3.83–4.83	QBT3	—	—	—	—	—	5290 (J)	—	—	—	—	—	—	—	—	0.535 (J)	—	0.838 (J)	—	2.93 (J-)	—	—
MD21-07-74345	21-25753	2.33–3.33	SOIL	—	—	—	—	—	—	—	—	—	—	41.4 (J-)	—	0.315	—	0.652 (J)	0.000569 (J)	1.63 (U)	—	—	—	49.2 (J-)
MD21-07-74346	21-25753	3.83–4.83	QBT3	—	—	—	—	—	—	12	—	—	—	—	—	—	—	—	—	1.47 (U)	—	—	—	-
RE21-06-68640	21-25758	1.5–2	QBT3	—	—	—	—	—	—	8.58	—	—	—	—	—	—	—	1.11	—	—	—	—	—	—
RE21-06-68646	21-25761	1.5–2	QBT3	9820 (J+)	—	51.8	—	—	—	13.8	—	7	—	—	—	—	—	4.37	0.000728 (J)	—	—	—	—	—
RE21-06-68648	21-25762	1.5–2	SOIL	-	—	—	—	—	—	—	—	—	—	—	—	0.119	—	4.9	0.00111 (J)	—	—	—	—	—
MD21-09-8980	21-25763	5–6	SOIL	NA	—	NA	NA	NA	NA	—	—	NA	NA	—	NA	—	NA	NA	NA	NA	1.1 (U)	—	NA	—
RE21-06-68652	21-25764	1.5–2	SOIL	—	—	—	—	0.542 (U)	—	—	—	—	—	—	—	—	—	3.73	—	—	—	2.01	—	—
RE21-06-68653	21-25765	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	0.147	—	12.7	—	—	—	—	—	—
RE21-06-68654	21-25765	1.5–2	QBT3	11200 (J+)	3.01 (J-)	50.8	—	—	2380	11.6	—	5.86	—	11.5	—	—	—	3.54	—	—	—	—	—	—
RE21-06-68655	21-25766	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.4	0.00184 (J)	—	—	4.27	—	—
RE21-06-68656	21-25766	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.83	0.000608 (J)	—	—	—	—	—
RE21-06-68657	21-25767	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.8	—	1.58 (U)	—	2.05 (J)	—	—
RE21-06-68658	21-25767	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.54	0.000937 (J)	1.48 (U)	—	—	—	—
RE21-06-68659	21-25768	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.5	0.00224	—	—	2.1 (J)	—	—
RE21-06-68660	21-25768	1.5–2	QBT3	—	—	—	—	—	4900	7.28	—	—	—	—	—	—	—	8.41	0.000607 (J)	1.49 (U)	—	—	—	—
RE21-06-68661	21-25769	0–0.5	SOIL	—	—	—	—	—	-	—	—	—	—	—	—	—	—	8	0.000557 (J)	—	—	—	—	—
RE21-06-68662	21-25769	1.5–2	QBT3	—	—	—	—	—	2500	9.91	—	—	—	11.5	—	—	—	2.08	—	1.47 (U)	—	—	—	—

Table 6.2-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**1690**	**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**1**	**2.4**	**17**	**63.5**
Soil BV[a]				**29200**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**217000**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**795000**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**78000**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**54800**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**391**	**23500**
RE21-06-68663	21-25770	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.92	—	—	—	—	—	—
RE21-06-68664	21-25770	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.939 (J)	—	1.49 (U)	—	—	—	—
RE21-06-68665	21-25771	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.87	0.000562 (J)	—	—	2.54 (J)	—	—
RE21-06-68666	21-25771	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.995 (J)	—	1.53 (U)	—	—	—	—
MD21-09-8982	21-605290	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	57
MD21-09-8987	21-605293	0–0.05	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	NA	NA	NA	NA	—	NA	—
MD21-09-8988	21-605294	0–0.05	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20 (J)	NA	NA	NA	NA	NA	NA
MD21-09-8989	21-605295	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.4	NA	NA	NA	NA	NA	NA
MD21-11-24226	21-614563	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	112	NA	NA	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971) unless otherwise noted.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

[h] NA = Not analyzed.

Table 6.2-3
Organic Chemicals Detected at Consolidated Unit 21-003-99 and SWMU 21-024(c)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
RE21-06-68436	21-25704	1.5–2	SOIL	—[d]	0.00956 (J+)	—	—	0.0064 (J)	—	0.007 (J-)	0.0114 (J-)	—	—	—	—	—	—
RE21-06-68440	21-25706	0–0.5	SOIL	—	NA[e]	—	—	—	—	0.0056	0.0071	NA	—	—	—	—	—
RE21-06-68441	21-25706	0.5–1	SOIL	—	0.0273 (J+)	—	—	—	—	—	—	—	—	—	—	—	—
RE21-06-68442	21-25706	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-06-68443	21-25707	0–0.5	SOIL	—	NA	—	—	—	—	0.0744	0.104	NA	—	—	—	—	—
RE21-06-68444	21-25707	0.5–1	SOIL	—	0.00928 (J+)	—	—	—	—	0.0047 (J-)	0.0068 (J-)	—	—	—	—	—	—
RE21-06-68445	21-25707	1.5–2	SOIL	—	0.0228 (J+)	—	—	0.254 (J)	—	—	—	—	—	—	—	—	—
RE21-06-68446	21-25708	0–0.5	SOIL	—	NA	—	—	—	—	0.104	0.268	NA	—	—	—	—	—
RE21-06-68447	21-25708	0.5–1	SOIL	—	0.00936 (J+)	—	—	—	—	0.0204 (J-)	0.0605 (J-)	—	—	—	—	—	—
RE21-06-68448	21-25708	1.5–2	SOIL	—	0.0291 (J+)	—	—	—	—	0.0053 (J-)	0.0142 (J-)	—	—	—	—	—	—
RE21-06-68449	21-25709	0–0.5	SOIL	—	NA	—	—	—	—	0.0097	0.0378	NA	—	—	—	—	—
RE21-06-68450	21-25709	0.5–1	SOIL	—	0.0089 (J+)	—	—	—	—	0.0052 (J-)	0.0134 (J-)	—	—	—	—	—	—
RE21-06-68451	21-25709	1.5–2	SOIL	—	—	—	—	0.006 (J)	—	0.0029 (J-)	0.0032 (J-)	—	—	—	—	—	—
RE21-06-68452	21-25710	0–0.5	SOIL	—	NA	—	—	—	—	0.009	0.0394	NA	—	—	—	—	—
RE21-06-68453	21-25710	0.5–1	SOIL	—	—	—	—	—	—	—	0.0074 (J-)	—	—	—	—	—	—
RE21-06-68454	21-25710	1.5–2	SOIL	—	0.0144 (J+)	—	—	—	—	—	0.0068 (J-)	—	—	—	—	—	—
RE21-06-68458	21-25712	0–0.5	SOIL	—	NA	—	—	—	—	0.0506	0.0669	NA	—	—	—	—	—
RE21-06-68459	21-25712	0.5–1	SOIL	—	—	—	—	—	—	0.0103	0.0183	—	—	—	—	—	—
RE21-06-68460	21-25712	1.5–2	SOIL	—	—	—	—	—	—	0.0051 (J-)	0.0098 (J-)	—	—	—	—	—	—
RE21-06-68461	21-25713	0–0.5	SOIL	—	NA	—	—	—	—	0.13	0.143	NA	—	—	—	—	—
RE21-06-68462	21-25713	0.5–1	QBT3	—	—	—	—	0.00336 (J)	—	0.0076	0.0091	—	—	—	—	—	—
RE21-06-68463	21-25713	1.5–2	QBT3	—	—	—	—	—	—	—	0.0028 (J)	—	—	—	—	—	—
RE21-06-68464	21-25714	0–0.5	SOIL	—	NA	—	—	—	—	0.269	0.356	NA	—	—	—	—	—
RE21-06-68465	21-25714	0.5–1	SOIL	—	—	—	—	—	—	0.0528	0.082	—	—	—	—	—	—
RE21-06-68466	21-25714	1.5–2	QBT3	—	—	—	—	—	—	—	0.0024 (J)	—	—	—	—	—	—
RE21-06-68467	21-25715	0–0.5	SOIL	—	NA	—	—	—	—	0.107	0.102	NA	—	—	—	—	—
RE21-06-68468	21-25715	0.5–1	SOIL	—	—	—	—	—	—	0.0103	0.0114	—	—	—	—	—	—
RE21-06-68469	21-25715	1.5–2	QBT3	—	—	—	—	—	—	0.0049	0.0036 (J)	—	—	—	—	—	—
RE21-06-68470	21-25716	0–0.5	SOIL	—	NA	0.00761 (J)	—	0.138	—	0.0545	0.0638	NA	—	—	—	—	—
RE21-06-68471	21-25716	0.5–1	QBT3	—	—	—	—	—	—	0.0017 (J)	0.002 (J)	—	—	—	—	—	—

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000[b]**
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000[c]**
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000[c]**
RE21-06-68474	21-25717	0.5–1	QBT3	—	—	—	—	—	—	0.12	0.172	—	—	—	—	—	—
RE21-06-68475	21-25717	1.5–2	QBT3	—	—	—	—	—	—	0.023	0.033	—	—	—	—	—	—
RE21-06-68476	21-25718	0–0.5	SOIL	0.381	NA	—	—	—	—	—	0.0029 (J)	NA	—	—	—	—	—
RE21-06-68478	21-25718	1.5–2	QBT3	—	—	—	—	—	—	0.0034 (J)	0.002 (J)	-	—	—	—	—	—
RE21-06-68479	21-25719	0–0.5	SOIL	—	NA	0.00863 (J)	—	—	—	0.344	0.583	NA	0.0452	—	—	—	—
RE21-06-68480	21-25719	0.5–1	QBT3	—	—	—	—	—	—	0.0159	0.0402	—	—	—	—	—	—
RE21-06-68481	21-25719	1.5–2	QBT3	—	—	—	—	—	—	0.0031 (J)	0.0087	—	—	—	—	—	—
RE21-06-68482	21-25720	0–0.5	SOIL	—	NA	—	—	—	—	0.293	0.401	NA	—	—	—	—	—
RE21-06-68483	21-25720	0.5–1	QBT3	—	—	—	—	—	—	0.0026 (J)	0.0069	—	—	—	—	—	—
RE21-06-68484	21-25720	1.5–2	QBT3	—	—	—	—	—	—	0.301	0.61	—	0.0108 (J)	—	0.0439	—	—
RE21-06-68502	21-25722	0–0.5	SOIL	—	NA	—	—	—	—	—	—	NA	—	—	—	—	—
RE21-06-68503	21-25722	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-06-68504	21-25722	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-06-68507	21-25723	0.5–1	QBT3	—	—	—	—	—	—	0.058	0.118	—	—	—	—	—	—
RE21-06-68508	21-25723	1.5–2	QBT3	—	—	—	—	—	—	0.0227	0.0393	—	-	—	0.026 (J)	—	—
RE21-06-68511	21-25724	0.5–1	QBT3	—	—	—	—	—	—	0.167	0.235	—	-	—	—	—	—
RE21-06-68512	21-25724	1.5–2	QBT3	—	—	—	—	—	—	0.0184	0.0277	—	-	—	—	—	—
RE21-06-68514	21-25725	0–0.5	SOIL	—	NA	—	—	—	—	0.0478	0.0571	NA	-	—	—	—	—
RE21-06-68515	21-25725	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-06-72611	21-25725	3–3.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-06-68518	21-25726	0–0.5	SOIL	—	NA	—	—	—	—	0.0169	0.0235	NA	—	—	—	—	—
RE21-06-68519	21-25726	0.5–1	QBT3	0.259	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-06-68521	21-25727	0–0.5	SOIL	—	NA	—	—	—	—	0.0094	0.0096	NA	—	—	—	—	—
RE21-06-68522	21-25727	0.5–1	QBT3	—	—	—	—	—	—	0.0042	0.0062	—	—	—	—	—	—
RE21-06-68523	21-25727	1.5–2	QBT3	—	—	—	—	—	—	0.0033 (J)	0.0055	—	—	—	—	—	—
RE21-06-68524	21-25728	0–0.5	SOIL	—	NA	—	—	—	—	0.0397	0.0365	NA	—	—	—	—	—
RE21-06-68525	21-25728	0.5–1	QBT3	—	—	—	—	—	—	0.0064	0.0066	—	—	—	—	—	—
RE21-06-68526	21-25728	1.5–2	QBT3	—	—	—	—	—	—	0.0106	0.0094	—	—	—	—	—	—
RE21-06-68527	21-25729	0–0.5	SOIL	—	NA	—	—	—	—	0.005	0.0043	NA	—	—	—	—	—
RE21-06-68528	21-25729	0.5–1	QBT3	—	—	—	—	—	—	-	0.0024 (J)	—	—	—	—	—	—
RE21-06-68530	21-25730	0–0.5	SOIL	0.0407	NA	—	—	—	—	0.0699	0.1	NA	—	—	—	—	—

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
RE21-06-68532	21-25730	0.5–1	QBT3	—	—	—	—	—	—	0.0092	0.0158	—	—	—	—	—	—
RE21-06-68533	21-25730	1.5–2	QBT3	—	—	—	—	—	—	0.0048	0.0081	—	—	—	—	—	—
RE21-06-68534	21-25731	0–0.5	SOIL	—	NA	—	—	—	—	0.0241	0.0363	NA	—	—	—	—	—
RE21-06-68536	21-25731	0.5–1	QBT3	—	—	—	—	—	—	0.0043	0.0067	—	—	—	—	—	—
RE21-06-68537	21-25731	1.5–2	QBT3	—	—	—	—	—	—	0.0023 (J)	0.0029 (J)	—	—	—	—	—	—
RE21-06-68548	21-25732	0–0.5	SOIL	—	NA	—	—	—	—	0.0065	0.0155	NA	—	—	—	—	—
RE21-06-68549	21-25732	0.5–1	QBT3	—	—	—	—	—	—	0.0026 (J)	0.0019 (J)	—	—	—	—	—	—
RE21-06-68551	21-25733	0–0.5	SOIL	—	NA	—	—	—	—	0.203	0.646	NA	—	0.087 (J)	—	—	—
RE21-06-68552	21-25733	0.5–1	QBT3	—	—	—	—	—	—	0.0068	0.0209	—	—	—	—	—	—
RE21-06-68553	21-25733	1.5–2	QBT3	—	—	—	—	—	—	0.0056	0.0176	—	—	—	—	—	—
RE21-06-68554	21-25734	0–0.5	SOIL	—	NA	—	—	—	—	0.0136	0.0563	NA	—	—	—	—	0.459 (J)
RE21-06-68555	21-25734	0.5–1	SOIL	—	—	—	—	—	—	0.0029 (J)	0.0038	0.000662 (J)	—	—	—	—	—
RE21-06-68556	21-25734	1.5–2	QBT3	—	—	—	—	—	—	—	0.0029 (J)	—	—	—	—	—	—
RE21-06-68557	21-25735	0–0.5	SOIL	—	NA	—	—	—	—	0.0943	0.236	NA	—	—	—	—	—
RE21-06-68558	21-25735	0.5–1	QBT3	—	—	—	—	—	—	0.0273	0.0118	—	—	—	—	—	—
RE21-06-68559	21-25735	1.5–2	QBT3	—	—	—	—	—	—	—	0.0042	—	—	—	—	—	—
RE21-06-68560	21-25736	0–0.5	SOIL	—	—	—	—	—	—	0.0024 (J)	0.0038	NA	—	—	—	—	—
RE21-06-68562	21-25736	1.5–2	QBT3	—	—	—	—	—	—	—	0.0019 (J)	—	—	—	—	—	—
RE21-06-68563	21-25737	0–0.5	SOIL	—	NA	—	—	—	—	0.0678	0.257	NA	—	0.0126 (J)	0.0297 (J)	—	—
RE21-06-68564	21-25737	0.5–1	QBT3	—	—	—	—	—	—	0.0142	0.0631	—	—	—	—	—	—
RE21-06-68565	21-25737	1.5–2	QBT3	—	—	—	—	—	—	—	0.0039	—	—	—	—	—	—
RE21-06-68567	21-25738	0.5–1	QBT3	—	—	—	—	—	—	0.157	0.267	—	—	—	—	—	—
RE21-06-68568	21-25738	1.5–2	QBT3	—	—	—	—	—	—	0.0394	0.0551	—	—	—	—	—	—
RE21-06-68569	21-25739	0–0.5	QBT3	—	NA	—	—	—	0.0985	0.0622	0.0168	NA	—	—	—	—	—
RE21-06-68570	21-25739	0.5–1	QBT3	—	—	—	—	—	0.0197	0.0111	0.002 (J)	—	—	—	—	—	—
RE21-06-68571	21-25739	1.5–2	QBT3	—	—	—	—	—	0.0073	0.0037	—	—	—	—	—	—	—
RE21-06-68572	21-25740	0–0.5	SOIL	—	NA	—	—	—	—	0.0788	0.0392	NA	—	—	—	—	—
RE21-06-68573	21-25740	0.5–1	SOIL	—	—	—	—	—	—	0.195	0.209	—	—	—	—	—	—
RE21-06-68574	21-25740	1.5–2	SOIL	—	—	—	—	—	—	0.0796	0.0887	—	—	—	—	—	—
RE21-06-68575	21-25741	0–0.5	SOIL	—	NA	—	—	—	0.167	0.194	0.277	NA	—	—	—	—	—
RE21-06-68576	21-25741	0.5–1	SOIL	—	—	—	—	—	0.157	0.191	0.275	—	—	—	—	—	—

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000[b]**
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000[c]**
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000[c]**
RE21-06-68577	21-25741	1.5–2	SOIL	—	—	—	—	—	—	0.094	0.106	—	—	—	—	—	—
MD21-07-74338	21-25748	14–15	QBT3	—	—	—	—	—	—	2.98	1.16	—	—	—	—	—	—
MD21-07-74339	21-25750	2.5–3	SOIL	—	—	0.0196 (J)	—	0.0532 (J-)	—	0.0801 (J)	0.041 (J-)	—	—	0.0384	0.039	0.0317 (J)	—
MD21-07-74340	21-25750	4–4.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-07-74341	21-25751	4–4.5	QBT3	—	—	—	—	—	—	0.0553 (J)	0.095 (J-)	—	—	—	—	—	—
MD21-07-74342	21-25751	6–6.5	QBT3	—	—	—	—	—	—	0.0621 (J)	0.0674 (J-)	—	—	—	—	—	—
MD21-07-74343	21-25752	2.33–3.33	SOIL	—	NA	—	NA	NA	NA	NA	NA	NA	—	—	—	—	—
MD21-09-9860	21-25752	3.8–4.8	SOIL	NA	NA	NA	—	—	—	—	0.071	NA	NA	NA	NA	NA	NA
MD21-07-74346	21-25753	3.83–4.83	QBT3	—	—	0.00737 (J)	NA	NA	NA	NA	NA	—	—	—	—	—	—
RE21-06-68640	21-25758	1.5–2	QBT3	—	—	—	—	—	—	0.166	0.0906	—	—	—	—	—	—
RE21-06-68646	21-25761	1.5–2	QBT3	—	—	—	—	—	—	0.0752	0.057	—	—	—	—	—	—
RE21-06-68648	21-25762	1.5–2	SOIL	—	—	—	—	—	—	0.506	0.0718	—	—	—	—	—	—
RE21-06-68652	21-25764	1.5–2	SOIL	—	—	—	—	—	—	0.169	0.0644	—	—	—	—	—	—
RE21-06-68653	21-25765	0–0.5	SOIL	—	NA	—	—	—	—	0.0999	0.0631	NA	—	—	—	—	—
RE21-06-68654	21-25765	1.5–2	QBT3	—	—	—	—	—	—	0.01	0.0098	—	—	—	—	—	—
RE21-06-68655	21-25766	0–0.5	SOIL	—	NA	—	—	—	—	0.0356	0.0213	NA	—	—	—	—	—
RE21-06-68656	21-25766	1.5–2	QBT3	—	—	—	—	—	—	0.0027 (J)	—	—	—	—	—	—	—
RE21-06-68657	21-25767	0–0.5	SOIL	—	NA	—	—	—	—	0.0952	0.0828	NA	—	—	—	—	—
RE21-06-68658	21-25767	1.5–2	QBT3	—	—	—	—	—	—	0.0037	0.0026 (J)	—	—	—	—	—	—
RE21-06-68659	21-25768	0–0.5	SOIL	—	NA	—	—	—	—	0.0204	0.0194	NA	—	—	—	—	—
RE21-06-68660	21-25768	1.5–2	QBT3	—	—	—	—	—	—	0.0064	0.0073	—	—	—	—	—	—
RE21-06-68661	21-25769	0–0.5	SOIL	—	NA	—	—	—	—	0.0151	0.0238	NA	—	—	—	—	—
RE21-06-68662	21-25769	1.5–2	QBT3	—	—	—	—	—	—	—	0.0023 (J)	—	—	—	—	—	—
RE21-06-68663	21-25770	0–0.5	SOIL	—	NA	—	—	—	—	—	0.002 (J)	NA	—	—	—	—	—
RE21-06-68665	21-25771	0–0.5	SOIL	—	NA	—	—	—	—	—	0.0075	NA	—	—	—	—	—
RE21-09-2642	21-604461	0–0.5	QBT3	NA	NA	NA	—	—	—	0.23	0.44	NA	NA	NA	NA	NA	NA
RE21-09-2643	21-604461	0.5–1	QBT3	NA	NA	NA	—	—	—	0.081	0.15	NA	NA	NA	NA	NA	NA
RE21-09-2644	21-604461	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.059	NA	NA	NA	NA	NA	NA
RE21-09-2645	21-604462	0–0.5	SOIL	NA	NA	NA	—	—	0.15	—	0.26	NA	NA	NA	NA	NA	NA
RE21-09-2646	21-604462	0.5–1	QBT3	NA	NA	NA	—	—	0.021 (J)	—	0.047	NA	NA	NA	NA	NA	NA
RE21-09-2648	21-604463	0–0.5	SOIL	NA	NA	NA	—	—	—	0.1	0.15 (J)	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
RE21-09-2649	21-604463	0.5–1	SOIL	NA	NA	NA	—	—	—	0.53 (J-)	0.32 (J-)	NA	NA	NA	NA	NA	NA
RE21-09-2650	21-604463	1.5–2	QBT3	NA	NA	NA	—	—	—	0.1	0.069 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2651	21-604464	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.049	NA	NA	NA	NA	NA	NA
RE21-09-2652	21-604464	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.023 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2655	21-604465	0.5–1	QBT3	NA	NA	NA	—	—	—	0.51	0.33	NA	NA	NA	NA	NA	NA
RE21-09-2656	21-604465	1.5–2	QBT3	NA	NA	NA	—	—	—	0.092	0.18	NA	NA	NA	NA	NA	NA
RE21-09-2662	21-604467	1.5–2	SOIL	NA	NA	NA	—	—	—	0.13	0.28	NA	NA	NA	NA	NA	NA
RE21-09-2665	21-604468	1.5–2	SOIL	NA	NA	NA	—	—	—	0.087	0.16 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2669	21-604470	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.083	NA	NA	NA	NA	NA	NA
RE21-09-2672	21-604471	0–0.5	SOIL	NA	NA	NA	—	—	—	0.059	0.11	NA	NA	NA	NA	NA	NA
RE21-09-2673	21-604471	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.52 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2674	21-604471	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.015 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2675	21-604472	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.11	NA	NA	NA	NA	NA	NA
RE21-09-2676	21-604472	0.5–1	QBT3	NA	NA	NA	—	—	—	0.036 (J)	0.023 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2677	21-604472	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.0086 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2680	21-604473	1.5–2	QBT3	NA	NA	NA	—	—	—	0.23	0.44	NA	NA	NA	NA	NA	NA
RE21-09-2681	21-604474	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.95	NA	NA	NA	NA	NA	NA
RE21-09-2682	21-604474	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.31	NA	NA	NA	NA	NA	NA
RE21-09-2683	21-604474	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.14	NA	NA	NA	NA	NA	NA
RE21-09-2685	21-604475	0.5–1	SOIL	NA	NA	NA	—	—	—	0.3	0.58 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2686	21-604475	1.5–2	SOIL	NA	NA	NA	—	—	—	—	0.02 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2687	21-604476	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.1	NA	NA	NA	NA	NA	NA
RE21-09-2699	21-604480	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.43	NA	NA	NA	NA	NA	NA
RE21-09-2700	21-604480	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.064	NA	NA	NA	NA	NA	NA
RE21-09-2701	21-604480	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.018 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2702	21-604481	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.13	NA	NA	NA	NA	NA	NA
RE21-09-2703	21-604481	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.03 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2704	21-604481	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.016 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2705	21-604482	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.061	NA	NA	NA	NA	NA	NA
RE21-09-2706	21-604482	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.017 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2708	21-604483	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.25	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000[b]**
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000[c]**
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000[c]**
RE21-09-2709	21-604483	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.16	NA	NA	NA	NA	NA	NA
RE21-09-2710	21-604483	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.079	NA	NA	NA	NA	NA	NA
RE21-09-2711	21-604484	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.15	NA	NA	NA	NA	NA	NA
RE21-09-2712	21-604484	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.044	NA	NA	NA	NA	NA	NA
RE21-09-2713	21-604485	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.48 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2714	21-604485	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.03 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2721	21-604489	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.038	NA	NA	NA	NA	NA	NA
MD21-09-9864	21-605366	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.85	NA	NA	NA	NA	NA	NA
MD21-09-9865	21-605366	1.5–2	SOIL	NA	NA	NA	—	—	—	—	0.27	NA	NA	NA	NA	NA	NA
MD21-09-9867	21-605367	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.35 (J)	NA	NA	NA	NA	NA	NA
MD21-09-9868	21-605367	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.19	NA	NA	NA	NA	NA	NA
MD21-09-9869	21-605368	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.061	NA	NA	NA	NA	NA	NA
MD21-09-9870	21-605368	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.1 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10518	21-605368	3–3.5	QBT3	NA	NA	NA	—	—	—	—	0.044	NA	NA	NA	NA	NA	NA
MD21-09-9872	21-605369	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.19	NA	NA	NA	NA	NA	NA
MD21-09-9873	21-605369	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.054	NA	NA	NA	NA	NA	NA
MD21-09-9876	21-605370	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.25	NA	NA	NA	NA	NA	NA
MD21-09-9877	21-605370	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.12	NA	NA	NA	NA	NA	NA
MD21-09-9879	21-605371	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.041	NA	NA	NA	NA	NA	NA
MD21-09-9884	21-605372	1.5–2	SOIL	NA	NA	NA	—	—	—	0.17	0.082	NA	NA	NA	NA	NA	NA
MD21-09-9885	21-605373	0–0.5	SOIL	NA	NA	NA	—	—	—	0.14 (J)	0.39	NA	NA	NA	NA	NA	NA
MD21-09-9886	21-605373	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.087	NA	NA	NA	NA	NA	NA
MD21-09-9888	21-605374	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.12	NA	NA	NA	NA	NA	NA
MD21-09-9891	21-605375	0–0.5	SOIL	NA	NA	NA	—	—	—	0.31	0.65	NA	NA	NA	NA	NA	NA
MD21-09-9892	21-605375	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.86	NA	NA	NA	NA	NA	NA
MD21-09-9893	21-605375	1.5–2	QBT3	NA	NA	NA	—	—	—	0.22	0.43	NA	NA	NA	NA	NA	NA
MD21-09-9895	21-605376	0.5–1	QBT3	NA	NA	NA	—	—	—	0.12	0.2	NA	NA	NA	NA	NA	NA
MD21-09-9896	21-605376	1.5–2	QBT3	NA	NA	NA	—	—	—	0.13	0.22	NA	NA	NA	NA	NA	NA
MD21-09-9897	21-605377	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.1	NA	NA	NA	NA	NA	NA
MD21-09-9900	21-605378	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.17	NA	NA	NA	NA	NA	NA
MD21-09-9901	21-605378	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.019 (J)	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
MD21-09-9902	21-605378	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.072 (J)	NA	NA	NA	NA	NA	NA
MD21-09-9903	21-605378	3–3.5	QBT3	NA	NA	NA	—	—	—	—	0.018 (J)	NA	NA	NA	NA	NA	NA
MD21-09-9904	21-605379	0–0.5	QBT3	NA	NA	NA	—	—	—	—	0.81	NA	NA	NA	NA	NA	NA
MD21-09-9905	21-605379	0.5–1	QBT3	NA	NA	NA	—	—	—	—	0.078	NA	NA	NA	NA	NA	NA
MD21-09-9906	21-605379	1.5–2	QBT3	NA	NA	NA	—	—	—	—	0.09 (J-)	NA	NA	NA	NA	NA	NA
MD21-09-9907	21-605380	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.042	NA	NA	NA	NA	NA	NA
MD21-09-9909	21-605380	1.5–2	SOIL	NA	NA	NA	—	—	—	0.12	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10519	21-605532	0–0.5	SOIL	NA	NA	NA	—	—	—	—	0.77 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10521	21-605533	0.5–1	SOIL	NA	NA	NA	—	—	—	—	0.02 (J)	NA	NA	NA	NA	NA	NA
MD21-09-9415	21-605617	10–10.5	QBT3	NA	NA	NA	—	—	—	0.095	0.16	NA	NA	NA	NA	NA	NA
MD21-09-9416	21-605618	10–10.5	QBT3	NA	NA	NA	—	—	—	0.23	0.24	NA	NA	NA	NA	NA	NA
MD21-09-9417	21-605619	10–10.5	QBT3	NA	NA	NA	—	—	—	0.26	0.33	NA	NA	NA	NA	NA	NA
MD21-09-9418	21-605620	4.75–5.25	QBT3	NA	NA	NA	—	—	—	0.066	0.15	NA	NA	NA	NA	NA	NA
MD21-09-10409	21-605698	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.071	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10410	21-605699	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.1	0.23	NA	NA	NA	NA	NA	NA
MD21-09-10411	21-605700	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.076	0.15	NA	NA	NA	NA	NA	NA
MD21-09-10412	21-605701	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.068	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10413	21-605702	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.061	0.1	NA	NA	NA	NA	NA	NA
MD21-09-10414	21-605703	2.66–2.75	QBT3	NA	NA	NA	—	—	—	0.032 (J)	0.063	NA	NA	NA	NA	NA	NA
MD21-09-10415	21-605704	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.071	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10418	21-605707	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.025 (J)	0.061	NA	NA	NA	NA	NA	NA
MD21-09-10419	21-605708	2.66–2.75	SOIL	NA	NA	NA	—	—	—	—	0.03 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10420	21-605709	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.065	0.11	NA	NA	NA	NA	NA	NA
MD21-09-10421	21-605710	2.66–2.75	SOIL	NA	NA	NA	—	—	—	—	0.033 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10422	21-605711	2.66–2.75	QBT3	NA	NA	NA	—	—	—	0.046	0.068	NA	NA	NA	NA	NA	NA
MD21-09-10423	21-605712	2.66–2.75	QBT3	NA	NA	NA	—	—	—	—	0.041	NA	NA	NA	NA	NA	NA
MD21-09-10424	21-605713	2.66–2.75	SOIL	NA	NA	NA	—	—	—	—	0.012 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10425	21-605714	2.66–2.75	QBT3	NA	NA	NA	—	—	—	—	0.014 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10426	21-605715	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.051	0.1	NA	NA	NA	NA	NA	NA
MD21-09-10427	21-605716	2.66–2.75	QBT3	NA	NA	NA	—	—	—	0.022 (J)	0.041	NA	NA	NA	NA	NA	NA
MD21-09-10428	21-605717	2.66–2.75	SOIL	NA	NA	NA	—	—	—	—	0.039	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000[b]**
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000[c]**
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000[c]**
MD21-09-10429	21-605718	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.023 (J)	0.08	NA	NA	NA	NA	NA	NA
MD21-09-10430	21-605719	2.66–2.75	SOIL	NA	NA	NA	—	—	—	—	0.088	NA	NA	NA	NA	NA	NA
MD21-09-10431	21-605720	2.66–2.75	SOIL	NA	NA	NA	—	—	—	—	0.096	NA	NA	NA	NA	NA	NA
MD21-09-10432	21-605721	2.66–2.75	SOIL	NA	NA	NA	—	—	—	—	0.011 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10433	21-605722	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.046	0.14	NA	NA	NA	NA	NA	NA
MD21-09-10434	21-605723	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.084	0.092	NA	NA	NA	NA	NA	NA
MD21-09-10435	21-605724	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.39	0.25	NA	NA	NA	NA	NA	NA
MD21-09-10438	21-605727	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.59	0.34 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10439	21-605728	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.045 (J)	0.023 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10440	21-605729	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.3	0.48	NA	NA	NA	NA	NA	NA
MD21-09-10443	21-605732	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.031 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10445	21-605734	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.018 (J)	0.053	NA	NA	NA	NA	NA	NA
MD21-09-10446	21-605735	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.036	NA	NA	NA	NA	NA	NA
MD21-09-10448	21-605737	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.093	0.098	NA	NA	NA	NA	NA	NA
MD21-09-10449	21-605738	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.087	NA	NA	NA	NA	NA	NA
MD21-09-10450	21-605739	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10451	21-605740	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.025 (J)	0.052	NA	NA	NA	NA	NA	NA
MD21-09-10452	21-605741	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.16	NA	NA	NA	NA	NA	NA
MD21-09-10453	21-605742	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.088	NA	NA	NA	NA	NA	NA
MD21-09-10454	21-605743	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.057	0.15	NA	NA	NA	NA	NA	NA
MD21-09-10455	21-605744	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.48	0.29 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10456	21-605745	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.11	0.2 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10457	21-605746	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.33	NA	NA	NA	NA	NA	NA
MD21-09-10458	21-605747	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.24	NA	NA	NA	NA	NA	NA
MD21-09-10459	21-605748	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.55	NA	NA	NA	NA	NA	NA
MD21-09-10460	21-605749	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.057	NA	NA	NA	NA	NA	NA
MD21-09-10462	21-605751	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.17	NA	NA	NA	NA	NA	NA
MD21-09-10463	21-605752	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.47	NA	NA	NA	NA	NA	NA
MD21-09-10464	21-605753	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.027 (J)	0.072	NA	NA	NA	NA	NA	NA
MD21-09-10465	21-605754	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.23	NA	NA	NA	NA	NA	NA
MD21-09-10466	21-605755	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.043	0.1	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
MD21-09-10467	21-605756	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.022 (J)	0.082	NA	NA	NA	NA	NA	NA
MD21-10-1940	21-605759	2.66–2.75	SOIL	NA	NA	NA	—	—	0.0523	0.132	0.244	NA	NA	NA	NA	NA	NA
MD21-09-10475	21-605764	0.66–0.75	SOIL	NA	NA	NA	—	—	—	—	0.79	NA	NA	NA	NA	NA	NA
MD21-09-10476	21-605765	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.31 (J)	0.44	NA	NA	NA	NA	NA	NA
MD21-09-10768	21-605766	1.5–1.75	SOIL	NA	NA	NA	—	—	—	0.17 (J)	0.24 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10479	21-605768	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.3 (J-)	0.49 (J-)	NA	NA	NA	NA	NA	NA
MD21-09-10480	21-605769	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.2	0.21	NA	NA	NA	NA	NA	NA
MD21-09-10481	21-605770	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.11 (J)	0.18 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10482	21-605771	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.17	0.27	NA	NA	NA	NA	NA	NA
MD21-09-13221	21-605772	2.66–2.75	QBT3	NA	NA	NA	—	—	—	0.12	0.214	NA	NA	NA	NA	NA	NA
MD21-09-10487	21-605776	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.13 (J)	0.4	NA	NA	NA	NA	NA	NA
MD21-09-10488	21-605777	2.16–2.25	SOIL	NA	NA	NA	—	—	—	0.29	0.62	NA	NA	NA	NA	NA	NA
MD21-09-13202	21-605777	2.16–2.25	SOIL	NA	NA	NA	—	—	—	0.11 (J)	0.25	NA	NA	NA	NA	NA	NA
MD21-09-10510	21-607149	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.027 (J)	0.1	NA	NA	NA	NA	NA	NA
MD21-09-10511	21-607150	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.12	0.24	NA	NA	NA	NA	NA	NA
MD21-09-10512	21-607151	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.16 (J)	0.43	NA	NA	NA	NA	NA	NA
MD21-09-10514	21-607153	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.03 (J)	0.064	NA	NA	NA	NA	NA	NA
MD21-09-10528	21-607687	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.048 (J)	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10529	21-607688	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.15	0.29	NA	NA	NA	NA	NA	NA
MD21-09-10530	21-607689	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.047 (J)	0.17	NA	NA	NA	NA	NA	NA
MD21-09-10531	21-607690	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.056 (J)	0.16	NA	NA	NA	NA	NA	NA
MD21-09-10532	21-607691	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.047	0.13	NA	NA	NA	NA	NA	NA
MD21-09-10533	21-607692	1.66–1.75	SOIL	NA	NA	NA	—	—	—	—	0.31	NA	NA	NA	NA	NA	NA
MD21-09-10534	21-607693	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.02 (J)	0.051	NA	NA	NA	NA	NA	NA
MD21-09-10535	21-607694	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.021 (J)	0.072	NA	NA	NA	NA	NA	NA
MD21-09-10536	21-607695	1.66–1.75	SOIL	NA	NA	NA	—	—	—	—	0.28	NA	NA	NA	NA	NA	NA
MD21-09-10540	21-607699	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.14	0.22	NA	NA	NA	NA	NA	NA
MD21-09-10541	21-607700	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.2 (J)	0.69	NA	NA	NA	NA	NA	NA
MD21-09-10546	21-607705	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.11 (J)	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10547	21-607706	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.1 (J)	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10548	21-607707	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.22	0.59	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
MD21-09-10550	21-607709	1.66–1.75	SOIL	NA	NA	NA	—	—	0.03 (J)	—	0.13 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13220	21-607710	3.16–3.25	QBT3	NA	NA	NA	—	—	0.0233	0.044	0.0732	NA	NA	NA	NA	NA	NA
MD21-09-10552	21-607711	1.66–1.76	SOIL	NA	NA	NA	—	—	—	0.069 (J)	0.12 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10553	21-607712	1.66–1.75	SOIL	NA	NA	NA	—	—	0.051	—	0.15 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10554	21-607713	1.66–1.75	SOIL	NA	NA	NA	0.43 (J)	—	—	—	—	NA	NA	NA	NA	NA	NA
MD21-09-10555	21-607714	1.66–1.75	SOIL	NA	NA	NA	—	—	0.16 (J)	—	0.053 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10556	21-607715	1.66–1.75	SOIL	NA	NA	NA	—	—	0.037 (J)	—	0.17 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10559	21-607718	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.27 (J)	0.18 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10560	21-607719	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.12 (J)	0.15 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10563	21-607722	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.059 (J)	0.21 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10564	21-607723	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.084 (J)	0.19 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10565	21-607724	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.16 (J)	0.38 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10566	21-607725	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.31	0.64 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10567	21-607726	4.16–4.25	QBT3	NA	NA	NA	—	—	—	0.15 (J)	—	NA	NA	NA	NA	NA	NA
MD21-09-10568	21-607727	10.16–10.25	QBT3	NA	NA	NA	—	—	—	0.79 (J)	0.19 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10569	21-607728	4.16–4.25	SOIL	NA	NA	NA	—	—	—	0.44 (J)	0.19 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10570	21-607729	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.042 (J)	0.095 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10571	21-607730	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.11 (J)	0.21 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10572	21-607731	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.16 (J)	0.3 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10574	21-607733	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.29 (J)	0.61 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13199	21-607738	5.16–5.25	QBT3	NA	NA	NA	—	—	—	0.15 (J)	0.33	NA	NA	NA	NA	NA	NA
MD21-09-10582	21-607741	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.41	0.18	NA	NA	NA	NA	NA	NA
MD21-09-10583	21-607742	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.24	0.27	NA	NA	NA	NA	NA	NA
MD21-10-1948	21-607744	5.16–5.25	QBT3	NA	NA	NA	—	—	—	0.0387	0.0404	NA	NA	NA	NA	NA	NA
MD21-09-10586	21-607745	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.042	0.034 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10587	21-607746	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.11	0.1 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10588	21-607747	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.091	0.12 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10589	21-607748	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.12	0.075 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10590	21-607749	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.2	0.13 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10591	21-607750	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.092	0.038 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10592	21-607751	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.24	0.17 (J)	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
MD21-09-10594	21-607753	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.23	0.17 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13210	21-607754	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.33 (J)	0.49	NA	NA	NA	NA	NA	NA
MD21-09-13211	21-607756	2.66–2.75	QBT3	NA	NA	NA	—	—	—	0.17 (J)	0.16	NA	NA	NA	NA	NA	NA
MD21-10-1947	21-607763	5.16–5.25	QBT3	NA	NA	NA	—	—	—	0.0562	0.0672	NA	NA	NA	NA	NA	NA
MD21-09-10605	21-607764	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.14	0.3	NA	NA	NA	NA	NA	NA
MD21-09-10606	21-607765	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.22	0.3	NA	NA	NA	NA	NA	NA
MD21-09-10607	21-607766	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.063	0.1	NA	NA	NA	NA	NA	NA
MD21-09-10608	21-607767	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.05 (J)	0.087 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10609	21-607768	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.075	0.18	NA	NA	NA	NA	NA	NA
MD21-09-10610	21-607769	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.2	0.27	NA	NA	NA	NA	NA	NA
MD21-09-10611	21-607770	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.1	0.18	NA	NA	NA	NA	NA	NA
MD21-09-10612	21-607771	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.22 (J)	0.46 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10613	21-607772	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.19	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10614	21-607773	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.52	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10615	21-607774	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.04	0.065	NA	NA	NA	NA	NA	NA
MD21-09-10616	21-607775	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.043	0.07	NA	NA	NA	NA	NA	NA
MD21-09-10617	21-607776	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.077	0.13	NA	NA	NA	NA	NA	NA
MD21-09-10618	21-607777	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.13	0.18 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10620	21-607779	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.35	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10621	21-607780	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.14 (J)	0.39	NA	NA	NA	NA	NA	NA
MD21-09-10622	21-607781	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.58	0.4	NA	NA	NA	NA	NA	NA
MD21-10-1946	21-607782	2.66–2.75	QBT3	NA	NA	NA	—	—	—	0.134	0.124	NA	NA	NA	NA	NA	NA
MD21-09-10625	21-607784	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.31	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10628	21-607787	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.19	0.26	NA	NA	NA	NA	NA	NA
MD21-09-10629	21-607788	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.18	0.25	NA	NA	NA	NA	NA	NA
MD21-09-13204	21-607790	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.12 (J)	0.18 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10633	21-607792	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.33	0.54	NA	NA	NA	NA	NA	NA
MD21-09-10636	21-607795	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.29	0.46	NA	NA	NA	NA	NA	NA
MD21-09-10637	21-607796	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.27	0.35	NA	NA	NA	NA	NA	NA
MD21-09-10638	21-607797	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.21	0.27	NA	NA	NA	NA	NA	NA
MD21-09-10639	21-607798	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.16	0.22	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
MD21-09-10640	21-607799	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.15	0.2	NA	NA	NA	NA	NA	NA
MD21-09-10641	21-607800	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.078	0.1	NA	NA	NA	NA	NA	NA
MD21-09-10642	21-607801	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.069	0.052	NA	NA	NA	NA	NA	NA
MD21-09-10643	21-607802	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.057	0.071	NA	NA	NA	NA	NA	NA
MD21-09-10644	21-607803	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.26	0.54	NA	NA	NA	NA	NA	NA
MD21-09-10645	21-607804	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.02 (J)	0.019 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13215	21-607812	5.66–5.75	QBT3	NA	NA	NA	—	—	—	0.099 (J)	0.22	NA	NA	NA	NA	NA	NA
MD21-09-10654	21-607813	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.12	0.21	NA	NA	NA	NA	NA	NA
MD21-09-10655	21-607814	4.66–4.75	SOIL	NA	NA	NA	—	—	—	0.079	0.074	NA	NA	NA	NA	NA	NA
MD21-09-10656	21-607815	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.04	0.042	NA	NA	NA	NA	NA	NA
MD21-09-10657	21-607816	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.026 (J)	0.026 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10658	21-607817	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.059	0.057	NA	NA	NA	NA	NA	NA
MD21-09-10659	21-607818	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.058	0.054	NA	NA	NA	NA	NA	NA
MD21-09-10660	21-607819	4.66–4.75	SOIL	NA	NA	NA	—	—	—	0.22	0.32	NA	NA	NA	NA	NA	NA
MD21-09-10661	21-607820	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.21	0.32	NA	NA	NA	NA	NA	NA
MD21-09-10663	21-607822	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.03 (J)	0.03 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13214	21-607824	5.66–5.75	QBT3	NA	NA	NA	—	—	—	0.027 (J)	0.044	NA	NA	NA	NA	NA	NA
MD21-09-10666	21-607825	4.66–4.75	QBT3	NA	NA	NA	—	—	—	0.21	0.25	NA	NA	NA	NA	NA	NA
MD21-09-10667	21-607826	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.084	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10668	21-607827	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.17	0.27	NA	NA	NA	NA	NA	NA
MD21-09-10669	21-607828	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.25	0.39	NA	NA	NA	NA	NA	NA
MD21-09-10670	21-607829	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.28	0.27	NA	NA	NA	NA	NA	NA
MD21-09-10671	21-607830	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.058	0.066	NA	NA	NA	NA	NA	NA
MD21-09-10672	21-607831	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.068	0.062	NA	NA	NA	NA	NA	NA
MD21-09-10673	21-607832	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.056	0.06	NA	NA	NA	NA	NA	NA
MD21-09-10674	21-607833	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.085	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10675	21-607834	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.14	0.14	NA	NA	NA	NA	NA	NA
MD21-09-10676	21-607835	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.069	0.068	NA	NA	NA	NA	NA	NA
MD21-09-10677	21-607836	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.059	0.081	NA	NA	NA	NA	NA	NA
MD21-09-10678	21-607837	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.12	0.16	NA	NA	NA	NA	NA	NA
MD21-09-10679	21-607838	1.66–1.75	QBT3	NA	NA	NA	—	—	—	0.076	0.068	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000[b]**
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000[c]**
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000[c]**
MD21-09-10680	21-607839	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.25	0.51	NA	NA	NA	NA	NA	NA
MD21-09-10681	21-607840	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.25	0.53	NA	NA	NA	NA	NA	NA
MD21-09-10682	21-607841	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.12	0.25	NA	NA	NA	NA	NA	NA
MD21-09-10683	21-607842	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.016 (J)	0.024 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10684	21-607843	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.034 (J)	0.05	NA	NA	NA	NA	NA	NA
MD21-09-10695	21-607844	0.66–75	QBT3	NA	NA	NA	—	—	—	0.062	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10696	21-607845	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.036	0.078	NA	NA	NA	NA	NA	NA
MD21-09-10697	21-607846	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.086	0.16	NA	NA	NA	NA	NA	NA
MD21-09-10698	21-607847	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.1	0.2	NA	NA	NA	NA	NA	NA
MD21-09-10699	21-607848	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.12	0.23	NA	NA	NA	NA	NA	NA
MD21-09-10700	21-607849	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.08	0.16	NA	NA	NA	NA	NA	NA
MD21-09-10701	21-607850	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.16	0.29	NA	NA	NA	NA	NA	NA
MD21-09-10702	21-607851	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.19	0.33	NA	NA	NA	NA	NA	NA
MD21-09-10703	21-607852	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.18	0.29	NA	NA	NA	NA	NA	NA
MD21-09-10704	21-607853	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.43	0.52	NA	NA	NA	NA	NA	NA
MD21-09-13207	21-607855	1.16–1.25	SOIL	NA	NA	NA	—	—	—	0.14 (J)	0.25 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10707	21-607856	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.18	0.28	NA	NA	NA	NA	NA	NA
MD21-09-10708	21-607857	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.11	0.17	NA	NA	NA	NA	NA	NA
MD21-09-10709	21-607858	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.15	0.2	NA	NA	NA	NA	NA	NA
MD21-09-10710	21-607859	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.27	0.34	NA	NA	NA	NA	NA	NA
MD21-09-10711	21-607860	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.13	0.21	NA	NA	NA	NA	NA	NA
MD21-09-10712	21-607861	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.091	0.13	NA	NA	NA	NA	NA	NA
MD21-09-10713	21-607862	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.21	0.27	NA	NA	NA	NA	NA	NA
MD21-09-10714	21-607863	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.34	0.48	NA	NA	NA	NA	NA	NA
MD21-09-10715	21-607864	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.3	0.37	NA	NA	NA	NA	NA	NA
MD21-09-10716	21-607865	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.16	0.24	NA	NA	NA	NA	NA	NA
MD21-09-10717	21-607866	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.17	0.23	NA	NA	NA	NA	NA	NA
MD21-09-10718	21-607867	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.098	0.13	NA	NA	NA	NA	NA	NA
MD21-09-10719	21-607868	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.19	0.23	NA	NA	NA	NA	NA	NA
MD21-09-10721	21-607870	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.26	0.38	NA	NA	NA	NA	NA	NA
MD21-09-10722	21-607871	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.15	0.27	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000**[b]
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000**[c]
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000**[c]
MD21-09-10723	21-607872	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.073	0.11	NA	NA	NA	NA	NA	NA
MD21-09-10724	21-607873	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.11	0.17	NA	NA	NA	NA	NA	NA
MD21-09-10725	21-607874	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.19	0.4	NA	NA	NA	NA	NA	NA
MD21-09-10726	21-607875	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.23	0.3	NA	NA	NA	NA	NA	NA
MD21-09-10727	21-607876	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.14	0.25	NA	NA	NA	NA	NA	NA
MD21-09-10730	21-607879	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.12	0.15	NA	NA	NA	NA	NA	NA
MD21-09-10737	21-607886	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.3	0.34	NA	NA	NA	NA	NA	NA
MD21-09-10738	21-607887	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.36	0.43	NA	NA	NA	NA	NA	NA
MD21-09-13217	21-607888	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.24	0.34	NA	NA	NA	NA	NA	NA
MD21-09-10740	21-607889	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.25	0.31	NA	NA	NA	NA	NA	NA
MD21-09-10741	21-607890	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.28	0.39	NA	NA	NA	NA	NA	NA
MD21-09-10742	21-607891	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.25	0.34	NA	NA	NA	NA	NA	NA
MD21-09-10744	21-607893	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.13	0.18	NA	NA	NA	NA	NA	NA
MD21-09-10745	21-607894	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.074	0.14	NA	NA	NA	NA	NA	NA
MD21-09-10746	21-607895	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.27	0.2	NA	NA	NA	NA	NA	NA
MD21-09-10748	21-607897	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.095	0.16	NA	NA	NA	NA	NA	NA
MD21-09-10749	21-607898	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.2	0.19	NA	NA	NA	NA	NA	NA
MD21-09-10752	21-607901	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.41	0.18	NA	NA	NA	NA	NA	NA
MD21-09-10753	21-607902	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.019 (J)	0.01 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10755	21-607904	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.43	0.22	NA	NA	NA	NA	NA	NA
MD21-09-10756	21-607905	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.2	0.13	NA	NA	NA	NA	NA	NA
MD21-09-10757	21-607906	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.037	0.043	NA	NA	NA	NA	NA	NA
MD21-09-10758	21-607907	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.11	0.085	NA	NA	NA	NA	NA	NA
MD21-09-10759	21-607908	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.018 (J)	0.012 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10760	21-607909	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.08	0.044	NA	NA	NA	NA	NA	NA
MD21-09-10761	21-607910	0.66–0.75	SOIL	NA	NA	NA	—	—	—	0.096	0.099	NA	NA	NA	NA	NA	NA
MD21-09-10762	21-607911	0.66–0.75	QBT3	NA	NA	NA	—	—	—	0.32	0.12	NA	NA	NA	NA	NA	NA
MD21-09-10765	21-607912	4–4.5	QBT3	NA	NA	NA	—	—	—	0.31	0.68	NA	NA	NA	NA	NA	NA
MD21-09-10769	21-607918	1.5–1.75	SOIL	NA	NA	NA	—	—	—	0.046 (J)	0.08 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10771	21-607920	1.5–1.75	SOIL	NA	NA	NA	—	—	—	0.18 (J)	0.35 (J)	NA	NA	NA	NA	NA	NA
MD21-09-10772	21-607921	1.5–1.75	SOIL	NA	NA	NA	—	—	—	0.17 (J)	0.36 (J)	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1016	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Benzene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzoic Acid
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**15.3**	**75.8**	**75.8**	**4.36**	**75.8**	**138**	**213**	**21.3**	**213**	**2060**	**1080000[b]**
Industrial SSL[a]				**36700**	**868000**	**183000**	**41.3**	**8.26**	**8.26**	**8.26**	**8.26**	**84.7**	**23.4**	**2.34**	**23.4**	**234**	**3300000[c]**
Residential SSL[a]				**3440**	**66600**	**17200**	**3.93**	**2.22**	**2.22**	**1.12**	**2.22**	**15.4**	**1.48**	**0.148**	**1.48**	**14.8**	**250000[c]**
MD21-09-10774	21-607923	1–1.25	SOIL	NA	NA	NA	—	—	—	0.11 (J)	0.19 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13197	21-608084	5.16–5.25	SOIL	NA	NA	NA	—	—	—	0.32 (J)	0.57	NA	NA	NA	NA	NA	NA
MD21-09-13219	21-608087	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.164	0.351	NA	NA	NA	NA	NA	NA
MD21-09-13201	21-608088	2.16–2.25	SOIL	NA	NA	NA	—	—	—	0.16 (J)	0.35	NA	NA	NA	NA	NA	NA
MD21-09-13205	21-608092	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.21 (J)	0.16 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13208	21-608095	1.16–1.25	SOIL	NA	NA	NA	—	—	—	0.22 (J)	0.47 (J)	NA	NA	NA	NA	NA	NA
MD21-09-13209	21-608096	2.66–2.75	SOIL	NA	NA	NA	—	—	—	0.046 (J)	0.057	NA	NA	NA	NA	NA	NA
MD21-09-13216	21-608103	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.087	0.11	NA	NA	NA	NA	NA	NA
MD21-09-13218	21-608105	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.031 (J)	0.039 (J)	NA	NA	NA	NA	NA	NA
MD21-10-1941	21-608835	0.66–0.75	SOIL	NA	NA	NA	—	—	0.167	0.343	0.354	NA	NA	NA	NA	NA	NA
MD21-10-1942	21-608836	2.66–2.75	SOIL	NA	NA	NA	—	—	0.0266	0.0636	0.132	NA	NA	NA	NA	NA	NA
MD21-10-1943	21-608837	5.16–5.25	QBT3	NA	NA	NA	—	—	0.008	0.0192	0.0394	NA	NA	NA	NA	NA	NA
MD21-10-1945	21-608839	1.66–1.75	SOIL	NA	NA	NA	—	—	—	0.0574	0.0502	NA	NA	NA	NA	NA	NA
MD21-10-1949	21-608843	5.16–5.25	QBT3	NA	NA	NA	—	—	—	0.0381	0.0278	NA	NA	NA	NA	NA	NA
MD21-10-1951	21-608845	5.16–5.25	QBT3	NA	NA	NA	—	—	—	0.0145	0.0176	NA	NA	NA	NA	NA	NA
MD21-10-1953	21-608847	3.16–3.25	SOIL	NA	NA	NA	—	—	—	0.33 (J)	0.5	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
RE21-06-68436	21-25704	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68440	21-25706	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68441	21-25706	0.5–1	SOIL	—	—	—	—	—	—	—	—	0.000648 (J)	—	NA	NA	NA	NA
RE21-06-68442	21-25706	1.5–2	SOIL	—	—	—	—	—	0.0579 (J)	—	—	—	—	NA	NA	NA	NA
RE21-06-68443	21-25707	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.205 (J)	NA	NA	NA	NA
RE21-06-68444	21-25707	0.5–1	SOIL	—	—	—	—	—	—	—	—	0.000367 (J)	—	NA	NA	NA	NA
RE21-06-68445	21-25707	1.5–2	SOIL	—	—	—	—	—	—	—	—	0.000325 (J)	—	NA	NA	NA	NA
RE21-06-68446	21-25708	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.813 (J)	NA	NA	NA	NA
RE21-06-68447	21-25708	0.5–1	SOIL	—	—	—	—	—	—	—	—	0.000268 (J)	0.216 (J)	NA	NA	NA	NA
RE21-06-68448	21-25708	1.5–2	SOIL	—	—	—	—	—	—	—	—	0.000281 (J)	0.219 (J)	NA	NA	NA	NA
RE21-06-68449	21-25709	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68450	21-25709	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68451	21-25709	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68452	21-25710	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68453	21-25710	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68454	21-25710	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68458	21-25712	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68459	21-25712	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68460	21-25712	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68461	21-25713	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68462	21-25713	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68463	21-25713	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68464	21-25714	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68465	21-25714	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68466	21-25714	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68467	21-25715	0–0.5	SOIL	—	—	NA	NA	0.15 (J+)	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68468	21-25715	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
RE21-06-68469	21-25715	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68470	21-25716	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.0919	NA	NA	NA	NA
RE21-06-68471	21-25716	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68474	21-25717	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68475	21-25717	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68476	21-25718	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68478	21-25718	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68479	21-25719	0–0.5	SOIL	—	0.231	NA	NA	—	0.0507 (J)	—	NA	NA	0.0445	NA	NA	NA	NA
RE21-06-68480	21-25719	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68481	21-25719	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68482	21-25720	0–0.5	SOIL	—	—	NA	NA	0.0208 (J)	—	—	NA	NA	0.0377	NA	NA	NA	NA
RE21-06-68483	21-25720	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68484	21-25720	1.5–2	QBT3	—	—	—	—	0.0301 (J)	—	—	—	—	0.0643	NA	NA	NA	NA
RE21-06-68502	21-25722	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.905 (J)	NA	NA	NA	NA
RE21-06-68503	21-25722	0.5–1	SOIL	—	—	0.000246 (J)	—	—	—	—	0.00118	—	—	NA	NA	NA	NA
RE21-06-68504	21-25722	1.5–2	QBT3	—	—	0.000245 (J)	—	—	—	—	0.00109 (J)	—	0.213 (J)	NA	NA	NA	NA
RE21-06-68507	21-25723	0.5–1	QBT3	—	—	—	—	—	—	—	0.00115 (J)	—	0.225 (J)	NA	NA	NA	NA
RE21-06-68508	21-25723	1.5–2	QBT3	—	—	—	—	—	—	—	0.000411 (J)	—	0.218 (J)	NA	NA	NA	NA
RE21-06-68511	21-25724	0.5–1	QBT3	—	—	—	—	—	—	—	0.000582 (J)	—	—	NA	NA	NA	NA
RE21-06-68512	21-25724	1.5–2	QBT3	—	0.232 (J)	—	—	—	—	—	—	—	0.211 (J)	NA	NA	NA	NA
RE21-06-68514	21-25725	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.342 (J)	NA	NA	NA	NA
RE21-06-68515	21-25725	0.5–1	SOIL	—	—	—	—	—	—	—	0.000862 (J)	—	—	NA	NA	NA	NA
RE21-06-72611	21-25725	3–3.5	SOIL	—	—	—	—	—	—	—	—	—	—	3.67E-06	6.83E-06	1.75E-06 (J)	1.75E-06
RE21-06-68518	21-25726	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.219 (J)	NA	NA	NA	NA
RE21-06-68519	21-25726	0.5–1	QBT3	—	—	—	—	—	—	—	0.000706 (J)	—	—	NA	NA	NA	NA
RE21-06-68521	21-25727	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.229 (J)	NA	NA	NA	NA
RE21-06-68522	21-25727	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	0.214 (J)	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
RE21-06-68523	21-25727	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68524	21-25728	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.244 (J)	NA	NA	NA	NA
RE21-06-68525	21-25728	0.5–1	QBT3	—	—	0.000293 (J)	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68526	21-25728	1.5–2	QBT3	—	—	0.000485 (J)	—	—	—	—	—	—	0.207 (J)	NA	NA	NA	NA
RE21-06-68527	21-25729	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68528	21-25729	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68530	21-25730	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.208 (J)	NA	NA	NA	NA
RE21-06-68532	21-25730	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68533	21-25730	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68534	21-25731	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.204 (J)	NA	NA	NA	NA
RE21-06-68536	21-25731	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	0.226 (J)	NA	NA	NA	NA
RE21-06-68537	21-25731	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68548	21-25732	0–0.5	SOIL	—	—	NA	NA	0.017 (J)	—	—	NA	NA	0.0268 (J)	NA	NA	NA	NA
RE21-06-68549	21-25732	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68551	21-25733	0–0.5	SOIL	—	—	NA	NA	0.42	—	—	NA	NA	0.723	NA	NA	NA	NA
RE21-06-68552	21-25733	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68553	21-25733	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68554	21-25734	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.0223 (J)	NA	NA	NA	NA
RE21-06-68555	21-25734	0.5–1	SOIL	—	—	—	—	—	—	—	0.00122	0.00248	—	NA	NA	NA	NA
RE21-06-68556	21-25734	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68557	21-25735	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68558	21-25735	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68559	21-25735	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68560	21-25736	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68562	21-25736	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68563	21-25737	0–0.5	SOIL	0.232 (J)	—	NA	NA	0.0167 (J)	—	—	NA	NA	0.0295 (J)	NA	NA	NA	NA
RE21-06-68564	21-25737	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
RE21-06-68565	21-25737	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68567	21-25738	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68568	21-25738	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68569	21-25739	0–0.5	QBT3	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68570	21-25739	0.5–1	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68571	21-25739	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68572	21-25740	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68573	21-25740	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	0.137 (J)	NA	NA	NA	NA
RE21-06-68574	21-25740	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68575	21-25741	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.0257 (J)	NA	NA	NA	NA
RE21-06-68576	21-25741	0.5–1	SOIL	—	—	—	—	—	—	—	—	—	0.0154 (J)	NA	NA	NA	NA
RE21-06-68577	21-25741	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
MD21-07-74338	21-25748	14–15	QBT3	—	0.252	—	—	—	0.0592 (J)	—	—	—	—	NA	NA	NA	NA
MD21-07-74339	21-25750	2.5–3	SOIL	—	—	—	0.000394 (J)	0.0355 (J)	—	0.0248	—	—	0.114	NA	NA	NA	NA
MD21-07-74340	21-25750	4–4.5	SOIL	—	—	—	0.000443 (J)	—	—	0.162 (J)	—	—	0.0127 (J)	NA	NA	NA	NA
MD21-07-74341	21-25751	4–4.5	QBT3	—	—	—	—	—	—	0.007	—	—	0.0344 (J)	NA	NA	NA	NA
MD21-07-74342	21-25751	6–6.5	QBT3	—	—	—	—	—	—	0.00882	—	—	0.0244 (J)	NA	NA	NA	NA
MD21-07-74343	21-25752	2.33–3.33	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.0173 (J)	NA	NA	NA	NA
MD21-09-9860	21-25752	3.8–4.8	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-07-74346	21-25753	3.83–4.83	QBT3	—	—	—	—	—	—	—	—	—	0.0112 (J)	NA	NA	NA	NA
RE21-06-68640	21-25758	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68646	21-25761	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68648	21-25762	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68652	21-25764	1.5–2	SOIL	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68653	21-25765	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.026 (J)	NA	NA	NA	NA
RE21-06-68654	21-25765	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68655	21-25766	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
RE21-06-68656	21-25766	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68657	21-25767	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.0207 (J)	NA	NA	NA	NA
RE21-06-68658	21-25767	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68659	21-25768	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.0183 (J)	NA	NA	NA	NA
RE21-06-68660	21-25768	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68661	21-25769	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68662	21-25769	1.5–2	QBT3	—	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
RE21-06-68663	21-25770	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	—	NA	NA	NA	NA
RE21-06-68665	21-25771	0–0.5	SOIL	—	—	NA	NA	—	—	—	NA	NA	0.0227 (J)	NA	NA	NA	NA
RE21-09-2642	21-604461	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2643	21-604461	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2644	21-604461	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2645	21-604462	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2646	21-604462	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2648	21-604463	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2649	21-604463	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2650	21-604463	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2651	21-604464	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2652	21-604464	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2655	21-604465	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2656	21-604465	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2662	21-604467	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2665	21-604468	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2669	21-604470	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2672	21-604471	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2673	21-604471	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2674	21-604471	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
RE21-09-2675	21-604472	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2676	21-604472	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2677	21-604472	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2680	21-604473	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2681	21-604474	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2682	21-604474	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2683	21-604474	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2685	21-604475	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2686	21-604475	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2687	21-604476	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2699	21-604480	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2700	21-604480	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2701	21-604480	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2702	21-604481	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2703	21-604481	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2704	21-604481	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2705	21-604482	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2706	21-604482	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2708	21-604483	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2709	21-604483	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2710	21-604483	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2711	21-604484	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2712	21-604484	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2713	21-604485	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2714	21-604485	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2721	21-604489	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9864	21-605366	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-9865	21-605366	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9867	21-605367	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9868	21-605367	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9869	21-605368	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9870	21-605368	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10518	21-605368	3–3.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9872	21-605369	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9873	21-605369	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9876	21-605370	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9877	21-605370	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9879	21-605371	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9884	21-605372	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9885	21-605373	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9886	21-605373	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9888	21-605374	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9891	21-605375	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9892	21-605375	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9893	21-605375	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9895	21-605376	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9896	21-605376	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9897	21-605377	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9900	21-605378	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9901	21-605378	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9902	21-605378	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9903	21-605378	3–3.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9904	21-605379	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9905	21-605379	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-9906	21-605379	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9907	21-605380	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9909	21-605380	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10519	21-605532	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10521	21-605533	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9415	21-605617	10–10.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9416	21-605618	10–10.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9417	21-605619	10–10.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9418	21-605620	4.75–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10409	21-605698	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10410	21-605699	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10411	21-605700	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10412	21-605701	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10413	21-605702	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10414	21-605703	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10415	21-605704	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10418	21-605707	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10419	21-605708	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10420	21-605709	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10421	21-605710	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10422	21-605711	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10423	21-605712	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10424	21-605713	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10425	21-605714	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10426	21-605715	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10427	21-605716	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10428	21-605717	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10429	21-605718	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10430	21-605719	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10431	21-605720	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10432	21-605721	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10433	21-605722	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10434	21-605723	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10435	21-605724	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10438	21-605727	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10439	21-605728	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10440	21-605729	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10443	21-605732	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10445	21-605734	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10446	21-605735	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10448	21-605737	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10449	21-605738	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10450	21-605739	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10451	21-605740	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10452	21-605741	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10453	21-605742	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10454	21-605743	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10455	21-605744	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10456	21-605745	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10457	21-605746	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10458	21-605747	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10459	21-605748	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10460	21-605749	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10462	21-605751	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10463	21-605752	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10464	21-605753	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10465	21-605754	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10466	21-605755	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10467	21-605756	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1940	21-605759	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10475	21-605764	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10476	21-605765	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10768	21-605766	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10479	21-605768	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10480	21-605769	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10481	21-605770	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10482	21-605771	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13221	21-605772	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10487	21-605776	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10488	21-605777	2.16–2.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13202	21-605777	2.16–2.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10510	21-607149	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10511	21-607150	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10512	21-607151	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10514	21-607153	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10528	21-607687	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10529	21-607688	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10530	21-607689	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10531	21-607690	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10532	21-607691	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10533	21-607692	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10534	21-607693	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10535	21-607694	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10536	21-607695	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10540	21-607699	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10541	21-607700	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10546	21-607705	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10547	21-607706	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10548	21-607707	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10550	21-607709	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13220	21-607710	3.16–3.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10552	21-607711	1.66–1.76	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10553	21-607712	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10554	21-607713	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10555	21-607714	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10556	21-607715	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10559	21-607718	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10560	21-607719	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10563	21-607722	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10564	21-607723	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10565	21-607724	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10566	21-607725	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10567	21-607726	4.16–4.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10568	21-607727	10.16–10.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10569	21-607728	4.16–4.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10570	21-607729	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10571	21-607730	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10572	21-607731	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10574	21-607733	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13199	21-607738	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10582	21-607741	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10583	21-607742	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1948	21-607744	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10586	21-607745	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10587	21-607746	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10588	21-607747	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10589	21-607748	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10590	21-607749	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10591	21-607750	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10592	21-607751	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10594	21-607753	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13210	21-607754	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13211	21-607756	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1947	21-607763	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10605	21-607764	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10606	21-607765	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10607	21-607766	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10608	21-607767	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10609	21-607768	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10610	21-607769	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10611	21-607770	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10612	21-607771	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10613	21-607772	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10614	21-607773	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10615	21-607774	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10616	21-607775	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10617	21-607776	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10618	21-607777	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10620	21-607779	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10621	21-607780	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10622	21-607781	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1946	21-607782	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10625	21-607784	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10628	21-607787	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10629	21-607788	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13204	21-607790	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10633	21-607792	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10636	21-607795	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10637	21-607796	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10638	21-607797	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10639	21-607798	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10640	21-607799	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10641	21-607800	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10642	21-607801	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10643	21-607802	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10644	21-607803	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10645	21-607804	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13215	21-607812	5.66–5.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10654	21-607813	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10655	21-607814	4.66–4.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10656	21-607815	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10657	21-607816	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10658	21-607817	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10659	21-607818	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10660	21-607819	4.66–4.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10661	21-607820	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10663	21-607822	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13214	21-607824	5.66–5.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10666	21-607825	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10667	21-607826	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10668	21-607827	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10669	21-607828	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10670	21-607829	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10671	21-607830	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10672	21-607831	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10673	21-607832	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10674	21-607833	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10675	21-607834	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10676	21-607835	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10677	21-607836	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10678	21-607837	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10679	21-607838	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10680	21-607839	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10681	21-607840	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10682	21-607841	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10683	21-607842	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10684	21-607843	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10695	21-607844	0.66–75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10696	21-607845	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10697	21-607846	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10698	21-607847	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10699	21-607848	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10700	21-607849	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10701	21-607850	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10702	21-607851	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10703	21-607852	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10704	21-607853	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13207	21-607855	1.16–1.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10707	21-607856	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10708	21-607857	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10709	21-607858	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10710	21-607859	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10711	21-607860	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10712	21-607861	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10713	21-607862	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10714	21-607863	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10715	21-607864	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10716	21-607865	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10717	21-607866	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10718	21-607867	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10719	21-607868	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10721	21-607870	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10722	21-607871	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10723	21-607872	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10724	21-607873	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10725	21-607874	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10726	21-607875	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10727	21-607876	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10730	21-607879	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10737	21-607886	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10738	21-607887	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13217	21-607888	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10740	21-607889	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10741	21-607890	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10742	21-607891	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10744	21-607893	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10745	21-607894	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10746	21-607895	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10748	21-607897	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10749	21-607898	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10752	21-607901	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10753	21-607902	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10755	21-607904	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10756	21-607905	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10757	21-607906	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10758	21-607907	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10759	21-607908	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10760	21-607909	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10761	21-607910	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10762	21-607911	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10765	21-607912	4–4.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10769	21-607918	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10771	21-607920	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Benzyl Alcohol	Bis(2-ethylhexyl)phthalate	Butylbenzene[sec-]	Chlorobenzene	Chrysene	Di-n-butylphthalate	Dichlorobenzene[1,4-]	Dichloroethene[1,1-]	Ethylbenzene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)
Construction Worker SSL[a]				**26900**[b]	**4760**	**35400**[b]	**406**	**20600**	**23800**	**831**	**432**	**1830**	**8910**	**na**[f]	**na**	**na**	**na**
Industrial SSL[a]				**82000**[c]	**1370**	**120000**[c]	**2120**	**2340**	**68400**	**177**	**2290**	**378**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**6200**[c]	**347**	**7800**[c]	**376**	**148**	**6110**	**31.7**	**449**	**68.4**	**2290**	**na**	**na**	**na**	**na**
MD21-09-10772	21-607921	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10774	21-607923	1–1.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13197	21-608084	5.16–5.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13219	21-608087	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13201	21-608088	2.16–2.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13205	21-608092	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13208	21-608095	1.16–1.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13209	21-608096	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13216	21-608103	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13218	21-608105	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1941	21-608835	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1942	21-608836	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1943	21-608837	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1945	21-608839	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1949	21-608843	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1951	21-608845	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1953	21-608847	3.16–3.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
RE21-06-68436	21-25704	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68440	21-25706	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68441	21-25706	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.00654	—	0.000935 (J)	0.00253
RE21-06-68442	21-25706	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68443	21-25707	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68444	21-25707	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.0038	—	0.000512 (J)	0.00135 (J)
RE21-06-68445	21-25707	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.00329	—	0.000462 (J)	0.00114 (J)
RE21-06-68446	21-25708	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68447	21-25708	0.5–1	SOIL	NA	0.0219	—	NA	NA	NA	—	0.013 (J)	—	—	0.00194	—	—	0.000961 (J)
RE21-06-68448	21-25708	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.00366	—	—	0.00104 (J)
RE21-06-68449	21-25709	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68450	21-25709	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	—	0.00178	—	—	—	0.000405 (J)
RE21-06-68451	21-25709	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68452	21-25710	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68453	21-25710	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.000469 (J)	—	—	—
RE21-06-68454	21-25710	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.000595 (J)	—	—	0.000454 (J)
RE21-06-68458	21-25712	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68459	21-25712	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68460	21-25712	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68461	21-25713	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68462	21-25713	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68463	21-25713	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68464	21-25714	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68465	21-25714	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68466	21-25714	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68467	21-25715	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	0.113 (J+)	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810[g]**	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743[h]**
Industrial SSL[a]				**na**	**14500[g]**	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980[h]**
Residential SSL[a]				**na**	**2430[g]**	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814[h]**
RE21-06-68468	21-25715	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68469	21-25715	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68470	21-25716	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0452	0.0941	NA	NA	NA	NA	NA	NA
RE21-06-68471	21-25716	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68474	21-25717	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	0.000489 (J)	—	—
RE21-06-68475	21-25717	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68476	21-25718	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68478	21-25718	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68479	21-25719	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0251 (J)	0.087	NA	NA	NA	NA	NA	NA
RE21-06-68480	21-25719	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68481	21-25719	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68482	21-25720	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.019 (J)	0.0365	NA	NA	NA	NA	NA	NA
RE21-06-68483	21-25720	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68484	21-25720	1.5–2	QBT3	NA	—	—	NA	NA	NA	0.0399	0.0561	—	—	—	—	—	—
RE21-06-68502	21-25722	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68503	21-25722	0.5–1	SOIL	NA	—	0.00296 (J)	NA	NA	NA	—	—	0.000538 (J)	—	—	—	—	—
RE21-06-68504	21-25722	1.5–2	QBT3	NA	—	0.00301 (J)	NA	NA	NA	—	0.0191 (J)	0.000631 (J)	—	—	—	—	—
RE21-06-68507	21-25723	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	0.045	—	—	—	0.000842 (J)	—	—
RE21-06-68508	21-25723	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	0.0413	0.000373 (J)	—	—	—	—	—
RE21-06-68511	21-25724	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	0.000404 (J)	—	—	—	—	—
RE21-06-68512	21-25724	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	0.0758	—	—	—	—	—	—
RE21-06-68514	21-25725	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0438 (J)	0.119	NA	NA	NA	NA	NA	NA
RE21-06-68515	21-25725	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	—	0.000326 (J)	—	—	—	—	—
RE21-06-72611	21-25725	3–3.5	SOIL	4.38E-07	0.0217	—	1.97E-05	3.31E-06 (J)	2.71E-07	—	—	—	—	—	—	—	—
RE21-06-68518	21-25726	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	0.0146 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68519	21-25726	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810[g]**	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743[h]**
Industrial SSL[a]				**na**	**14500[g]**	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980[h]**
Residential SSL[a]				**na**	**2430[g]**	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814[h]**
RE21-06-68521	21-25727	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0163 (J)	0.0284 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68522	21-25727	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	0.000598 (J)	—	—
RE21-06-68523	21-25727	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68524	21-25728	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	0.0433 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68525	21-25728	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	0.0013 (J)	—	—
RE21-06-68526	21-25728	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	0.000494 (J)	—	—
RE21-06-68527	21-25729	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	0.0173 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68528	21-25729	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	0.000345 (J)	—	—
RE21-06-68530	21-25730	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	0.0216 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68532	21-25730	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68533	21-25730	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68534	21-25731	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	0.0111 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68536	21-25731	0.5–1	QBT3	NA	—	—	NA	NA	NA	0.0331 (J)	0.0247 (J)	—	—	—	—	—	—
RE21-06-68537	21-25731	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68548	21-25732	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0115 (J)	0.0229 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68549	21-25732	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68551	21-25733	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.132 (J)	0.753	NA	NA	NA	NA	NA	NA
RE21-06-68552	21-25733	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68553	21-25733	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68554	21-25734	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	0.0266 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68555	21-25734	0.5–1	SOIL	NA	—	0.0132	NA	NA	NA	—	—	—	—	—	0.00381	0.00199	0.00682
RE21-06-68556	21-25734	1.5–2	QBT3	NA	—	0.0106	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68557	21-25735	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68558	21-25735	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68559	21-25735	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68560	21-25736	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810[g]**	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743[h]**
Industrial SSL[a]				**na**	**14500[g]**	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980[h]**
Residential SSL[a]				**na**	**2430[g]**	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814[h]**
RE21-06-68562	21-25736	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68563	21-25737	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0122 (J)	0.0244 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68564	21-25737	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	0.0123 (J)	—	—	—	—	—	—
RE21-06-68565	21-25737	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68567	21-25738	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68568	21-25738	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68569	21-25739	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68570	21-25739	0.5–1	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68571	21-25739	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68572	21-25740	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68573	21-25740	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	0.14 (J)	—	—	—	—	—	—
RE21-06-68574	21-25740	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68575	21-25741	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0126 (J)	0.0331 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68576	21-25741	0.5–1	SOIL	NA	—	—	NA	NA	NA	—	0.0204 (J)	—	—	—	—	—	—
RE21-06-68577	21-25741	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	0.0144 (J)	—	—	—	—	—	—
MD21-07-74338	21-25748	14–15	QBT3	NA	—	0.00735	NA	NA	NA	—	—	—	—	0.000321 (J)	0.00323	—	—
MD21-07-74339	21-25750	2.5–3	SOIL	NA	—	—	NA	NA	NA	0.102	0.0888	—	—	0.00587	0.0383	—	—
MD21-07-74340	21-25750	4–4.5	SOIL	NA	0.00085 (J)	—	NA	NA	NA	—	—	—	—	0.0159	0.0496	—	—
MD21-07-74341	21-25751	4–4.5	QBT3	NA	0.00047 (J)	—	NA	NA	NA	—	0.0318 (J)	—	—	0.00467	0.012	—	—
MD21-07-74342	21-25751	6–6.5	QBT3	NA	0.000524 (J)	—	NA	NA	NA	—	0.0194 (J)	—	—	0.00396	0.0106	—	—
MD21-07-74343	21-25752	2.33–3.33	SOIL	NA	NA	NA	NA	NA	NA	—	0.0198 (J)	NA	NA	NA	NA	NA	NA
MD21-09-9860	21-25752	3.8–4.8	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-07-74346	21-25753	3.83–4.83	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68640	21-25758	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68646	21-25761	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68648	21-25762	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.000673 (J)	—	—	—

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
RE21-06-68652	21-25764	1.5–2	SOIL	NA	—	—	NA	NA	NA	—	—	—	—	0.000679 (J)	—	—	—
RE21-06-68653	21-25765	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0125 (J)	0.0201 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68654	21-25765	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68655	21-25766	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68656	21-25766	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68657	21-25767	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0131 (J)	—	NA	NA	NA	NA	NA	NA
RE21-06-68658	21-25767	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68659	21-25768	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0105 (J)	0.027 (J)	NA	NA	NA	NA	NA	NA
RE21-06-68660	21-25768	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	0.000344 (J)	—	—	—
RE21-06-68661	21-25769	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68662	21-25769	1.5–2	QBT3	NA	—	—	NA	NA	NA	—	—	—	—	—	—	—	—
RE21-06-68663	21-25770	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-06-68665	21-25771	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.0118 (J)	0.0318 (J)	NA	NA	NA	NA	NA	NA
RE21-09-2642	21-604461	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2643	21-604461	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2644	21-604461	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2645	21-604462	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2646	21-604462	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2648	21-604463	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2649	21-604463	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2650	21-604463	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2651	21-604464	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2652	21-604464	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2655	21-604465	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2656	21-604465	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2662	21-604467	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
RE21-09-2665	21-604468	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2669	21-604470	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2672	21-604471	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2673	21-604471	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2674	21-604471	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2675	21-604472	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2676	21-604472	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2677	21-604472	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2680	21-604473	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2681	21-604474	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2682	21-604474	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2683	21-604474	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2685	21-604475	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2686	21-604475	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2687	21-604476	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2699	21-604480	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2700	21-604480	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2701	21-604480	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2702	21-604481	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2703	21-604481	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2704	21-604481	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2705	21-604482	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2706	21-604482	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2708	21-604483	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2709	21-604483	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2710	21-604483	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
RE21-09-2711	21-604484	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2712	21-604484	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2713	21-604485	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2714	21-604485	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-09-2721	21-604489	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9864	21-605366	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9865	21-605366	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9867	21-605367	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9868	21-605367	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9869	21-605368	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9870	21-605368	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10518	21-605368	3–3.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9872	21-605369	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9873	21-605369	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9876	21-605370	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9877	21-605370	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9879	21-605371	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9884	21-605372	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9885	21-605373	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9886	21-605373	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9888	21-605374	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9891	21-605375	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9892	21-605375	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9893	21-605375	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9895	21-605376	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9896	21-605376	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-9897	21-605377	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9900	21-605378	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9901	21-605378	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9902	21-605378	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9903	21-605378	3–3.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9904	21-605379	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9905	21-605379	0.5–1	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9906	21-605379	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9907	21-605380	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9909	21-605380	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10519	21-605532	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10521	21-605533	0.5–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9415	21-605617	10–10.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9416	21-605618	10–10.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9417	21-605619	10–10.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-9418	21-605620	4.75–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10409	21-605698	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10410	21-605699	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10411	21-605700	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10412	21-605701	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10413	21-605702	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10414	21-605703	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10415	21-605704	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10418	21-605707	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10419	21-605708	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10420	21-605709	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-10421	21-605710	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10422	21-605711	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10423	21-605712	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10424	21-605713	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10425	21-605714	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10426	21-605715	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10427	21-605716	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10428	21-605717	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10429	21-605718	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10430	21-605719	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10431	21-605720	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10432	21-605721	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10433	21-605722	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10434	21-605723	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10435	21-605724	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10438	21-605727	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10439	21-605728	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10440	21-605729	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10443	21-605732	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10445	21-605734	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10446	21-605735	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10448	21-605737	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10449	21-605738	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10450	21-605739	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10451	21-605740	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10452	21-605741	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-10453	21-605742	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10454	21-605743	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10455	21-605744	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10456	21-605745	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10457	21-605746	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10458	21-605747	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10459	21-605748	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10460	21-605749	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10462	21-605751	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10463	21-605752	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10464	21-605753	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10465	21-605754	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10466	21-605755	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10467	21-605756	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1940	21-605759	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10475	21-605764	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10476	21-605765	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10768	21-605766	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10479	21-605768	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10480	21-605769	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10481	21-605770	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10482	21-605771	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13221	21-605772	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10487	21-605776	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10488	21-605777	2.16–2.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13202	21-605777	2.16–2.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-10510	21-607149	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10511	21-607150	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10512	21-607151	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10514	21-607153	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10528	21-607687	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10529	21-607688	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10530	21-607689	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10531	21-607690	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10532	21-607691	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10533	21-607692	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10534	21-607693	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10535	21-607694	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10536	21-607695	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10540	21-607699	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10541	21-607700	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10546	21-607705	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10547	21-607706	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10548	21-607707	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10550	21-607709	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13220	21-607710	3.16–3.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10552	21-607711	1.66–1.76	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10553	21-607712	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10554	21-607713	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10555	21-607714	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10556	21-607715	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10559	21-607718	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-10560	21-607719	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10563	21-607722	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10564	21-607723	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10565	21-607724	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10566	21-607725	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10567	21-607726	4.16–4.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10568	21-607727	10.16–10.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10569	21-607728	4.16–4.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10570	21-607729	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10571	21-607730	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10572	21-607731	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10574	21-607733	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13199	21-607738	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10582	21-607741	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10583	21-607742	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1948	21-607744	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10586	21-607745	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10587	21-607746	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10588	21-607747	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10589	21-607748	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10590	21-607749	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10591	21-607750	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10592	21-607751	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10594	21-607753	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13210	21-607754	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13211	21-607756	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-10-1947	21-607763	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10605	21-607764	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10606	21-607765	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10607	21-607766	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10608	21-607767	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10609	21-607768	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10610	21-607769	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10611	21-607770	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10612	21-607771	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10613	21-607772	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10614	21-607773	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10615	21-607774	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10616	21-607775	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10617	21-607776	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10618	21-607777	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10620	21-607779	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10621	21-607780	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10622	21-607781	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1946	21-607782	2.66–2.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10625	21-607784	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10628	21-607787	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10629	21-607788	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13204	21-607790	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10633	21-607792	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10636	21-607795	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10637	21-607796	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-10638	21-607797	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10639	21-607798	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10640	21-607799	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10641	21-607800	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10642	21-607801	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10643	21-607802	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10644	21-607803	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10645	21-607804	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13215	21-607812	5.66–5.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10654	21-607813	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10655	21-607814	4.66–4.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10656	21-607815	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10657	21-607816	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10658	21-607817	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10659	21-607818	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10660	21-607819	4.66–4.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10661	21-607820	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10663	21-607822	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13214	21-607824	5.66–5.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10666	21-607825	4.66–4.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10667	21-607826	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10668	21-607827	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10669	21-607828	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10670	21-607829	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10671	21-607830	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10672	21-607831	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810[g]**	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743[h]**
Industrial SSL[a]				**na**	**14500[g]**	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980[h]**
Residential SSL[a]				**na**	**2430[g]**	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814[h]**
MD21-09-10673	21-607832	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10674	21-607833	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10675	21-607834	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10676	21-607835	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10677	21-607836	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10678	21-607837	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10679	21-607838	1.66–1.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10680	21-607839	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10681	21-607840	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10682	21-607841	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10683	21-607842	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10684	21-607843	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10695	21-607844	0.66–75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10696	21-607845	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10697	21-607846	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10698	21-607847	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10699	21-607848	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10700	21-607849	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10701	21-607850	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10702	21-607851	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10703	21-607852	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10704	21-607853	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13207	21-607855	1.16–1.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10707	21-607856	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10708	21-607857	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10709	21-607858	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-10710	21-607859	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10711	21-607860	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10712	21-607861	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10713	21-607862	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10714	21-607863	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10715	21-607864	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10716	21-607865	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10717	21-607866	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10718	21-607867	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10719	21-607868	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10721	21-607870	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10722	21-607871	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10723	21-607872	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10724	21-607873	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10725	21-607874	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10726	21-607875	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10727	21-607876	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10730	21-607879	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10737	21-607886	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10738	21-607887	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13217	21-607888	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10740	21-607889	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10741	21-607890	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10742	21-607891	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10744	21-607893	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10745	21-607894	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810**[g]	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743**[h]
Industrial SSL[a]				**na**	**14500**[g]	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980**[h]
Residential SSL[a]				**na**	**2430**[g]	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814**[h]
MD21-09-10746	21-607895	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10748	21-607897	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10749	21-607898	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10752	21-607901	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10753	21-607902	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10755	21-607904	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10756	21-607905	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10757	21-607906	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10758	21-607907	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10759	21-607908	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10760	21-607909	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10761	21-607910	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10762	21-607911	0.66–0.75	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10765	21-607912	4–4.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10769	21-607918	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10771	21-607920	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10772	21-607921	1.5–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-10774	21-607923	1–1.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13197	21-608084	5.16–5.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13219	21-608087	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13201	21-608088	2.16–2.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13205	21-608092	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13208	21-608095	1.16–1.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13209	21-608096	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13216	21-608103	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-13218	21-608105	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.2-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofurans (Total)	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachloroethene	Toluene	Trichloroethene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**2810[g]**	**1120**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**212**	**13400**	**7.68**	**823**	**743[h]**
Industrial SSL[a]				**na**	**14500[g]**	**4700**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**36.6**	**57700**	**41.3**	**4410**	**3980[h]**
Residential SSL[a]				**na**	**2430[g]**	**409**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**7.02**	**5270**	**8.77**	**898**	**814[h]**
MD21-10-1941	21-608835	0.66–0.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1942	21-608836	2.66–2.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1943	21-608837	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1945	21-608839	1.66–1.75	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1949	21-608843	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1951	21-608845	5.16–5.25	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-1953	21-608847	3.16–3.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[c] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[d] — = Not detected.

[e] NA = Not analyzed.

[f] na = Not available.

[g] Isopropylbenzene used as a surrogate based on structural similarity.

[h] Xylenes used as a surrogate based on structural similarity.

Table 6.2-4
Radionuclides Detected or Detected above BVs/FVs at Consolidated Unit 21-003-99 and SWMU 21-024(c)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**1.31[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-06-68436	21-25704	1.5–2	SOIL	—[e]	—	—	—	—	0.079341	—	—	—
RE21-06-68440	21-25706	0–0.5	SOIL	—	—	—	0.0758	—	0.321127	—	—	—
RE21-06-68441	21-25706	0.5–1	SOIL	—	—	—	0.171	—	0.118589	—	—	—
RE21-06-68442	21-25706	1.5–2	SOIL	—	—	—	0.426	—	0.2063	—	—	—
RE21-06-68443	21-25707	0–0.5	SOIL	—	—	—	0.536	—	0.181239	—	—	—
RE21-06-68444	21-25707	0.5–1	SOIL	—	—	—	—	—	0.132321	—	—	—
RE21-06-68445	21-25707	1.5–2	SOIL	—	—	—	—	—	0.29705	—	—	—
RE21-06-68446	21-25708	0–0.5	SOIL	0.0665	—	—	0.212	—	0.097382	26.6	2.29	14.4
RE21-06-68447	21-25708	0.5–1	SOIL	—	—	—	0.201	—	0.082549	6.79	0.5	6.72
RE21-06-68448	21-25708	1.5–2	SOIL	—	—	—	0.0364	—	0.080527	2.65	0.21	2.74
RE21-06-68449	21-25709	0–0.5	SOIL	—	—	—	—	—	0.053071	—	—	—
RE21-06-68450	21-25709	0.5–1	SOIL	—	—	—	—	—	0.033175	—	—	—
RE21-06-68451	21-25709	1.5–2	SOIL	—	—	—	—	—	0.052043	—	—	—
RE21-06-68452	21-25710	0–0.5	SOIL	—	—	—	—	—	0.024624	—	—	—
RE21-06-68454	21-25710	1.5–2	SOIL	—	—	—	—	—	0.067234	—	—	—
RE21-06-68458	21-25712	0–0.5	SOIL	—	—	—	—	—	0.087209	—	—	—
RE21-06-68459	21-25712	0.5–1	SOIL	—	—	—	—	—	0.101592	—	—	—
RE21-06-68460	21-25712	1.5–2	SOIL	—	—	—	0.207	—	0.153756	—	—	—
RE21-06-68461	21-25713	0–0.5	SOIL	0.0641	—	—	0.081	—	0.296557	—	—	—
RE21-06-68462	21-25713	0.5–1	QBT3	0.138	—	—	—	—	0.122101	—	0.1	—
RE21-06-68463	21-25713	1.5–2	QBT3	—	—	—	—	—	0.16576	—	—	—
RE21-06-68464	21-25714	0–0.5	SOIL	0.113	—	—	0.266	—	0.220646	—	—	—
RE21-06-68465	21-25714	0.5–1	SOIL	—	—	—	—	—	0.120489	—	—	—
RE21-06-68466	21-25714	1.5–2	QBT3	—	—	—	—	—	0.036195	—	—	—
RE21-06-68467	21-25715	0–0.5	SOIL	0.192	—	—	0.666	—	0.306107	—	—	—
RE21-06-68468	21-25715	0.5–1	SOIL	0.0662	—	—	0.116	—	0.167294	—	—	—
RE21-06-68469	21-25715	1.5–2	QBT3	0.0461	—	—	0.0702	—	0.099649	—	—	—

Table 6.2-4 (continued)

Sample ID	Location ID	Depth ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**1.31**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-06-68470	21-25716	0–0.5	SOIL	0.232	—	0.025	0.565	—	0.419949	—	—	—
RE21-06-68471	21-25716	0.5–1	QBT3	0.0955	—	—	0.019	—	0.111754	—	—	—
RE21-06-68472	21-25716	1.5–2	QBT3	0.0929	—	—	—	—	0.099399	—	—	—
RE21-06-68474	21-25717	0.5–1	QBT3	0.0666	0.166	—	0.105	—	0.101517	—	—	—
RE21-06-68475	21-25717	1.5–2	QBT3	—	—	—	0.0242	—	0.019349	—	—	—
RE21-06-68476	21-25718	0–0.5	SOIL	0.0832	—	—	0.118	—	0.445733	—	—	—
RE21-06-68477	21-25718	0.5–1	QBT3	—	—	—	0.202	0.0896 (J-)	0.450444	—	—	—
RE21-06-68478	21-25718	1.5–2	QBT3	—	—	—	0.321	—	1.69556	—	0.1	—
RE21-06-68479	21-25719	0–0.5	SOIL	0.11	—	—	0.552	—	0.268696	—	—	—
RE21-06-68480	21-25719	0.5–1	QBT3	—	—	—	—	—	0.551549	—	—	—
RE21-06-68481	21-25719	1.5–2	QBT3	—	—	—	—	—	1.4738	—	—	—
RE21-06-68482	21-25720	0–0.5	SOIL	0.0704	—	0.038	0.291	—	0.669906	—	—	—
RE21-06-68483	21-25720	0.5–1	QBT3	—	—	—	—	—	0.406479	—	—	—
RE21-06-68484	21-25720	1.5–2	QBT3	0.104	0.426	—	0.32	—	0.746333	2.15	0.19	2.21
RE21-06-68502	21-25722	0–0.5	SOIL	0.217	—	—	1.48 (J)	—	1.58874	—	—	—
RE21-06-68503	21-25722	0.5–1	SOIL	—	—	—	0.125 (J)	—	0.238539	—	—	—
RE21-06-68504	21-25722	1.5–2	QBT3	—	0.087	—	0.105 (J)	—	0.146198	—	0.1	—
RE21-06-68507	21-25723	0.5–1	QBT3	0.102	0.299	—	0.546 (J)	—	0.073995	—	—	—
RE21-06-68508	21-25723	1.5–2	QBT3	—	—	—	0.0823 (J)	—	0.06063	—	—	—
RE21-06-68511	21-25724	0.5–1	QBT3	—	0.068	—	0.0762 (J)	—	0.075513	6.79	0.39	6.78
RE21-06-68512	21-25724	1.5–2	QBT3	—	—	—	—	—	0.544607	—	—	—
RE21-06-68514	21-25725	0–0.5	SOIL	0.321	—	—	1.57 (J)	—	0.195438	—	—	—
RE21-06-68515	21-25725	0.5–1	SOIL	—	—	—	0.0789 (J)	—	0.64224	—	—	—
RE21-06-72611	21-25725	3–3.5	SOIL	—	—	0.022	0.0512	—	0.10475	—	—	—
RE21-06-68518	21-25726	0–0.5	SOIL	0.0528	—	—	0.4 (J)	—	0.167748	—	—	—
RE21-06-68519	21-25726	0.5–1	QBT3	—	—	—	0.0372 (J)	—	0.278858	—	—	—
RE21-06-68520	21-25726	1.5–2	QBT3	—	—	—	0.0149 (J)	—	0.046833	—	—	—
RE21-06-68521	21-25727	0–0.5	SOIL	0.136	—	—	0.933 (J)	—	0.535111	—	—	—
RE21-06-68522	21-25727	0.5–1	QBT3	0.0629	0.194	—	0.306 (J)	—	0.147968	—	—	—
RE21-06-68523	21-25727	1.5–2	QBT3	0.0335	—	—	0.156 (J)	—	0.167339	—	—	—

Table 6.2-4 (continued)

Sample ID	Location ID	Depth ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**1.31**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-06-68524	21-25728	0–0.5	SOIL	0.219	—	—	1.77 (J)	—	1.25197	—	—	—
RE21-06-68525	21-25728	0.5–1	QBT3	—	—	—	0.209 (J)	—	0.150471	—	—	—
RE21-06-68526	21-25728	1.5–2	QBT3	0.0501	0.259	—	0.457 (J)	—	0.211308	—	—	—
RE21-06-68527	21-25729	0–0.5	SOIL	0.121	—	—	0.606 (J)	—	0.347256	—	—	—
RE21-06-68528	21-25729	0.5–1	QBT3	—	—	—	0.0322 (J)	—	0.102864	—	—	—
RE21-06-68529	21-25729	1.5–2	QBT3	—	—	—	0.0295 (J)	—	0.126349	—	—	—
RE21-06-68530	21-25730	0–0.5	SOIL	0.167	—	—	0.55 (J)	—	0.375458	—	—	—
RE21-06-68532	21-25730	0.5–1	QBT3	—	0.145	—	0.112 (J)	—	0.054482	—	—	—
RE21-06-68533	21-25730	1.5–2	QBT3	—	—	—	0.036 (J)	—	0.034718	—	—	—
RE21-06-68534	21-25731	0–0.5	SOIL	0.097	—	—	0.211 (J)	—	0.266003	—	—	—
RE21-06-68536	21-25731	0.5–1	QBT3	—	0.149	—	0.258 (J)	—	0.076393	—	—	—
RE21-06-68537	21-25731	1.5–2	QBT3	—	0.235	—	0.249 (J)	—	0.036648	—	—	—
RE21-06-68548	21-25732	0–0.5	SOIL	0.121	—	—	0.395	—	0.102658	—	—	—
RE21-06-68549	21-25732	0.5–1	QBT3	—	0.168	0.033	0.323	—	0.064544	—	—	—
RE21-06-68550	21-25732	1.5–2	QBT3	—	0.342	—	0.282	—	0.037324	—	—	—
RE21-06-68551	21-25733	0–0.5	SOIL	0.386	—	0.057	1.96	—	0.172059	14.2	0.72	10.5
RE21-06-68552	21-25733	0.5–1	QBT3	—	0.077	—	0.208	—	0.217917	2.93	0.16	2.23
RE21-06-68553	21-25733	1.5–2	QBT3	—	—	—	0.211	—	0.209949	1.99	0.12	—
RE21-06-68554	21-25734	0–0.5	SOIL	0.115	—	—	0.32	—	0.170743	—	—	—
RE21-06-68555	21-25734	0.5–1	SOIL	0.0505	—	—	0.24	—	0.094201	—	—	—
RE21-06-68556	21-25734	1.5–2	QBT3	—	0.224	—	0.325	—	0.061455	—	—	—
RE21-06-68557	21-25735	0–0.5	SOIL	—	—	—	—	—	0.195118	—	—	—
RE21-06-68558	21-25735	0.5–1	QBT3	—	—	—	—	—	0.107043	—	—	—
RE21-06-68559	21-25735	1.5–2	QBT3	—	—	—	—	—	0.056197	—	—	—
RE21-06-68560	21-25736	0–0.5	SOIL	—	—	—	—	—	0.05604	—	—	—
RE21-06-68561	21-25736	0.5–1	QBT3	—	—	—	0.575	—	0.218188	—	—	—
RE21-06-68562	21-25736	1.5–2	QBT3	—	—	—	0.2	—	0.171219	—	—	—
RE21-06-68563	21-25737	0–0.5	SOIL	0.121	—	—	0.263	—	0.408909	—	—	—
RE21-06-68564	21-25737	0.5–1	QBT3	—	0.078	—	0.0557	—	0.167674	—	—	—
RE21-06-68565	21-25737	1.5–2	QBT3	—	—	—	—	—	0.070106	—	—	—

Table 6.2-4 (continued)

Sample ID	Location ID	Depth ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**1.31**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-06-68567	21-25738	0.5–1	QBT3	—	—	—	—	—	0.050122	—	—	—
RE21-06-68568	21-25738	1.5–2	QBT3	—	—	—	—	—	0.096696	—	—	—
RE21-06-68569	21-25739	0–0.5	QBT3	—	—	—	—	—	0.034922	—	—	—
RE21-06-68570	21-25739	0.5–1	QBT3	—	—	—	—	—	0.041487	—	—	—
RE21-06-68571	21-25739	1.5–2	QBT3	—	—	—	—	—	0.053891	—	—	—
RE21-06-68572	21-25740	0–0.5	SOIL	0.0253	—	—	—	—	0.016861	—	—	—
RE21-06-68573	21-25740	0.5–1	SOIL	—	—	—	0.171	—	0.039743	—	—	—
RE21-06-68574	21-25740	1.5–2	SOIL	—	—	—	0.0272	—	0.075729	—	—	—
RE21-06-68575	21-25741	0–0.5	SOIL	0.0753	—	—	0.0924	—	0.030898	—	—	—
RE21-06-68576	21-25741	0.5–1	SOIL	0.0479	—	—	0.192	—	0.039427	—	—	—
RE21-06-68577	21-25741	1.5–2	SOIL	—	0.129	—	0.142	—	0.066183	—	—	—
MD21-07-74338	21-25748	14–15	QBT3	0.0832	—	—	0.445	—	0.388525	4.13	0.26	3.67
MD21-07-74339	21-25750	2.5–3	SOIL	—	—	—	0.0818	—	0.07564	—	—	—
MD21-07-74340	21-25750	4–4.5	SOIL	—	—	—	0.0902	—	0.04995	—	—	—
MD21-07-74341	21-25751	4–4.5	QBT3	—	—	—	0.221	—	0.066059	6.74	0.46	4.85
MD21-07-74342	21-25751	6–6.5	QBT3	—	—	—	0.15	—	0.062683	4.46	0.26	3.24
MD21-07-74343	21-25752	2.33–3.33	SOIL	—	—	—	0.105	—	0.106594	—	—	—
MD21-07-74344	21-25752	3.83–4.83	QBT3	—	—	—	—	—	0.079217	—	—	—
MD21-07-74345	21-25753	2.33–3.33	SOIL	—	—	—	0.0606	—	0.064959	—	—	—
MD21-07-74346	21-25753	3.83–4.83	QBT3	—	—	—	—	—	0.105738	—	—	—
RE21-06-68640	21-25758	1.5–2	QBT3	—	—	—	0.0637	—	0.163596	—	—	—
RE21-06-68646	21-25761	1.5–2	QBT3	—	0.128	—	0.268	—	0.072077	—	—	—
RE21-06-68648	21-25762	1.5–2	SOIL	—	—	—	0.0551	—	0.162277	—	—	—
RE21-06-68652	21-25764	1.5–2	SOIL	—	0.145	—	0.101	—	0.350467	—	—	—
RE21-06-68653	21-25765	0–0.5	SOIL	0.173	—	0.042	3.53	—	0.033358	—	—	—
RE21-06-68654	21-25765	1.5–2	QBT3	—	—	—	—	—	0.108257	—	—	—
RE21-06-68655	21-25766	0–0.5	SOIL	0.128	—	—	3.22	—	0.04765	—	0.21	—
RE21-06-68656	21-25766	1.5–2	QBT3	—	—	—	0.112	—	0.052326	—	0.11	—
RE21-06-68657	21-25767	0–0.5	SOIL	0.0944	1.81	0.029	0.754	—	0.13739	—	—	—
RE21-06-68658	21-25767	1.5–2	QBT3	—	—	—	—	—	0.033728	—	—	—

Table 6.2-4 (continued)

Sample ID	Location ID	Depth ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**1.31**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-06-68659	21-25768	0–0.5	SOIL	0.121	—	—	2.14	—	0.057139	—	—	—
RE21-06-68660	21-25768	1.5–2	QBT3	—	0.231	—	0.295	—	0.045381	—	—	—
RE21-06-68661	21-25769	0–0.5	SOIL	—	—	0.035	0.332	—	—	—	—	—
RE21-06-68662	21-25769	1.5–2	QBT3	—	—	—	0.0457	—	0.019989	—	—	—
RE21-06-68663	21-25770	0–0.5	SOIL	—	—	—	0.194	—	0.040005	—	—	—
RE21-06-68665	21-25771	0–0.5	SOIL	—	1.84	—	1	—	0.024764	—	—	—
RE21-06-68666	21-25771	1.5–2	QBT3	—	0.12	—	0.0852	—	0.015057	—	—	—
MD21-11-24228	21-614564	1.5–2	SOIL	—	—	NA[f]	NA	NA	0.036088	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.3-1
Samples Collected and Analyses Requested at Consolidated Unit 21-006(c)-99

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	PEST PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-1584	21-600388	0–0.5	ALLH	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—*	—	07-86	—	—	07-86	07-86
RE21-07-1585	21-600388	2–3	QBT3	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	07-86	07-86	—	—	07-86	07-86
RE21-07-1586	21-600389	0–0.5	ALLH	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	—	07-86	—	—	07-86	07-86
RE21-07-1587	21-600389	2–3	QBT3	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	07-86	07-86	—	—	07-86	07-86
RE21-07-1588	21-600390	0–0.5	ALLH	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	—	07-86	—	—	07-86	07-86
RE21-07-1589	21-600390	2–3	QBT3	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	07-86	07-86	—	—	07-86	07-86
RE21-07-1590	21-600391	0–0.5	ALLH	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	—	07-86	—	—	07-86	07-86
RE21-07-1591	21-600391	2–3	QBT3	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	—	07-86	—	—	07-86	07-86
MD21-09-8783	21-600391	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	09-2490	—	—	—	—	—
RE21-07-1592	21-600392	0–0.5	ALLH	07-86	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-86	—	—	07-86	—	—	07-86	07-86
RE21-07-1646	21-600392	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	07-143	—	—	07-144	07-143	—	—
RE21-07-1593	21-600392	2–3	QBT3	07-87	07-85	07-85	07-85	07-85	07-85	07-85	07-85	07-87	—	07-87	07-87	—	—	07-87	07-87
RE21-07-1614	21-600403	0–0.5	ALLH	07-110	07-111	07-111	07-111	07-111	07-111	07-111	07-111	07-110	—	—	07-109	—	—	07-110	07-110
RE21-07-1615	21-600403	2–3	QBT3	07-110	07-111	07-111	07-111	07-111	07-111	07-111	07-111	07-110	—	07-109	07-109	—	—	07-110	07-110
RE21-07-1616	21-600403	5–6	QBT3	07-110	07-111	07-111	07-111	07-111	07-111	07-111	07-111	07-110	—	07-109	07-109	—	—	07-110	07-110
RE21-07-5758	21-601199	3–4	ALLH	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5759	21-601199	8–9	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5760	21-601199	13–14	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5761	21-601199	18–19	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5762	21-601199	23–24	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5763	21-601200	3–4	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5764	21-601200	8–9	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5765	21-601200	13–14	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5766	21-601200	18–19	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5767	21-601200	23–24	QBT3	08-518	08-519	08-519	08-519	08-519	08-519	08-519	08-518	08-518	—	08-517	08-517	—	—	08-518	08-518
RE21-07-5768	21-601201	3–4	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5769	21-601201	8–9	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5770	21-601201	13–14	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5771	21-601201	18–19	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5772	21-601201	23–24	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5773	21-601202	12–13	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5774	21-601202	17–18	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5775	21-601202	22–23	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5776	21-601202	27–28	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5777	21-601202	32–33	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5778	21-601203	12–13	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5779	21-601203	17–18	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537

Table 6.3-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	PEST PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-5780	21-601203	22–23	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5781	21-601203	27–28	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5782	21-601203	32–33	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5783	21-601204	12–13	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5784	21-601204	17–18	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5785	21-601204	22–23	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5786	21-601204	27–28	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5787	21-601204	32–33	QBT3	08-537	08-538	08-538	08-538	08-538	08-538	08-538	08-537	08-537	—	08-536	08-536	—	—	08-537	08-537
RE21-07-5805	21-601209	3–4	ALLH	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	—	08-479	08-479	—	—	08-479	08-479
RE21-07-5806	21-601209	4–5	QBT3	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	—	08-479	08-479	—	—	08-479	08-479
RE21-07-5807	21-601210	3–4	ALLH	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	—	08-479	08-479	—	—	08-479	08-479
RE21-07-5808	21-601210	4–5	QBT3	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	08-479	—	08-479	08-479	—	—	08-479	08-479
RE21-07-5809	21-601211	2–3	ALLH	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
RE21-07-5810	21-601211	3–4	QBT3	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
MD21-09-8773	21-601211	8–9	ALLH	—	—	—	—	09-2011	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24230	21-601211	13–14	QBT3	—	—	—	—	11-3068	—	—	—	—	—	—	—	—	—	—	—
RE21-07-5811	21-601212	7–8	QBT3	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
RE21-07-5812	21-601212	8–9	QBT3	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
RE21-07-5813	21-601213	12–13	QBT3	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
RE21-07-5814	21-601213	13–14	QBT3	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
MD21-09-9016	21-601213	18–19	QBT3	—	—	—	09-1887	09-1887	09-1887	—	—	—	—	—	—	—	—	—	—
MD21-09-9017	21-601213	23–24	QBT3	—	—	—	09-1887	09-1887	09-1887	—	—	—	—	—	—	—	—	—	—
RE21-07-5817	21-601215	6–7	QBT3	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
RE21-07-5818	21-601215	8–9	QBT3	08-489	08-490	08-490	08-490	08-490	08-490	08-490	08-489	08-489	—	08-488	08-488	—	—	08-489	08-489
MD21-09-8774	21-605256	0–0.5	ALLH	09-2490	09-2490	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-8775	21-605257	0–0.5	ALLH	09-2490	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-8776	21-605258	0–0.5	ALLH	—	—	—	—	—	09-2490	09-2490	—	—	—	—	—	—	—	—	—
MD21-09-8777	21-605259	3–4	ALLH	—	09-2011	09-2011	09-2011	09-2011	09-2011	09-2011	—	—	—	—	—	—	—	—	—
MD21-09-8778	21-605259	8–9	ALLH	—	09-2011	09-2011	09-2011	09-2011	09-2011	09-2011	—	—	—	—	—	—	—	—	—
MD21-09-8779	21-605260	3–4	QBT3	—	—	—	09-2011	—	09-2011	09-2011	09-2011	—	—	—	—	—	—	—	—
MD21-09-8780	21-605260	8–9	QBT3	—	—	—	09-2011	—	09-2011	09-2011	09-2011	—	—	—	—	—	—	—	—
MD21-09-8781	21-605261	3–4	ALLH	—	—	—	—	—	09-2011	09-2011	—	—	—	—	—	—	—	—	—
MD21-09-8782	21-605261	8–9	QBT3	—	—	—	—	—	09-2011	09-2011	—	—	—	—	—	—	—	—	—
MD21-09-12454	21-608018	3–4	QBT3	—	—	—	—	—	09-3250	—	—	—	—	—	—	—	—	—	—
MD21-10-4659	21-609835	3–4	QBT3	—	—	—	—	—	10-745	—	—	—	—	—	—	—	—	—	—
MD21-11-24231	21-614565	3–4	ALLH	—	—	—	11-3068	—	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24232	21-614565	8–9	ALLH	—	—	—	11-3121	—	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24233	21-614565	18–19	QBT3	—	—	—	11-3121	—	—	—	—	—	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.3-2
Inorganic Chemicals above BVs at Consolidated Unit 21-006(c)-99

Sample ID	Location ID	Depth (ft)	Media	Antimony	Barium	Cadmium	Calcium	Chromium	Copper	Cyanide (Total)	Lead	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Zinc
Qbt2,3,4 BV[a]				**0.5**	**46**	**1.63**	**2200**	**7.14**	**4.66**	**0.5**	**11.2**	**482**	**0.1**	**6.58**	**na**[b]	**na**	**0.3**	**63.5**
Soil BV[a]				**0.83**	**295**	**0.4**	**6120**	**19.3**	**14.7**	**0.5**	**22.3**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**48.8**
Construction Worker SSL[c]				**124**	**4350**	**277**	**na**	**465000**[d]	**12400**	**186**	**800**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**92900**
Industrial SSL[c]				**454**	**223000**	**897**	**na**	**1700000**[d]	**45400**	**681**	**800**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**341000**
Residential SSL[c]				**31.3**	**15600**	**70.3**	**na**	**117000**[d]	**3130**	**46.9**	**400**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**23500**
RE21-07-1584	21-600388	0–0.5	SOIL	—[e]	—	—	—	—	—	5.21 (U)	33.3	—	—	—	57.9	—	1.53 (U)	53.1
RE21-07-1585	21-600388	2–3	QBT3	—	—	—	—	—	—	3.93 (U)	—	—	—	—	—	—	1.5 (U)	—
RE21-07-1586	21-600389	0–0.5	SOIL	—	—	—	—	—	—	4.59 (U)	—	—	—	—	25	—	—	—
RE21-07-1587	21-600389	2–3	QBT3	—	—	—	—	—	—	4.16 (U)	—	—	—	—	—	—	1.51 (U)	—
RE21-07-1588	21-600390	0–0.5	SOIL	—	—	—	—	—	—	4.82 (U)	—	—	—	—	66.1	—	1.54 (U)	—
RE21-07-1589	21-600390	2–3	QBT3	—	—	—	—	—	—	5.14 (U)	12.7	—	—	—	—	—	1.62 (U)	—
RE21-07-1590	21-600391	0–0.5	SOIL	—	—	0.498 (U)	—	—	—	4.07 (U)	—	—	—	—	27.1	0.0345	—	—
RE21-07-1591	21-600391	2–3	QBT3	—	—	—	—	—	—	3.31 (U)	—	—	—	—	15.4	—	1.54 (U)	—
RE21-07-1592	21-600392	0–0.5	SOIL	—	—	0.507 (U)	—	—	—	8.42 (U)	—	—	—	—	41.2	—	—	—
RE21-07-1593	21-600392	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.48 (U)	—
RE21-07-1614	21-600403	0–0.5	SOIL	—	—	0.489 (U)	—	—	—	—	34.4	—	—	—	1.7	—	—	—
RE21-07-1615	21-600403	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	0.00131 (J)	1.18 (J)	—
RE21-07-1616	21-600403	5–6	QBT3	—	—	—	—	11.1	—	—	—	—	—	—	—	0.00308	1.48 (U)	—
RE21-07-5758	21-601199	3–4	SOIL	1.33	—	—	11900 (J-)	—	19.2 (J)	—	—	—	0.2	—	0.844 (J)	—	—	56.3
RE21-07-5759	21-601199	8–9	QBT3	1.7	—	—	13700 (J-)	—	—	—	—	—	—	—	1.42	—	1.65 (U)	—
RE21-07-5760	21-601199	13–14	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.48	—	0.621 (J)	—
RE21-07-5761	21-601199	18–19	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6 (U)	—
RE21-07-5762	21-601199	23–24	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.62 (U)	—
RE21-07-5763	21-601200	3–4	QBT3	—	—	—	—	—	16.2 (J)	—	16.4	—	—	—	—	—	1.71 (U)	—
RE21-07-5764	21-601200	8–9	QBT3	—	—	—	—	—	163 (J)	—	15.9	—	—	—	—	—	1.71 (U)	—
RE21-07-5765	21-601200	13–14	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.64 (U)	—
RE21-07-5766	21-601200	18–19	QBT3	—	—	—	—	—	5.69 (J)	—	—	—	—	—	—	—	1.63 (U)	—
RE21-07-5767	21-601200	23–24	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.62 (U)	—
RE21-07-5768	21-601201	3–4	QBT3	—	66.6	—	—	—	—	—	—	—	—	—	—	—	1.13 (J)	—
RE21-07-5769	21-601201	8–9	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.4 (J)	—
RE21-07-5770	21-601201	13–14	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.812 (J)	—
RE21-07-5771	21-601201	18–19	QBT3	—	58	—	2920 (J+)	—	—	1.65	20.2	637 (J+)	—	—	—	—	1.15 (J)	96.5
RE21-07-5772	21-601201	23–24	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.11 (J)	—
RE21-07-5773	21-601202	12–13	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.967 (J)	—
RE21-07-5774	21-601202	17–18	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.832 (J)	—
RE21-07-5775	21-601202	22–23	QBT3	—	—	—	—	—	—	—	—	—	—	—	0.651 (J-)	—	0.835 (J)	—

Table 6.3-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Antimony	Barium	Cadmium	Calcium	Chromium	Copper	Cyanide (Total)	Lead	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Zinc
Qbt2,3,4 BV[a]				**0.5**	**46**	**1.63**	**2200**	**7.14**	**4.66**	**0.5**	**11.2**	**482**	**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**63.5**
Soil BV[a]				**0.83**	**295**	**0.4**	**6120**	**19.3**	**14.7**	**0.5**	**22.3**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**48.8**
Construction Worker SSL[c]				**124**	**4350**	**277**	**na**	**465000[d]**	**12400**	**186**	**800**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**92900**
Industrial SSL[c]				**454**	**223000**	**897**	**na**	**1700000[d]**	**45400**	**681**	**800**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**341000**
Residential SSL[c]				**31.3**	**15600**	**70.3**	**na**	**117000[d]**	**3130**	**46.9**	**400**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**23500**
RE21-07-5776	21-601202	27–28	QBT3	—	—	—	—	—	—	—	—	—	—	—	0.7 (J-)	—	0.959 (J)	—
RE21-07-5777	21-601202	32–33	QBT3	—	—	—	—	—	—	—	—	—	—	—	0.692 (J-)	—	1.29 (J)	—
RE21-07-5778	21-601203	12–13	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.09 (J)	78.7
RE21-07-5779	21-601203	17–18	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.978 (J)	—
RE21-07-5780	21-601203	22–23	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.949 (J)	—
RE21-07-5781	21-601203	27–28	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.943 (J)	—
RE21-07-5782	21-601203	32–33	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.775 (J)	—
RE21-07-5783	21-601204	12–13	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1 (J)	—
RE21-07-5784	21-601204	17–18	QBT3	—	—	—	2550	—	—	—	—	—	—	—	—	—	1.5 (U)	—
RE21-07-5785	21-601204	22–23	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.27 (J)	—
RE21-07-5786	21-601204	27–28	QBT3	—	—	—	—	—	—	—	18.5	—	—	—	—	—	1.31 (J)	—
RE21-07-5787	21-601204	32–33	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.925 (J)	—
RE21-07-5805	21-601209	3–4	SOIL	—	—	1.39	—	—	—	—	—	—	—	—	1.27 (J-)	—	3.55	1390
RE21-07-5806	21-601209	4–5	QBT3	—	—	—	—	7.78	—	—	—	—	—	—	0.766 (J-)	—	2.61	69
RE21-07-5807	21-601210	3–4	SOIL	—	—	0.57 (U)	—	—	—	—	—	—	—	—	0.679 (J-)	—	2.79	—
RE21-07-5808	21-601210	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	0.89 (J-)	—	3.1	—
RE21-07-5809	21-601211	2–3	SOIL	—	—	0.561 (U)	—	—	—	—	—	—	—	—	—	—	1.71	—
RE21-07-5810	21-601211	3–4	QBT3	—	—	—	—	9.67	—	—	—	—	—	—	—	—	0.815 (J)	69.4
RE21-07-5811	21-601212	7–8	QBT3	—	46.1	—	—	11.5	—	—	—	—	—	7.83	2.06	—	1.76 (J)	—
RE21-07-5812	21-601212	8–9	QBT3	—	—	—	2880	13.6	—	—	—	—	—	—	1.57	—	1.56 (J)	—
RE21-07-5813	21-601213	12–13	QBT3	—	—	—	—	13.1	—	—	—	—	—	—	—	—	1.15 (J)	—
RE21-07-5814	21-601213	13–14	QBT3	—	—	—	—	14.9	—	—	—	—	—	—	—	—	1.06 (J)	—
RE21-07-5817	21-601215	6–7	QBT3	—	—	—	—	16.5	—	—	—	—	—	—	—	—	1.21 (J)	—
RE21-07-5818	21-601215	8–9	QBT3	—	—	—	—	17	—	—	—	—	—	—	—	—	1.26 (J)	—
MD21-09-8774	21-605256	0–0.5	SOIL	NA[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17	NA	NA	NA
MD21-09-8779	21-605260	3–4	QBT3	NA	NA	NA	NA	NA	6.5	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971).

[d] SSL for trivalent chromium.

[e] — = Not detected or not detected above BV.

[f] NA = Not analyzed.

Table 6.3-3
Organic Chemicals Detected at Consolidated Unit 21-006(c)-99

Sample ID	Location ID	Depth (ft)	Media	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Chrysene	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]
Construction Worker SSL[a]				**66800**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**4760**	**20600**	**8910**	**na**[c]	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**183000**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**1370**	**2340**	**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**17200**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**347**	**148**	**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-07-1584	21-600388	0–0.5	SOIL	—[d]	0.98	0.948	1.81	2.81 (J)	0.635 (J)	8.73	1.5	2.92	NA[e]	NA	NA	NA	NA	NA	NA
RE21-07-1586	21-600389	0–0.5	SOIL	—	—	—	0.333 (J)	—	—	—	—	0.532 (J)	NA	NA	NA	NA	NA	NA	NA
RE21-07-1588	21-600390	0–0.5	SOIL	—	—	—	—	—	—	—	—	0.421 (J)	NA	NA	NA	NA	NA	NA	NA
RE21-07-1646	21-600392	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.19E-05	5.52E-05	5.17E-06	2.89E-07 (J)	1.51E-05	3.00E-07 (J)	8.57E-07 (J)
RE21-07-1614	21-600403	0–0.5	SOIL	—	—	—	0.0249 (J)	—	—	0.079 (J)	—	0.0364	NA	NA	NA	NA	NA	NA	NA
RE21-07-1615	21-600403	2–3	QBT3	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
RE21-07-5758	21-601199	3–4	SOIL	—	—	—	—	—	—	—	—	0.0244 (J)	NA	NA	NA	NA	NA	NA	NA
RE21-07-5759	21-601199	8–9	QBT3	0.00966 (J)	—	—	—	—	—	—	0.0371 (J)	0.0955	NA	NA	NA	NA	NA	NA	NA
RE21-07-5807	21-601210	3–4	SOIL	—	—	0.0116 (J)	0.0156 (J)	—	0.0114 (J)	—	0.0184 (J)	0.0192 (J)	NA	NA	NA	NA	NA	NA	NA
RE21-07-5812	21-601212	8–9	QBT3	—	—	—	—	—	—	—	—	0.0176 (J)	NA	NA	NA	NA	NA	NA	NA

Table 6.3-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)
Construction Worker SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**213**	**1120**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**4700**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**409**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-07-1584	21-600388	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	2.25 (J)	NA	NA	NA	NA	NA	NA	NA
RE21-07-1586	21-600389	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA
RE21-07-1588	21-600390	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA
RE21-07-1646	21-600392	0–0.5	SOIL	8.93E-07 (J)	7.81E-06	2.51E-07 (J)	2.46E-07 (J)	2.68E-07 (J)	4.11E-06	NA	NA	0.000241	1.59E-05	1.81E-07	9.64E-08 (J)	1.9E-07 (J)	1.98E-06
RE21-07-1614	21-600403	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA
RE21-07-1615	21-600403	2–3	QBT3	NA	NA	NA	NA	NA	NA	—	0.00223 (J)	NA	NA	NA	NA	NA	NA
RE21-07-5758	21-601199	3–4	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-07-5759	21-601199	8–9	QBT3	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-07-5807	21-601210	3–4	SOIL	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-07-5812	21-601212	8–9	QBT3	NA	NA	NA	NA	NA	NA	—	—	NA	NA	NA	NA	NA	NA

Table 6.3-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Tetrachloroethene	Toluene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**7150**	**6680**	**0.0152**	**na**	**212**	**13400**	**823**	**743**[f]
Industrial SSL[a]				**20500**	**18300**	**0.00204**	**na**	**36.6**	**57700**	**4410**	**3980**[f]
Residential SSL[a]				**1830**	**1720**	**0.00045**	**na**	**7.02**	**5270**	**898**	**814**[f]
RE21-07-1584	21-600388	0–0.5	SOIL	1.38	2.26	NA	NA	NA	NA	NA	NA
RE21-07-1586	21-600389	0–0.5	SOIL	0.201 (J)	0.42 (J)	NA	NA	NA	NA	NA	NA
RE21-07-1588	21-600390	0–0.5	SOIL	—	0.359 (J)	NA	NA	NA	NA	NA	NA
RE21-07-1646	21-600392	0–0.5	SOIL	NA	NA	2.12E-07 (J)	7.21E-07	NA	NA	NA	NA
RE21-07-1614	21-600403	0–0.5	SOIL	0.0146 (J)	0.0292 (J)	NA	NA	NA	NA	NA	NA
RE21-07-1615	21-600403	2–3	QBT3	—	—	NA	NA	—	—	—	—
RE21-07-5758	21-601199	3–4	SOIL	—	0.0237 (J)	NA	NA	0.00626	0.000533 (J)	0.000481 (J)	0.000566 (J)
RE21-07-5759	21-601199	8–9	QBT3	0.0363 (J)	0.0973	NA	NA	—	—	—	—
RE21-07-5807	21-601210	3–4	SOIL	—	0.0171 (J)	NA	NA	—	—	—	—
RE21-07-5812	21-601212	8–9	QBT3	—	0.0154 (J)	NA	NA	—	—	—	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971).

[b] Pyrene used as a surrogate based on structural similarity.

[c] na = Not available.

[d] — = Not detected.

[e] NA = Not analyzed.

[f] Xylenes used as a surrogate based on structural similarity.

Table 6.3-4
Radionuclides Detected or Detected above BVs/FVs at Consolidated Unit 21-006(c)-99

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**1.31[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-07-1584	21-600388	0–0.5	SOIL	0.236	1.69	0.0423 (J)	3.5 (J)	—[e]	—	3.39	0.23	2.33
RE21-07-1585	21-600388	2–3	QBT3	—	—	—	0.0486 (J)	—	0.00428921	—	—	—
RE21-07-1586	21-600389	0–0.5	SOIL	0.483	—	0.0297 (J)	1.39 (J)	—	—	—	—	—
RE21-07-1587	21-600389	2–3	QBT3	—	—	—	0.0271 (J)	—	—	—	—	—
RE21-07-1588	21-600390	0–0.5	SOIL	0.0684	—	—	0.451 (J)	—	—	—	—	—
RE21-07-1589	21-600390	2–3	QBT3	—	—	—	0.0286 (J)	—	—	—	—	—
RE21-07-1590	21-600391	0–0.5	SOIL	—	—	—	0.274 (J)	—	—	—	—	—
RE21-07-1592	21-600392	0–0.5	SOIL	0.0385	—	0.162 (J)	15.8 (J)	—	—	—	—	—
RE21-07-1614	21-600403	0–0.5	SOIL	0.11	—	0.0762	9.45	—	—	—	—	—
RE21-07-1615	21-600403	2–3	QBT3	—	—	—	0.0332	—	0.00923853	—	—	—
RE21-07-1616	21-600403	5–6	QBT3	—	—	0.03	0.05	—	0.00484428	—	—	—
RE21-07-5758	21-601199	3–4	SOIL	5.17	1.98	0.586	69.3	0.39	0.144419	18.8	0.793	—
RE21-07-5759	21-601199	8–9	QBT3	1.25	0.476	0.116	13.5	—	0.626337	5.63	0.222	—
RE21-07-5760	21-601199	13–14	QBT3	—	—	—	—	—	0.701043	—	—	—
RE21-07-5761	21-601199	18–19	QBT3	—	—	—	0.109	—	0.177852	—	—	—
RE21-07-5762	21-601199	23–24	QBT3	—	—	—	—	—	0.168947	—	—	—
RE21-07-5763	21-601200	3–4	QBT3	—	—	—	—	—	0.468431	—	—	—
RE21-07-5764	21-601200	8–9	QBT3	—	—	—	0.0354	—	0.491187	—	—	—
RE21-07-5765	21-601200	13–14	QBT3	—	—	—	—	—	0.16711	—	—	—
RE21-07-5766	21-601200	18–19	QBT3	—	—	—	—	—	0.181844	—	—	—
RE21-07-5767	21-601200	23–24	QBT3	—	—	—	—	—	0.144081	—	—	—
RE21-07-5768	21-601201	3–4	QBT3	—	—	—	0.0314	—	0.106306	—	0.0937	—
RE21-07-5769	21-601201	8–9	QBT3	—	—	—	—	—	0.0598027	—	0.112	—
RE21-07-5770	21-601201	13–14	QBT3	—	—	—	—	—	0.0736042	—	—	—
RE21-07-5771	21-601201	18–19	QBT3	—	—	—	—	—	0.153249	—	—	—
RE21-07-5772	21-601201	23–24	QBT3	—	—	—	0.0322	—	0.0871519	—	—	—
RE21-07-5773	21-601202	12–13	QBT3	—	—	—	0.222	—	0.026502	—	—	—
RE21-07-5774	21-601202	17–18	QBT3	—	—	—	—	—	—	—	0.105	—

Table 6.3-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**1.31[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-07-5776	21-601202	27–28	QBT3	—	—	—	—	—	0.0128764	—	—	—
RE21-07-5778	21-601203	12–13	QBT3	6.42	—	0.655	212	—	—	—	—	—
RE21-07-5779	21-601203	17–18	QBT3	2.04	—	0.605	90.5	—	—	—	—	—
RE21-07-5780	21-601203	22–23	QBT3	0.0452	—	—	2.09	—	—	—	—	—
RE21-07-5781	21-601203	27–28	QBT3	—	—	—	0.794	—	—	—	—	—
RE21-07-5782	21-601203	32–33	QBT3	—	—	—	0.252	—	—	—	—	—
RE21-07-5783	21-601204	12–13	QBT3	—	—	—	0.0511	—	0.0131519	—	—	—
RE21-07-5786	21-601204	27–28	QBT3	—	—	—	0.0765	—	—	—	—	—
RE21-07-5805	21-601209	3–4	SOIL	—	—	—	0.138	—	—	—	—	—
RE21-07-5807	21-601210	3–4	SOIL	0.485	—	0.0703	10.1	—	—	—	—	—
RE21-07-5808	21-601210	4–5	QBT3	—	—	—	0.0282	—	—	—	—	—
RE21-07-5809	21-601211	2–3	SOIL	0.0405	—	—	1.02	—	—	—	—	—
RE21-07-5810	21-601211	3–4	QBT3	0.0878	—	—	0.815	—	—	—	—	—
MD21-09-8773	21-601211	8–9	SOIL	0.805	NA[f]	NA	NA	NA	NA	NA	NA	NA
MD21-11-24230	21-601211	13–14	QBT3	0.0268	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5811	21-601212	7–8	QBT3	—	—	—	0.146	—	—	—	0.0917	—
RE21-07-5812	21-601212	8–9	QBT3	—	—	—	0.0484	—	—	—	—	—
RE21-07-5813	21-601213	12–13	QBT3	4.28	—	0.754	180	—	—	—	—	—
RE21-07-5814	21-601213	13–14	QBT3	5.95	—	0.901	231	—	—	—	—	—
RE21-07-5817	21-601215	6–7	QBT3	0.312	—	0.0567	17.3	—	—	—	—	—
RE21-07-5818	21-601215	8–9	QBT3	0.137	—	0.0343	7.79	—	0.0195113	—	—	—
MD21-09-8776	21-605258	0–0.5	SOIL	NA	NA	0.046	0.219	NA	NA	—	—	—
MD21-09-8777	21-605259	3–4	SOIL	1.82	1.99	0.321	21.2	0.49	0.625411 (J)	9.1	0.456	—
MD21-09-8778	21-605259	8–9	SOIL	1.78	1.3	0.236	19.9	0.377	0.600217 (J)	6.64	0.323	—
MD21-09-8779	21-605260	3–4	QBT3	NA	NA	0.099	30.4	NA	1.49154 (J)	—	—	—
MD21-09-8780	21-605260	8–9	QBT3	NA	NA	—	6.58	NA	0.999383 (J)	—	—	—
MD21-09-8781	21-605261	3–4	SOIL	NA	NA	0.256	9.46	NA	NA	—	—	—
MD21-09-8782	21-605261	8–9	QBT3	NA	NA	0.08	0.807	NA	NA	—	0.091	—
MD21-09-12454	21-608018	3–4	QBT3	NA	NA	—	0.927	NA	NA	NA	NA	NA
MD21-10-4659	21-609835	3–4	QBT3	NA	NA	—	0.098	NA	NA	NA	NA	NA

Table 6.3-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**1.31**[c]	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
MD21-11-24231	21-614565	3–4	SOIL	NA	NA	NA	NA	NA	0.0813659	NA	NA	NA
MD21-11-24232	21-614565	8–9	SOIL	NA	NA	NA	NA	NA	0.0909663	NA	NA	NA
MD21-11-24233	21-614565	18–19	QBT3	NA	NA	NA	NA	NA	0.170383	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.4-1
Samples Collected and Analyses Requested at SWMUs 21-022(h) and 21-022(j)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
SWMU 21-022(h)																			
RE21-07-989	21-600232	0–0.5	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—*	—	07-68	—	—	07-69	07-69
RE21-07-990	21-600232	2–3	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	07-68	07-68	—	—	07-69	07-69
RE21-07-991	21-600233	0–0.5	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	—	07-68	—	—	07-69	07-69
RE21-07-992	21-600233	2–3	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	07-68	07-68	—	—	07-69	07-69
RE21-07-993	21-600234	0–0.5	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	—	07-68	—	—	07-69	07-69
RE21-07-994	21-600234	2–3	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	07-68	07-68	—	—	07-69	07-69
RE21-07-995	21-600235	0–0.5	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	—	07-68	—	—	07-69	07-69
RE21-07-996	21-600235	2–3	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	07-68	07-68	—	—	07-69	07-69
RE21-07-997	21-600236	0–0.5	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	—	07-68	—	—	07-69	07-69
RE21-07-998	21-600236	2–3	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	07-68	07-68	—	—	07-69	07-69
RE21-07-999	21-600237	0–0.5	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	—	07-68	—	—	07-69	07-69
RE21-07-1000	21-600237	2–3	QBT3	07-69	07-70	07-70	07-70	07-70	07-70	07-70	07-69	07-69	—	07-68	07-68	—	—	07-69	07-69
RE21-07-1001	21-600238	0–0.5	ALLH	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	—	07-78	—	—	07-79	07-79
RE21-07-1002	21-600238	2–3	QBT3	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	07-78	07-78	—	—	07-79	07-79
RE21-07-1003	21-600239	0–0.5	ALLH	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	—	07-78	—	—	07-79	07-79
RE21-07-1004	21-600239	2–3	QBT3	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	07-78	07-78	—	—	07-79	07-79
RE21-07-1005	21-600240	0–0.5	ALLH	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	—	07-78	—	—	07-79	07-79
RE21-07-1006	21-600240	2–3	QBT3	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	07-78	07-78	—	—	07-79	07-79
MD21-09-8601	21-600240	4–5	QBT3	—	—	—	—	—	—	—	09-2589	—	—	—	—	—	—	—	—
RE21-07-1007	21-600241	0–0.5	ALLH	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	—	07-78	—	—	07-79	07-79
RE21-07-1008	21-600241	2–3	QBT3	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	07-78	07-78	—	—	07-79	07-79
RE21-07-1009	21-600242	0–0.5	ALLH	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	—	07-78	—	—	07-79	07-79
RE21-07-1121	21-600242	2–3	QBT3	—	—	—	—	—	—	—	—	—	07-141	—	—	07-142	07-141	—	—
RE21-07-1010	21-600242	2–3	QBT3	07-79	07-80	07-80	07-80	07-80	07-80	07-80	07-79	07-79	—	07-78	07-78	—	—	07-79	07-79
RE21-07-1015	21-600245	0–0.5	ALLH	07-107	07-108	07-108	07-108	07-108	07-108	07-108	07-107	07-107	—	—	07-106	—	—	07-107	07-107
RE21-07-1016	21-600245	2–3	QBT3	07-107	07-108	07-108	07-108	07-108	07-108	07-108	07-107	07-107	—	07-106	07-106	—	—	07-107	07-107
RE21-07-1017	21-600245	5–6	QBT3	07-107	07-108	07-108	07-108	07-108	07-108	07-108	07-107	07-107	—	07-106	07-106	—	—	07-107	07-107
RE21-07-5007	21-601057	8.5–9.5	QBT3	07-435	07-436	07-436	07-436	07-436	07-436	07-436	07-435	07-435	—	07-434	07-434	—	—	07-435	07-435
RE21-07-5008	21-601057	10.5–11.5	QBT3	07-435	07-436	07-436	07-436	07-436	07-436	07-436	07-435	07-435	—	07-434	07-434	—	—	07-435	07-435
RE21-07-5009	21-601058	1.5–2.5	QBT3	07-435	07-436	07-436	07-436	07-436	07-436	07-436	07-435	07-435	—	07-434	07-434	—	—	07-435	07-435
RE21-07-5010	21-601058	3.5–4.5	QBT3	07-435	07-436	07-436	07-436	07-436	07-436	07-436	07-435	07-435	—	07-434	07-434	—	—	07-435	07-435
RE21-07-5011	21-601059	13.5–14.5	QBT3	07-476	07-477	07-477	07-477	07-477	07-477	07-477	07-476	07-476	—	07-475	07-475	—	—	07-476	07-476
RE21-07-5012	21-601059	15.5–16.5	QBT3	07-476	07-477	07-477	07-477	07-477	07-477	07-477	07-476	07-476	—	07-475	07-475	—	—	07-476	07-476
RE21-07-5013	21-601060	13.5–14.5	QBT3	07-476	07-477	07-477	07-477	07-477	07-477	07-477	07-476	07-476	—	07-475	07-475	—	—	07-476	07-476

Table 6.4-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-5014	21-601060	15.5–16.5	QBT3	07-476	07-477	07-477	07-477	07-477	07-477	07-477	07-476	07-476	—	07-475	07-475	—	—	07-476	07-476
RE21-07-5017	21-601062	13.5–14.5	QBT3	07-476	07-477	07-477	07-477	07-477	07-477	07-477	07-476	07-476	—	07-475	07-475	—	—	07-476	07-476
RE21-07-5018	21-601062	18.5–19.5	QBT3	07-476	07-477	07-477	07-477	07-477	07-477	07-477	07-476	07-476	—	07-475	07-475	—	—	07-476	07-476
RE21-07-5019	21-601062	23.5–24.5	QBT3	07-476	07-477	07-477	07-477	07-477	07-477	07-477	07-476	07-476	—	07-475	07-475	—	—	07-476	07-476
MD21-09-8841	21-605282	0–0.5	ALLH	—	—	—	—	—	—	—	09-2589	—	—	—	—	—	—	—	—
MD21-09-8842	21-605282	2–3	QBT3	—	—	—	—	—	—	—	09-2589	—	—	—	—	—	—	—	—
MD21-09-8843	21-605282	4–5	QBT3	—	—	—	—	—	—	—	09-2589	—	—	—	—	—	—	—	—
MD21-10-4661	21-605282	9–10	QBT3	—	—	—	—	—	—	—	10-746	—	—	—	—	—	—	—	—
MD21-09-8844	21-605283	0–0.5	ALLH	09-2467	—	—	—	—	—	—	09-2467	09-2467	—	—	—	—	—	—	—
MD21-10-4664	21-609837	0–0.5	ALLH	10-746	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24234	21-614566	4–5	QBT3	—	—	—	—	—	—	—	11-3183	—	—	—	—	—	—	—	—
MD21-11-24235	21-614567	0–0.5	ALLH	—	—	—	—	—	11-3183	—	—	—	—	—	11-3183	—	—	—	—
MD21-11-24236	21-614567	1.5–2	QBT3	—	—	—	—	—	11-3183	—	—	—	—	—	11-3183	—	—	—	—
SWMU 21-022(j)																			
RE21-07-5020	21-601063	14–15	QBT3	08-268	08-269	08-269	08-269	08-269	08-269	08-269	08-268	08-268	—	08-267	08-267	—	—	08-268	08-268
RE21-07-5021	21-601063	19–20	QBT3	08-268	08-269	08-269	08-269	08-269	08-269	08-269	08-268	08-268	—	08-267	08-267	—	—	08-268	08-268
RE21-07-5022	21-601063	24–25	QBT3	08-268	08-269	08-269	08-269	08-269	08-269	08-269	08-268	08-268	—	08-267	08-267	—	—	08-268	08-268
RE21-07-5094	21-601063	24–25	QBT3	—	—	—	—	—	—	—	—	—	08-267	—	—	08-270	08-267	—	—
MD21-09-8845	21-605284	14–15	QBT3	—	09-1951	09-1951	09-1951	09-1951	09-1951	—	09-1951	—	—	—	—	—	—	—	—
MD21-09-8846	21-605284	19–20	QBT3	—	09-1951	09-1951	09-1951	09-1951	09-1951	—	09-1951	—	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.4-2
Inorganic Chemicals above BVs at SWMUs 21-022(h) and 21-022(j)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Cyanide (Total)	Iron	Lead	Magnesium	Mercury	Molybdenum	Nickel	Nitrate	Perchlorate	Selenium	Silver	Zinc
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.63**	**2200**	**7.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**	**0.1**	**na[b]**	**6.58**	**na**	**na**	**0.3**	**1**	**63.5**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**0.4**	**6120**	**19.3**	**14.7**	**0.5**	**21500**	**22.3**	**4610**	**0.1**	**na**	**15.4**	**na**	**na**	**1.52**	**1**	**48.8**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**277**	**na**	**465000[d]**	**12400**	**186**	**217000**	**800**	**na**	**92.9**	**1550**	**6190**	**496000**	**217**	**1550**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**454**	**18**	**223000**	**897**	**na**	**1700000[d]**	**45400**	**681**	**795000**	**800**	**na**	**341**	**5680**	**22500**	**1820000**	**795**	**5680**	**5680**	**341000**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000[d]**	**3130**	**46.9**	**54800**	**400**	**na**	**23.5**	**391**	**1560**	**125000**	**54.8**	**391**	**391**	**23500**
SWMU 21-022(h)																							
RE21-07-989	21-600232	0–0.5	QBT3	—[e]	—	—	—	—	5950 (J+)	—	9.8 (J-)	0.54 (U)	—	11.3	—	—	16.4	—	62.7 (J)	0.012	—	—	—
RE21-07-990	21-600232	2–3	QBT3	—	—	—	—	—	4150 (J+)	—	5.4 (J-)	0.54 (U)	—	—	—	—	6.3	—	37.1 (J)	—	—	—	—
RE21-07-991	21-600233	0–0.5	QBT3	—	—	—	—	—	—	—	—	0.53 (U)	—	—	—	—	7.3	—	4.7 (J)	—	—	—	—
RE21-07-992	21-600233	2–3	QBT3	—	0.52 (UJ)	—	—	—	—	—	—	0.52 (U)	—	—	—	—	0.31 (J)	—	0.61 (J)	—	0.52 (U)	—	—
RE21-07-993	21-600234	0–0.5	QBT3	—	—	—	—	—	—	—	—	0.51 (U)	—	—	—	—	0.77	—	0.96 (J)	—	—	—	—
RE21-07-994	21-600234	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4 (J)	—	—	—	—	—	—
RE21-07-995	21-600235	0–0.5	QBT3	—	—	—	—	—	—	—	—	0.52 (U)	—	12.5	—	—	0.46 (J)	—	2.1 (J)	—	—	—	—
RE21-07-996	21-600235	2–3	QBT3	—	0.51 (UJ)	—	—	—	2500 (J+)	—	—	0.51 (U)	—	—	—	—	0.23 (J)	—	3.7 (J)	—	—	—	—
RE21-07-997	21-600236	0–0.5	QBT3	—	—	—	—	—	—	—	—	0.53 (U)	—	—	—	—	0.28 (J)	—	3.6 (J)	—	—	—	—
RE21-07-998	21-600236	2–3	QBT3	—	0.51 (UJ)	—	—	—	—	—	—	0.51 (U)	—	—	—	—	0.15 (J)	—	—	—	—	—	—
RE21-07-999	21-600237	0–0.5	QBT3	—	0.52 (UJ)	—	—	—	—	—	—	0.52 (U)	—	—	—	—	0.18 (J)	—	0.88 (J)	—	0.52 (U)	—	—
RE21-07-1000	21-600237	2–3	QBT3	—	0.53 (UJ)	—	—	—	—	—	—	0.53 (U)	—	—	—	—	0.15 (J)	—	—	—	—	—	—
RE21-07-1001	21-600238	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	18	—	6.8 (J+)	—	—	—	—
RE21-07-1002	21-600238	2–3	QBT3	—	—	—	67.1	—	—	—	—	0.57 (UJ)	—	—	—	—	12	—	1.6 (J+)	—	0.38 (U)	—	—
RE21-07-1003	21-600239	0–0.5	SOIL	—	—	—	—	2.2	—	22.2 (J-)	—	—	—	185 (J-)	—	1.24 (J-)	8	—	4.6 (J+)	—	—	1.8	—
RE21-07-1004	21-600239	2–3	QBT3	—	0.62 (UJ)	—	—	—	—	—	—	—	—	11.4 (J-)	—	0.133 (J-)	1.3	—	—	—	—	—	—
RE21-07-1005	21-600240	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	23.6 (J-)	—	—	21.3	—	4.2 (J+)	—	—	—	—
RE21-07-1006	21-600240	2–3	QBT3	9300	—	2.9	136	—	36600 (J-)	9.5 (J-)	—	—	—	—	2070	—	4.9	10.9 (J-)	1.7 (J+)	0.0043 (J+)	0.53 (U)	—	—
MD21-09-8601	21-600240	4–5	QBT3	NA[f]	NA	NA	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-1007	21-600241	0–0.5	SOIL	—	—	—	—	6	20100 (J-)	27.3 (J-)	—	—	—	104 (J-)	—	0.965 (J-)	3.3	—	1.4 (J+)	—	—	1.8	—
RE21-07-1008	21-600241	2–3	QBT3	—	0.6 (UJ)	—	—	—	—	11.9 (J-)	—	0.6 (UJ)	—	—	—	0.25 (J-)	0.83	—	—	—	0.38 (U)	—	—
RE21-07-1009	21-600242	0–0.5	SOIL	—	—	—	—	0.73 (J)	—	—	—	—	—	49.5 (J-)	—	0.274 (J-)	7.2 (J)	—	3.4 (J+)	—	—	—	—
RE21-07-1010	21-600242	2–3	QBT3	—	—	—	56.6	—	12600 (J-)	—	—	0.57 (UJ)	—	—	—	—	1.8	7.2 (J-)	—	—	0.58 (U)	—	—
RE21-07-1015	21-600245	0–0.5	SOIL	—	—	—	—	1.86 (J)	—	356	249	—	22400	3940	—	1.92 (J)	13.9	—	1.52	—	8.11 (U)	47.3	1200
RE21-07-1016	21-600245	2–3	QBT3	—	—	—	—	—	—	22.6	67.7	—	—	33.9	—	0.105 (J)	0.56	—	1.38	—	1.03 (J)	—	86.4
RE21-07-1017	21-600245	5–6	QBT3	—	—	—	—	—	—	39.2	17.9	—	—	21.2	—	0.134 (J)	0.868	6.83	1.42	—	1.13 (J)	6.71	75
RE21-07-5007	21-601057	8.5–9.5	QBT3	7730	—	—	49.3	—	—	—	—	—	—	—	—	—	0.996	—	1.77	—	1.67 (U)	—	—
RE21-07-5008	21-601057	10.5–11.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2	—	1.48	—	1.62 (U)	—	—

Table 6.4-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Cyanide (Total)	Iron	Lead	Magnesium	Mercury	Molybdenum	Nickel	Nitrate	Perchlorate	Selenium	Silver	Zinc
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.63**	**2200**	**7.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**	**0.1**	**na**	**6.58**	**na**	**na**	**0.3**	**1**	**63.5**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**0.4**	**6120**	**19.3**	**14.7**	**0.5**	**21500**	**22.3**	**4610**	**0.1**	**na**	**15.4**	**na**	**na**	**1.52**	**1**	**48.8**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**277**	**na**	**465000[d]**	**12400**	**186**	**217000**	**800**	**na**	**92.9**	**1550**	**6190**	**496000**	**217**	**1550**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**454**	**18**	**223000**	**897**	**na**	**1700000[d]**	**45400**	**681**	**795000**	**800**	**na**	**341**	**5680**	**22500**	**1820000**	**795**	**5680**	**5680**	**341000**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000[d]**	**3130**	**46.9**	**54800**	**400**	**na**	**23.5**	**391**	**1560**	**125000**	**54.8**	**391**	**391**	**23500**
RE21-07-5009	21-601058	1.5–2.5	QBT3	10200	—	—	72.4	—	—	14.8	47.7	—	—	21.8	—	0.108 (J+)	1.57	—	1.44	—	0.866 (J)	—	104 (J)
RE21-07-5010	21-601058	3.5–4.5	QBT3	—	—	—	—	—	—	—	6.03	—	—	—	—	—	1.02	—	—	—	1.51 (U)	—	—
RE21-07-5011	21-601059	13.5–14.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.948	—	1.84	—	0.602 (J)	—	—
RE21-07-5012	21-601059	15.5–16.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.828	—	1.25	—	1.6 (U)	—	—
RE21-07-5013	21-601060	13.5–14.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.53	—	1.53	—	1.19 (J)	—	—
RE21-07-5014	21-601060	15.5–16.5	QBT3	—	—	—	—	—	—	—	—	—	—	12.7	—	—	1.38	—	1.47	—	1.6 (U)	—	—
RE21-07-5017	21-601062	13.5–14.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	—	1.6	—	0.609 (J)	—	—
RE21-07-5018	21-601062	18.5–19.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.17	—	1.38	—	1.62 (U)	—	—
RE21-07-5019	21-601062	23.5–24.5	QBT3	—	—	—	—	—	—	—	—	—	—	12.4	—	—	1.17	—	1.53	—	1.54 (U)	—	—
MD21-09-8841	21-605282	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	NA	NA	NA	NA	NA	NA
MD21-09-8842	21-605282	2–3	QBT3	NA	NA	NA	52	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-8843	21-605282	4–5	QBT3	NA	NA	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-4661	21-605282	9–10	QBT3	NA	NA	NA	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-8844	21-605283	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.98 (J)	NA	72	0.015	NA	NA	NA
MD21-10-4664	21-609837	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26 (J-)	NA	NA	NA	NA
MD21-11-24234	21-614566	4–5	QBT3	NA	NA	NA	63.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SWMU 21-022(j)																							
RE21-07-5020	21-601063	14–15	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	—	—	—	2.23	—	—
RE21-07-5021	21-601063	19–20	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	—	—	—	1.32 (J)	—	—
RE21-07-5022	21-601063	24–25	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	0.345	—	—	—	1.52 (J)	—	—
MD21-09-8845	21-605284	14–15	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	NA	NA	NA	—	NA	NA
MD21-09-8846	21-605284	19–20	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4	NA	NA	NA	—	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971).

[d] SSL for trivalent chromium.

[e] — = Not detected or not detected above BV.

[f] NA = Not analyzed.

Table 6.4-3
Organic Chemicals Detected at SWMUs 21-022(h) and 21-022(j)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Carbazole	Chrysene	Di-n-butylphthalate	Dibenz(a,h)anthracene	Dibenzofuran	Diethylphthalate	Fluoranthene
Construction Worker SSL[a]				**18600**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**4760**	**53800[c]**	**na[d]**	**20600**	**23800**	**21.3**	**354[c]**	**191000**	**8910**
Industrial SSL[a]				**36700**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**1370**	**12000[e]**	**na**	**2340**	**68400**	**2.34**	**1000[e]**	**547000**	**24400**
Residential SSL[a]				**3440**	**17200**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**347**	**2800[e]**	**na**	**148**	**6110**	**0.148**	**72[e]**	**48900**	**2290**
SWMU 21-022(h)																					
RE21-07-989	21-600232	0–0.5	QBT3	—[f]	—	NA[g]	NA	—	0.21 (J)	0.39 (J)	—	—	—	—	—	0.19 (J)	—	—	—	—	0.52 (J)
RE21-07-990	21-600232	2–3	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	0.089 (J)
RE21-07-995	21-600235	0–0.5	QBT3	—	—	NA	NA	—	—	0.074 (J)	—	—	—	—	—	0.081 (J)	—	—	—	—	0.25 (J)
RE21-07-999	21-600237	0–0.5	QBT3	—	—	NA	NA	—	—	—	—	—	0.14 (J)	—	—	—	—	—	—	—	—
RE21-07-1001	21-600238	0–0.5	SOIL	—	—	NA	NA	—	—	0.08 (J)	—	—	—	—	—	—	—	—	—	—	0.14 (J)
RE21-07-1003	21-600239	0–0.5	SOIL	2	2.3	NA	NA	5.5 (J)	5.9 (J)	7.5 (J)	6.4 (J)	2.7 (J)	7.9 (J)	0.51 (J)	1.5	6.1 (J)	0.26 (J)	0.87 (J)	1.1	—	14 (J)
RE21-07-1004	21-600239	2–3	QBT3	—	—	NA	NA	0.19 (J)	0.2 (J)	0.29 (J)	—	—	0.39 (J)	—	—	0.2 (J)	—	—	—	—	0.48 (J)
RE21-07-1005	21-600240	0–0.5	SOIL	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	0.11 (J)
RE21-07-1007	21-600241	0–0.5	SOIL	0.89	1.2	NA	NA	2.6	2.8 (J)	3.5 (J)	2 (J)	1.6 (J)	2.1	—	0.77 (J)	2.9	0.35 (J)	0.43 (J)	0.4 (J)	—	5.7
RE21-07-1008	21-600241	2–3	QBT3	—	—	NA	NA	—	—	—	—	—	0.1 (J)	—	—	—	—	—	—	—	—
RE21-07-1009	21-600242	0–0.5	SOIL	0.14 (J)	0.21 (J)	NA	NA	0.73	0.81 (J)	1.3 (J)	0.54 (J)	0.46 (J)	1.6	0.15 (J)	0.18 (J)	0.87	—	0.12 (J)	—	—	1.9
RE21-07-1010	21-600242	2–3	QBT3	—	—	NA	NA	—	—	—	—	—	0.14 (J)	—	—	—	—	—	—	—	0.098 (J)
RE21-07-1121	21-600242	2–3	QBT3	NA	NA	0.0478	0.0211 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-1015	21-600245	0–0.5	SOIL	0.635	1.25	NA	NA	2.6	—	3.25	2.62 (J)	1.38	2.61	—	NA	2.87	—	—	—	—	7.02
RE21-07-1016	21-600245	2–3	QBT3	0.0324 (J)	0.0579	NA	NA	0.113	—	0.162	0.182 (J)	—	0.41	—	NA	0.122	—	—	—	—	0.294
RE21-07-1017	21-600245	5–6	QBT3	0.108	0.154	NA	NA	0.288	—	0.403	0.344 (J)	0.147	0.474	—	NA	0.324	—	—	—	—	0.904
RE21-07-5007	21-601057	8.5–9.5	QBT3	—	—	NA	NA	0.0191 (J)	—	0.018 (J)	—	—	—	—	NA	0.0171 (J)	—	—	—	—	0.0308 (J)
RE21-07-5008	21-601057	10.5–11.5	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	—	—	—	0.0149 (J)
RE21-07-5009	21-601058	1.5–2.5	QBT3	0.0202 (J)	0.0287 (J)	NA	NA	0.0665	0.0711	0.0898	0.0464 (J)	0.042	0.27 (J)	—	NA	0.0781	—	—	—	—	0.145
RE21-07-5010	21-601058	3.5–4.5	QBT3	—	—	NA	NA	0.0152 (J)	—	0.0161 (J)	—	—	0.0963 (J)	—	NA	0.0124 (J)	—	—	—	—	0.0253 (J)
RE21-07-5014	21-601060	15.5–16.5	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	—	—	—	0.0178 (J)
MD21-11-24235	21-614567	0–0.5	SOIL	—	—	NA	NA	—	0.0585	0.0592	—	0.0283 (J)	—	—	NA	—	—	—	—	—	0.135
MD21-11-24236	21-614567	1.5–2	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	—	—	0.113 (J)	0.0165 (J)

Table 6.4-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[1,2,3,7,8,9-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene
Construction Worker SSL[a]				**8910**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**213**
Industrial SSL[a]				**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**23.4**
Residential SSL[a]				**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.48**
RE21-07-989	21-600232	0–0.5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-990	21-600232	2–3	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-995	21-600235	0–0.5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-999	21-600237	0–0.5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-1001	21-600238	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-1003	21-600239	0–0.5	SOIL	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 (J)
RE21-07-1004	21-600239	2–3	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-1005	21-600240	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-1007	21-600241	0–0.5	SOIL	0.73 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.6 (J)
RE21-07-1008	21-600241	2–3	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-1009	21-600242	0–0.5	SOIL	0.11 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-1010	21-600242	2–3	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-1121	21-600242	2–3	QBT3	NA	1.81E-05	3.18E-05	2.85E-06	2.46E-07 (J)	8.72E-06	2.14E-07 (J)	9.22E-07 (J)	4.88E-07 (J)	5.49E-06	4.1E-07 (J)	2.52E-07 (J)	1.05E-07 (J)	2.65E-07 (J)	4.12E-06	NA
RE21-07-1015	21-600245	0–0.5	SOIL	0.544	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 (J)
RE21-07-1016	21-600245	2–3	QBT3	0.0291 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.146 (J)
RE21-07-1017	21-600245	5–6	QBT3	0.0971	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.288 (J)
RE21-07-5007	21-601057	8.5–9.5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5008	21-601057	10.5–11.5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5009	21-601058	1.5–2.5	QBT3	0.0161 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5010	21-601058	3.5–4.5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5014	21-601060	15.5–16.5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
MD21-11-24235	21-614567	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—
MD21-11-24236	21-614567	1.5–2	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—

Table 6.4-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Isopropyltoluene[4-]	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxin[1,2,3,7,8-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)
Construction Worker SSL[a]				**2810**[h]	**1120**	**1420**[c]	**158**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**7150**	**6680**	**0.0152**	**na**
Industrial SSL[a]				**14500**[h]	**4700**	**3000**[e]	**241**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**20500**	**18300**	**0.00204**	**na**
Residential SSL[a]				**2430**[h]	**409**	**230**[e]	**43**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1830**	**1720**	**0.00045**	**na**
RE21-07-989	21-600232	0–0.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	0.25 (J)	0.45 (J)	NA	NA
RE21-07-990	21-600232	2–3	QBT3	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	—	—	NA	NA
RE21-07-995	21-600235	0–0.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	—	0.15 (J)	NA	NA
RE21-07-999	21-600237	0–0.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	—	—	NA	NA
RE21-07-1001	21-600238	0–0.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	—	0.11 (J)	NA	NA
RE21-07-1003	21-600239	0–0.5	SOIL	NA	NA	0.51 (J)	1.7	NA	NA	NA	NA	NA	NA	NA	12 (J)	19	NA	NA
RE21-07-1004	21-600239	2–3	QBT3	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	0.31 (J)	0.62 (J)	NA	NA
RE21-07-1005	21-600240	0–0.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	—	0.1 (J)	NA	NA
RE21-07-1007	21-600241	0–0.5	SOIL	NA	NA	0.16 (J)	0.45 (J)	NA	NA	NA	NA	NA	NA	NA	5.1	9.3	NA	NA
RE21-07-1008	21-600241	2–3	QBT3	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	—	—	NA	NA
RE21-07-1009	21-600242	0–0.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	1.2	2.2	NA	NA
RE21-07-1010	21-600242	2–3	QBT3	0.0019 (J)	—	—	—	NA	NA	NA	NA	NA	NA	NA	—	—	NA	NA
RE21-07-1121	21-600242	2–3	QBT3	NA	NA	NA	NA	0.000132	6.63E-06	1.36E-07 (J)	1.36E-07	1.08E-07 (J)	3.35E-07 (J)	2.56E-06	NA	NA	3.53E-07 (J)	2.28E-06
RE21-07-1015	21-600245	0–0.5	SOIL	NA	NA	0.107 (J)	0.275 (J)	NA	NA	NA	NA	NA	NA	NA	5.4	6.99	NA	NA
RE21-07-1016	21-600245	2–3	QBT3	—	0.0033 (J)	—	—	NA	NA	NA	NA	NA	NA	NA	0.242	0.27	NA	NA
RE21-07-1017	21-600245	5–6	QBT3	—	0.00263 (J)	0.0296 (J)	0.0878	NA	NA	NA	NA	NA	NA	NA	0.841	0.838	NA	NA
RE21-07-5007	21-601057	8.5–9.5	QBT3	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	0.0282 (J)	0.0368 (J)	NA	NA
RE21-07-5008	21-601057	10.5–11.5	QBT3	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	—	0.0159 (J)	NA	NA
RE21-07-5009	21-601058	1.5–2.5	QBT3	—	—	—	0.0168 (J)	NA	NA	NA	NA	NA	NA	NA	0.131	0.154	NA	NA
RE21-07-5010	21-601058	3.5–4.5	QBT3	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	0.0185 (J)	0.0284 (J)	NA	NA
RE21-07-5014	21-601060	15.5–16.5	QBT3	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	—	0.0116 (J)	NA	NA

Table 6.4-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Isopropyltoluene[4-]	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxin[1,2,3,7,8-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)
Construction Worker SSL[a]				**2810**[h]	**1120**	**1420**[c]	**158**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**7150**	**6680**	**0.0152**	**na**
Industrial SSL[a]				**14500**[h]	**4700**	**3000**[e]	**241**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**20500**	**18300**	**0.00204**	**na**
Residential SSL[a]				**2430**[h]	**409**	**230**[e]	**43**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1830**	**1720**	**0.00045**	**na**
MD21-11-24235	21-614567	0–0.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	0.0821	0.112	NA	NA
MD21-11-24236	21-614567	1.5–2	QBT3	NA	NA	—	—	NA	NA	NA	NA	NA	NA	NA	—	0.014 (J)	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[d] na = Not available.

[e] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[f] — = Not detected.

[g] NA = Not analyzed.

[h] Isopropylbenzene used as a surrogate based on structural similarity.

Table 6.4-4
Radionuclides Detected or Detected above BVs/FVs at SWMUs 21-022(h) and 21-022(j)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-235/236
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**na**	**0.09**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**1.31[c]**	**na**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**39**
SWMU 21-022(h)										
RE21-07-989	21-600232	0–0.5	QBT3	0.618	0.56	1.94	3.02 (J)	0.37	—[e]	—
RE21-07-990	21-600232	2–3	QBT3	0.176	0.33	1.12	1.54 (J)	—	—	0.1
RE21-07-991	21-600233	0–0.5	QBT3	0.053	0.42	0.32	0.336 (J)	—	—	—
RE21-07-993	21-600234	0–0.5	QBT3	—	0.38	—	0.454 (J)	—	—	—
RE21-07-994	21-600234	2–3	QBT3	—	—	—	—	0.25	—	—
RE21-07-995	21-600235	0–0.5	QBT3	—	0.37	—	0.196 (J)	—	—	—
RE21-07-997	21-600236	0–0.5	QBT3	—	0.16	—	0.248 (J)	—	—	—
RE21-07-999	21-600237	0–0.5	QBT3	—	0.15	—	0.068 (J)	—	—	—
RE21-07-1000	21-600237	2–3	QBT3	—	—	—	0.065 (J-)	—	—	—
RE21-07-1001	21-600238	0–0.5	SOIL	0.401	—	0.885	14.3 (J)	—	—	—
RE21-07-1002	21-600238	2–3	QBT3	0.053	—	0.533	0.887 (J)	—	—	—
RE21-07-1003	21-600239	0–0.5	SOIL	4.57	—	42.2	25 (J)	—	—	—
RE21-07-1004	21-600239	2–3	QBT3	1.01	—	1.96	2.62 (J)	—	—	—
RE21-07-1005	21-600240	0–0.5	SOIL	0.367	—	0.413	4.53 (J)	—	—	—
RE21-07-1006	21-600240	2–3	QBT3	—	—	—	0.176 (J)	—	—	—
RE21-07-1007	21-600241	0–0.5	SOIL	4.64	—	19.2	78.1 (J)	—	—	—
RE21-07-1008	21-600241	2–3	QBT3	0.247	—	0.949	2.1 (J)	—	—	—
RE21-07-1009	21-600242	0–0.5	SOIL	1.06	—	6.4	14.8 (J)	—	—	—
RE21-07-1010	21-600242	2–3	QBT3	—	—	0.38	0.181 (J)	—	—	—
RE21-07-1015	21-600245	0–0.5	SOIL	1.85	—	7.13	8.08	—	0.034374	—
RE21-07-1016	21-600245	2–3	QBT3	0.223	—	0.965	1.05	—	—	—
RE21-07-1017	21-600245	5–6	QBT3	0.05	—	0.454	0.505	—	—	—
RE21-07-5007	21-601057	8.5–9.5	QBT3	—	—	—	0.543	—	0.054451	—
RE21-07-5008	21-601057	10.5–11.5	QBT3	—	—	—	0.0658	—	0.046655	—
RE21-07-5009	21-601058	1.5–2.5	QBT3	0.181	—	1.98	0.363	—	—	—

Table 6.4-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-235/236
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**na**	**0.09**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**1.31**	**na**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**39**
RE21-07-5010	21-601058	3.5–4.5	QBT3	—	—	0.414	0.131	—	—	0.13
RE21-07-5011	21-601059	13.5–14.5	QBT3	—	—	—	—	—	0.049201	—
RE21-07-5012	21-601059	15.5–16.5	QBT3	—	—	—	—	—	0.03597	—
RE21-07-5013	21-601060	13.5–14.5	QBT3	—	—	—	0.0907	—	0.049657	—
RE21-07-5014	21-601060	15.5–16.5	QBT3	—	—	—	0.0915	—	0.057528	—
RE21-07-5017	21-601062	13.5–14.5	QBT3	—	—	—	0.0547	—	0.044395	—
RE21-07-5018	21-601062	18.5–19.5	QBT3	—	—	—	0.122	—	0.05202	—
RE21-07-5019	21-601062	23.5–24.5	QBT3	—	—	—	—	—	0.035923	—
MD21-11-24235	21-614567	0–0.5	SOIL	NA[f]	NA	0.04	1.89	NA	NA	NA
MD21-11-24236	21-614567	1.5–2	QBT3	NA	NA	—	0.0846	NA	NA	NA
SWMU 21-022(j)										
RE21-07-5020	21-601063	14–15	QBT3	—	—	—	0.127	—	0.045761	—
RE21-07-5021	21-601063	19–20	QBT3	—	—	—	—	—	0.0367	—
RE21-07-5022	21-601063	24–25	QBT3	—	—	—	—	—	0.049978	—
MD21-09-8845	21-605284	14–15	QBT3	—	—	—	—	—	0.037036	NA
MD21-09-8846	21-605284	19–20	QBT3	—	—	—	0.043	—	—	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.5-1
Samples Collected and Analyses Requested at Consolidated Unit 21-023(a)-99

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-5211	21-601106	2–3	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—*	08-44	08-44	—	—	08-45	08-45
RE21-07-5212	21-601106	4–5	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5213	21-601107	1.5–2.5	ALLH	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5214	21-601107	3.5–4	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5215	21-601108	2–3	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5216	21-601108	4–5	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5217	21-601109	4–5	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5218	21-601109	6–7	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5219	21-601110	2–3	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5220	21-601110	4–5	QBT3	08-45	08-46	08-46	08-46	08-46	08-46	08-46	08-45	08-45	—	08-44	08-44	—	—	08-45	08-45
RE21-07-5221	21-601111	2–3	QBT3	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5222	21-601111	4–5	QBT3	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5227	21-601114	2–3	ALLH	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5228	21-601114	4–5	ALLH	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
MD21-09-8818	21-601114	9–10	ALLH	—	—	—	—	—	09-2285	—	—	—	—	—	09-2285	—	—	—	—
MD21-09-12421	21-601114	19–20	QBT3	—	—	—	—	—	09-3030	—	—	—	—	—	09-3030	—	—	—	—
RE21-07-5229	21-601115	2–3	ALLH	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5230	21-601115	4–5	ALLH	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5231	21-601116	2.5–3.5	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5232	21-601116	4.5–5.5	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5233	21-601117	2.5–3.5	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5234	21-601117	4.5–5.5	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5235	21-601118	2–3	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5236	21-601118	4–5	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-08-7066	21-601118	4–5	QBT3	—	—	—	—	—	—	—	—	—	08-118	—	—	08-119	08-118	—	—
RE21-07-5237	21-601119	2–3	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5238	21-601119	4–5	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5239	21-601120	2–3	ALLH	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5240	21-601120	4–5	ALLH	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
MD21-09-8817	21-601120	9–10	QBT3	—	—	—	—	—	09-2285	—	—	—	—	—	—	—	—	—	—
RE21-07-5241	21-601121	2–3	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5242	21-601121	4–5	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5243	21-601122	2–3	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5244	21-601122	4–5	QBT3	08-71	08-72	08-72	08-72	08-72	08-72	08-72	08-71	08-71	—	08-70	08-70	—	—	08-71	08-71
RE21-07-5245	21-601123	5.5–6.5	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82

Table 6.5-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-5246	21-601123	7.5–8.5	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5247	21-601124	5.5–6.5	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5248	21-601124	7.5–8.5	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5249	21-601125	5–6	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5250	21-601125	7–8	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5251	21-601126	7–8	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5252	21-601126	9–10	QBT3	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5253	21-601127	2.25–3.25	ALLH	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5254	21-601127	4.25–5.25	ALLH	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	08-81	—	—	08-82	08-82
RE21-07-5255	21-601128	5–6	QBT3	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5256	21-601128	10–11	QBT3	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5257	21-601128	15–16	QBT3	08-59	08-60	08-60	08-60	08-60	08-60	08-60	08-59	08-59	—	08-58	08-58	—	—	08-59	08-59
RE21-07-5258	21-601129	6–7	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5259	21-601129	11–12	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5260	21-601129	16–17	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5261	21-601130	4–5	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5262	21-601130	9–10	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
RE21-07-5263	21-601130	14–15	QBT3	08-62	08-63	08-63	08-63	08-63	08-63	08-63	08-62	08-62	—	08-61	08-61	—	—	08-62	08-62
MD21-09-8816	21-601130	19–20	QBT3	—	—	—	—	—	09-2067	—	—	—	—	—	—	—	—	—	—
RE21-08-7054	21-603010	3–4	ALLH	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	—	—	—	08-82	—
RE21-08-7055	21-603010	5–6	ALLH	08-82	08-83	08-83	08-83	08-83	08-83	08-83	08-82	08-82	—	08-81	—	—	—	08-82	—
RE21-08-7056	21-603011	3–4	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
RE21-08-7057	21-603011	5–6	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
RE21-08-7058	21-603012	4–5	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
RE21-08-7059	21-603012	6–7	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
RE21-08-7060	21-603013	5.25–6.25	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
RE21-08-7061	21-603013	7.25–8.25	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
RE21-08-7062	21-603014	6–7	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
RE21-08-7063	21-603014	8–9	QBT3	08-85	08-86	08-86	08-86	08-86	08-86	08-86	08-85	08-85	—	08-84	08-84	—	—	08-85	08-85
MD21-09-8814	21-603015	10.5–11.5	QBT3	—	—	—	—	09-2285	—	—	—	—	—	—	—	—	—	—	—
RE21-08-7064	21-603015	3.5–4.5	QBT3	08-88	08-89	08-89	08-89	08-89	08-89	08-89	08-88	08-88	—	08-87	08-87	—	—	08-88	08-88
RE21-08-7065	21-603015	5.5–6.5	QBT3	08-88	08-89	08-89	08-89	08-89	08-89	08-89	08-88	08-88	—	08-87	08-87	—	—	08-88	08-88
MD21-09-8815	21-605271	21–22	QBT3	—	—	—	—	09-2067	09-2067	—	—	—	—	—	—	—	—	—	—
MD21-11-24237	21-614568	3–4	QBT3	—	—	—	—	—	—	—	—	—	—	—	11-3068	—	—	—	—
MD21-11-24238	21-614568	5–6	QBT3	—	—	—	—	—	—	—	—	—	—	—	11-3068	—	—	—	—

*— = Analyses not requested.

Table 6.5-2
Inorganic Chemicals above BVs at Consolidated Unit 21-023(a)-99

Sample ID	Location ID	Depth (ft)	Media	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Vanadium
Qbt2,3,4 BV[a]				**0.5**	**2.8**	**46**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**14500**	**11.2**	**1690**	**482**	**0.1**	**6.58**	**na**[b]	**na**	**0.3**	**17**
Soil BV[a]				**0.83**	**8.2**	**295**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**21500**	**22.3**	**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**39.6**
Construction Worker SSL[c]				**124**	**53**	**4350**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**217000**	**800**	**na**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**
Industrial SSL[c]				**454**	**18**	**223000**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**795000**	**800**	**na**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**
Residential SSL[c]				**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**54800**	**400**	**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**
RE21-07-5211	21-601106	2–3	QBT3	0.948 (J-)	—[g]	88 (J+)	—	26500 (J+)	—	—	—	—	1270	1930 (J+)	—	0.12	—	2.3	—	1.17 (J)	—
RE21-07-5212	21-601106	4–5	QBT3	—	—	—	—	—	8.67	—	—	—	—	—	—	—	—	7.82	—	1.67 (U)	—
RE21-07-5213	21-601107	1.5–2.5	SOIL	—	—	—	0.552 (U)	—	—	—	—	—	44	—	—	0.11	—	2.62	—	—	—
RE21-07-5214	21-601107	3.5–4	QBT3	—	—	55 (J+)	—	—	—	—	—	—	21.9	—	—	—	—	2.38	—	0.619 (J)	—
RE21-07-5215	21-601108	2–3	QBT3	—	—	—	—	—	—	—	—	—	14.6	—	—	—	—	1.84	—	0.582 (J)	—
RE21-07-5216	21-601108	4–5	QBT3	—	—	62.9 (J+)	—	2660 (J+)	—	—	—	—	13.9	—	—	—	—	2.77	—	1.48 (J)	—
RE21-07-5217	21-601109	4–5	QBT3	—	—	47.5 (J+)	—	—	—	—	—	—	15.6 (J)	—	—	—	—	2.37	—	1.79 (U)	—
RE21-07-5218	21-601109	6–7	QBT3	—	—	—	—	—	—	—	—	—	19.8	—	—	—	—	1.91	—	1.78 (U)	—
RE21-07-5219	21-601110	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	0.13	—	1.64	—	0.756 (J)	—
RE21-07-5220	21-601110	4–5	QBT3	—	—	—	—	—	7.86	—	—	—	—	—	—	—	—	1.75	—	1.71 (U)	—
RE21-07-5221	21-601111	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.43 (J)	—
RE21-07-5222	21-601111	4–5	QBT3	—	—	—	—	—	—	—	5.4	—	13.3	—	714	—	6.64 (J)	1.31	—	2.22	—
RE21-07-5227	21-601114	2–3	SOIL	—	—	—	—	6880 (J+)	48.8	—	—	—	—	—	—	—	—	1.43	—	5.26	—
RE21-07-5228	21-601114	4–5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	0.26	—	—	0.000708 (J)	5.24	—
RE21-07-5229	21-601115	2–3	SOIL	—	—	—	—	17000 (J+)	—	—	—	—	—	—	—	—	15.8 (J)	1.36	—	9.26	—
RE21-07-5230	21-601115	4–5	SOIL	—	—	334	—	42700 (J+)	—	—	—	—	—	—	—	—	15.7 (J)	1.43	—	22.5	—
RE21-07-5231	21-601116	2.5–3.5	QBT3	—	3	66.9 (J+)	—	—	—	—	—	—	—	—	—	—	—	—	—	5.17	—
RE21-07-5232	21-601116	4.5–5.5	QBT3	—	3.9	—	—	3330	—	—	—	—	—	—	—	0.16	—	—	—	4.77	—
RE21-07-5233	21-601117	2.5–3.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.35	—
RE21-07-5234	21-601117	4.5–5.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.47	—
RE21-07-5235	21-601118	2–3	QBT3	—	5.2	—	—	8150	—	—	—	—	—	—	—	—	—	1.21 (J-)	—	6.26	—
RE21-07-5236	21-601118	4–5	QBT3	—	4.8	—	—	6050	—	—	—	—	—	—	—	—	—	1.26 (J-)	—	6.29	—
RE21-07-5237	21-601119	2–3	QBT3	—	5	128 (J)	—	7500	—	—	6.68	14800	33.3 (J)	—	—	0.25	6.76	2.79 (J-)	0.00306	10.7	—
RE21-07-5238	21-601119	4–5	QBT3	—	5.3	122 (J)	—	9470	—	—	19	—	35.6 (J)	—	—	2.16	—	11.6 (J-)	0.00649	9.11	—
RE21-07-5239	21-601120	2–3	SOIL	—	—	—	0.6 (U)	—	—	—	—	—	—	—	—	—	—	1.65 (J-)	—	7.59	—
RE21-07-5240	21-601120	4–5	SOIL	—	—	—	0.604 (U)	—	—	—	—	—	—	—	—	—	—	1.44 (J-)	0.00069 (J)	12.4	—
RE21-07-5241	21-601121	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.27	—
RE21-07-5242	21-601121	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.94	—
RE21-07-5243	21-601122	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.15 (J-)	—	2.34	—
RE21-07-5244	21-601122	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25 (J-)	—	3.45	—
RE21-07-5245	21-601123	5.5–6.5	QBT3	—	3.5	—	—	2550	—	—	—	—	—	—	—	—	—	—	—	0.691 (J)	—
RE21-07-5246	21-601123	7.5–8.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.57 (U)	—
RE21-07-5247	21-601124	5.5–6.5	QBT3	—	3.8	60.7	—	3000	—	—	—	—	—	—	—	—	—	—	—	1.7 (U)	—
RE21-07-5248	21-601124	7.5–8.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.73 (U)	—

Table 6.5-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Vanadium
Qbt2,3,4 BV[a]				**0.5**	**2.8**	**46**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**14500**	**11.2**	**1690**	**482**	**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**17**
Soil BV[a]				**0.83**	**8.2**	**295**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**21500**	**22.3**	**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**39.6**
Construction Worker SSL[c]				**124**	**53**	**4350**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**217000**	**800**	**na**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**
Industrial SSL[c]				**454**	**18**	**223000**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**795000**	**800**	**na**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**
Residential SSL[c]				**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**54800**	**400**	**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**
RE21-07-5249	21-601125	5–6	QBT3	—	—	58.6	—	25000	—	—	5.29	—	—	2320	—	—	—	—	—	0.625 (J)	—
RE21-07-5250	21-601125	7–8	QBT3	—	—	—	—	6070	—	—	—	—	—	—	—	—	—	—	—	1.74 (U)	—
RE21-07-5251	21-601126	7–8	QBT3	—	5.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.69 (U)	22.5 (J)
RE21-07-5252	21-601126	9–10	QBT3	—	3.2	75.5	—	2960	—	—	4.86	—	—	—	—	—	—	—	—	1.6 (U)	—
RE21-07-5253	21-601127	2.25–3.25	SOIL	—	—	—	0.568 (U)	10300	—	—	—	—	—	—	—	—	—	—	0.000866 (J)	1.7 (U)	—
RE21-07-5254	21-601127	4.25–5.25	SOIL	—	—	—	0.51 (U)	—	—	—	—	—	—	—	—	—	—	—	0.000639 (J)	1.53 (U)	—
RE21-07-5255	21-601128	5–6	QBT3	—	3.1	—	—	2300 (J+)	9.86	—	—	—	939	—	—	—	—	1.62	—	2.46	—
RE21-07-5256	21-601128	10–11	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.37	—	1.92	—
RE21-07-5257	21-601128	15–16	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.16	—	1.56 (J)	—
RE21-07-5258	21-601129	6–7	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.44	—
RE21-07-5259	21-601129	11–12	QBT3	—	3.3	—	—	3930	—	—	—	—	—	—	—	0.11	—	1.04 (J)	—	4.78	—
RE21-07-5260	21-601129	16–17	QBT3	—	3.5	—	—	7080	—	—	—	—	—	—	—	0.14	—	—	—	6.78	—
RE21-07-5261	21-601130	4–5	QBT3	—	3	—	—	—	—	—	—	—	—	—	—	0.17	—	—	—	4.74	—
RE21-07-5262	21-601130	9–10	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.000772 (J)	4.88	—
RE21-07-5263	21-601130	14–15	QBT3	—	3.3	84.4 (J+)	—	—	—	8.1	—	—	17.7	—	843	—	—	—	—	6.01	—
RE21-08-7054	21-603010	3–4	SOIL	—	—	—	0.526 (U)	9960	—	—	—	—	—	—	—	—	—	—	—	1.58 (U)	—
RE21-08-7055	21-603010	5–6	SOIL	—	—	—	0.507 (U)	—	—	—	—	—	—	—	—	—	—	—	0.000534 (J)	—	—
RE21-08-7056	21-603011	3–4	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.59 (U)	—
RE21-08-7057	21-603011	5–6	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5 (U)	—
RE21-08-7058	21-603012	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.61 (U)	—
RE21-08-7059	21-603012	6–7	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.67 (U)	—
RE21-08-7060	21-603013	5.25–6.25	QBT3	—	—	—	—	—	—	—	—	—	12	—	—	—	—	—	—	1.59 (U)	—
RE21-08-7061	21-603013	7.25–8.25	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54 (U)	—
RE21-08-7062	21-603014	6–7	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.58 (U)	—
RE21-08-7063	21-603014	8–9	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52 (U)	—
RE21-08-7064	21-603015	3.5–4.5	QBT3	—	4.8	72.8	—	6650	—	—	—	—	—	—	—	0.23	—	1.97 (J-)	0.00203 (J)	8.49	—
RE21-08-7065	21-603015	5.5–6.5	QBT3	—	2.9	—	—	—	—	—	—	—	—	—	—	0.26	—	2.01 (J-)	0.00133 (J)	5.94	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971) unless otherwise noted.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

Table 6.5-3
Organic Chemicals Detected at Consolidated Unit 21-023(a)-99

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Chrysene	Di-n-butylphthalate	Ethylbenzene	Fluoranthene	Fluorene
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**4760**	**20600**	**23800**	**1830**	**8910**	**8910**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**1370**	**2340**	**68400**	**378**	**24400**	**24400**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**347**	**148**	**6110**	**68.4**	**2290**	**2290**
RE21-07-5211	21-601106	2–3	QBT3	—[c]	0.0114 (J)	—	NA[d]	—	—	—	—	—	—	—	—	0.000565 (J)	0.0188 (J)	—
RE21-07-5213	21-601107	1.5–2.5	SOIL	—	—	0.0151 (J)	NA	0.0452	0.0377	0.0841	0.0176 (J)	—	—	0.0435	—	—	0.109	—
RE21-07-5214	21-601107	3.5–4	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-5215	21-601108	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-5216	21-601108	4–5	QBT3	—	—	0.00952 (J)	NA	—	0.0175 (J)	0.029 (J)	—	—	—	0.0153 (J)	—	—	0.0355 (J)	—
RE21-07-5217	21-601109	4–5	QBT3	0.0171 (J)	—	0.0292 (J)	NA	—	0.0262 (J)	0.0287 (J)	—	0.0159 (J)	—	0.0348 (J)	—	—	0.0922	0.0122 (J)
RE21-07-5218	21-601109	6–7	QBT3	—	—	—	NA	—	—	0.0144 (J)	—	—	—	0.0129 (J)	—	—	0.0261 (J)	—
RE21-07-5219	21-601110	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	0.0183 (J)	—
RE21-07-5221	21-601111	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.049 (J)	—	—	—
RE21-07-5222	21-601111	4–5	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.0469 (J)	—	—	—
RE21-07-5227	21-601114	2–3	SOIL	—	—	—	NA	—	0.0155 (J)	0.0261 (J)	—	—	—	0.0194 (J)	0.156 (J)	—	0.0306 (J)	—
RE21-07-5228	21-601114	4–5	SOIL	—	—	0.0115 (J)	NA	—	0.0513 (J)	0.0665 (J)	—	0.0324 (J)	0.0942 (J)	0.0524	0.0523 (J)	—	0.0926	—
MD21-09-8818	21-601114	9–10	SOIL	—	NA[d]	—	NA	—	—	0.11 (J)	—	—	—	—	—	NA	0.15 (J)	—
RE21-07-5229	21-601115	2–3	SOIL	—	—	—	NA	—	0.0124 (J)	0.0237 (J)	—	—	—	0.0195 (J)	0.0644 (J)	—	0.0429	—
RE21-07-5230	21-601115	4–5	SOIL	—	—	—	NA	—	—	0.0141 (J)	—	—	—	0.0122 (J)	0.0543 (J)	—	0.024 (J)	—
RE21-07-5235	21-601118	2–3	QBT3	—	—	—	NA	—	—	—	—	—	2.12 (J)	—	—	—	—	—
RE21-08-7066	21-601118	4–5	QBT3	NA	NA	NA	0.0069 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5237	21-601119	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-5238	21-601119	4–5	QBT3	—	—	—	NA	—	—	0.0741 (J)	—	—	—	—	—	—	—	—
RE21-07-5240	21-601120	4–5	SOIL	—	—	—	NA	—	—	0.0146 (J)	—	—	—	0.0159 (J)	—	—	0.0254 (J)	—
RE21-07-5252	21-601126	9–10	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.0415 (J)	—	—	—
RE21-07-5253	21-601127	2.25–3.25	SOIL	0.11	—	0.191	NA	1.97	1.65	2.57	0.562	—	—	1.81	—	—	2.14	0.0261 (J)
RE21-07-5254	21-601127	4.25–5.25	SOIL	—	—	0.0103 (J)	NA	0.0347	0.0274 (J)	0.032 (J)	—	0.0128 (J)	—	0.0271 (J)	—	—	0.0285 (J)	—
RE21-07-5255	21-601128	5–6	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.0668 (J)	—	0.0148 (J)	—
RE21-07-5256	21-601128	10–11	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.108 (J)	—	0.0129 (J)	—
RE21-07-5257	21-601128	15–16	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.0615 (J)	—	—	—
RE21-07-5259	21-601129	11–12	QBT3	—	—	0.0123 (J)	NA	—	0.0454	0.0784	0.0266 (J)	—	—	0.0554	—	—	0.118	—
RE21-07-5260	21-601129	16–17	QBT3	—	—	—	NA	—	—	—	—	—	—	0.0128 (J)	—	0.000287 (J)	0.0199 (J)	—
RE21-08-7056	21-603011	3–4	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.0395 (J)	—	—	—
RE21-08-7057	21-603011	5–6	QBT3	0.025 (J)	—	0.0608	NA	0.197	0.187	0.345	0.0987	—	—	0.213	—	—	0.533	0.0204 (J)
RE21-08-7065	21-603015	5.5–6.5	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	0.0141 (J)	—
MD21-11-24237	21-614568	3–4	QBT3	—	NA	—	NA	0.0282 (J)	—	—	—	—	—	0.0235 (J)	—	NA	0.0344 (J)	—
MD21-11-24238	21-614568	5–6	QBT3	—	NA	—	NA	0.018 (J)	—	—	—	—	—	0.0177 (J)	—	NA	0.024 (J)	—

Table 6.5-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylnaphthalene[2-]
Construction Worker SSL[a]				**na**[e]	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[f]	**1420**[g]
Industrial SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[f]	**3000**[h]
Residential SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[f]	**230**[h]
RE21-07-5211	21-601106	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5213	21-601107	1.5–2.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0189 (J)	—	—
RE21-07-5214	21-601107	3.5–4	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5215	21-601108	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5216	21-601108	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5217	21-601109	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5218	21-601109	6–7	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5219	21-601110	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5221	21-601111	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5222	21-601111	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5227	21-601114	2–3	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5228	21-601114	4–5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
MD21-09-8818	21-601114	9–10	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	—
RE21-07-5229	21-601115	2–3	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5230	21-601115	4–5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5235	21-601118	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	0.000297 (J)	—
RE21-08-7066	21-601118	4–5	QBT3	9.60E-06	1.73E-05	5.55E-05 (J)	8.79E-05 (J)	6.05E-07 (J)	1.93E-07 (J)	4.30E-06	3.13E-07 (J)	1.92E-07 (J)	2.72E-05	NA	NA	NA
RE21-07-5237	21-601119	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	0.000399 (J)	—
RE21-07-5238	21-601119	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5240	21-601120	4–5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5252	21-601126	9–10	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5253	21-601127	2.25–3.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.52	—	0.0213 (J)
RE21-07-5254	21-601127	4.25–5.25	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5255	21-601128	5–6	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—

Table 6.5-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylnaphthalene[2-]
Construction Worker SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[f]	**1420**[g]
Industrial SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[f]	**3000**[h]
Residential SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[f]	**230**[h]
RE21-07-5256	21-601128	10–11	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5257	21-601128	15–16	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-07-5259	21-601129	11–12	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.022 (J)	—	—
RE21-07-5260	21-601129	16–17	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-08-7056	21-603011	3–4	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
RE21-08-7057	21-603011	5–6	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.048	—	—
RE21-08-7065	21-603015	5.5–6.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—	—
MD21-11-24237	21-614568	3–4	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	—
MD21-11-24238	21-614568	5–6	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	—

Table 6.5-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Tetrachloroethene	Toluene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**158**	**na**	**na**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**0.0152**	**na**	**212**	**13400**	**823**	**743**[i]
Industrial SSL[a]				**241**	**na**	**na**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**0.00204**	**na**	**36.6**	**57700**	**4410**	**3980**[i]
Residential SSL[a]				**43**	**na**	**na**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**0.00045**	**na**	**7.02**	**5270**	**898**	**814**[i]
RE21-07-5211	21-601106	2–3	QBT3	—	NA	NA	NA	NA	NA	0.0172 (J)	0.0158 (J)	—	NA	NA	—	—	0.00101 (J)	0.00203 (J)
RE21-07-5213	21-601107	1.5–2.5	SOIL	—	NA	NA	NA	NA	NA	0.0794	0.0855	—	NA	NA	0.00315	—	—	—
RE21-07-5214	21-601107	3.5–4	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	0.000539 (J)	—	—	—
RE21-07-5215	21-601108	2–3	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	0.000868 (J)	—	—	—
RE21-07-5216	21-601108	4–5	QBT3	—	NA	NA	NA	NA	NA	0.0346 (J)	0.0364 (J)	—	NA	NA	0.00616	0.000401 (J)	—	—
RE21-07-5217	21-601109	4–5	QBT3	—	NA	NA	NA	NA	NA	0.101	0.0701	—	NA	NA	—	—	—	—
RE21-07-5218	21-601109	6–7	QBT3	—	NA	NA	NA	NA	NA	0.0239 (J)	0.0215 (J)	—	NA	NA	0.0037	—	—	—
RE21-07-5219	21-601110	2–3	QBT3	—	NA	NA	NA	NA	NA	0.0137 (J)	0.0138 (J)	—	NA	NA	0.00209	—	—	—
RE21-07-5221	21-601111	2–3	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	—	—	—
RE21-07-5222	21-601111	4–5	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	—	—	—
RE21-07-5227	21-601114	2–3	SOIL	—	NA	NA	NA	NA	NA	0.0168 (J)	0.0318 (J)	—	NA	NA	0.00584	—	—	—
RE21-07-5228	21-601114	4–5	SOIL	—	NA	NA	NA	NA	NA	0.0485	0.0978	—	NA	NA	0.00148	—	—	—
MD21-09-8818	21-601114	9–10	SOIL	—	NA	NA	NA	NA	NA	—	0.14 (J)	NA	NA	NA	NA	NA	NA	NA
RE21-07-5229	21-601115	2–3	SOIL	—	NA	NA	NA	NA	NA	0.0236 (J)	0.0331 (J)	—	NA	NA	—	—	—	—
RE21-07-5230	21-601115	4–5	SOIL	—	NA	NA	NA	NA	NA	0.0229 (J)	0.0227 (J)	—	NA	NA	—	—	—	—
RE21-07-5235	21-601118	2–3	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	—	—	—
RE21-08-7066	21-601118	4–5	QBT3	NA	9.69E-05 (J)	1.8E-05 (J)	4.17E-07	1.33E-07 (J)	2.03E-06	NA	NA	NA	9.51E-08 (J)	9.51E-08	NA	NA	NA	NA
RE21-07-5237	21-601119	2–3	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	0.00035 (J)	—	—
RE21-07-5238	21-601119	4–5	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	0.000243 (J)	—	—	—
RE21-07-5240	21-601120	4–5	SOIL	—	NA	NA	NA	NA	NA	—	0.0184 (J)	—	NA	NA	—	—	—	—
RE21-07-5252	21-601126	9–10	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	—	—	—
RE21-07-5253	21-601127	2.25–3.25	SOIL	0.0609	NA	NA	NA	NA	NA	0.506	2.63	—	NA	NA	—	—	—	—
RE21-07-5254	21-601127	4.25–5.25	SOIL	—	NA	NA	NA	NA	NA	—	0.0446	—	NA	NA	—	—	—	—
RE21-07-5255	21-601128	5–6	QBT3	—	NA	NA	NA	NA	NA	—	0.0134 (J)	—	NA	NA	—	—	—	—
RE21-07-5256	21-601128	10–11	QBT3	—	NA	NA	NA	NA	NA	0.0118 (J)	—	—	NA	NA	—	—	—	—
RE21-07-5257	21-601128	15–16	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	—	—	—

Table 6.5-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Styrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Tetrachloroethene	Toluene	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**158**	**na**	**na**	**na**	**na**	**na**	**7150**	**6680**	**9990**	**0.0152**	**na**	**212**	**13400**	**823**	**743**[i]
Industrial SSL[a]				**241**	**na**	**na**	**na**	**na**	**na**	**20500**	**18300**	**50000**	**0.00204**	**na**	**36.6**	**57700**	**4410**	**3980**[i]
Residential SSL[a]				**43**	**na**	**na**	**na**	**na**	**na**	**1830**	**1720**	**7280**	**0.00045**	**na**	**7.02**	**5270**	**898**	**814**[i]
RE21-07-5259	21-601129	11–12	QBT3	—	NA	NA	NA	NA	NA	0.0691	0.104	—	NA	NA	—	—	—	—
RE21-07-5260	21-601129	16–17	QBT3	—	NA	NA	NA	NA	NA	0.0157 (J)	0.0207 (J)	0.00137	NA	NA	—	0.000333 (J)	0.000236 (J)	0.000286 (J)
RE21-08-7056	21-603011	3–4	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	—	—	—
RE21-08-7057	21-603011	5–6	QBT3	—	NA	NA	NA	NA	NA	0.286	0.413	—	NA	NA	—	—	—	—
RE21-08-7065	21-603015	5.5–6.5	QBT3	—	NA	NA	NA	NA	NA	—	—	—	NA	NA	—	—	—	—
MD21-11-24237	21-614568	3–4	QBT3	—	NA	NA	NA	NA	NA	—	0.0365	—	NA	NA	NA	NA	NA	NA
MD21-11-24238	21-614568	5–6	QBT3	—	NA	NA	NA	NA	NA	—	0.0215 (J)	NA	NA	NA	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] — = Not detected.

[d] NA = Not analyzed.

[e] na = Not available.

[f] Isopropylbenzene used as a surrogate based on structural similarity.

[g] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[h] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[l] Xylenes used as a surrogate based on structural similarity.

Table 6.5-4
Radionuclides Detected or Detected above BVs/FVs at Consolidated Unit 21-023(a)-99

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**1.31**[c]	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**
RE21-07-5211	21-601106	2–3	QBT3	0.0599	—[e]	—	0.589	—	4.62353	—	—
RE21-07-5212	21-601106	4–5	QBT3	—	—	—	—	—	1.24422	—	—
RE21-07-5213	21-601107	1.5–2.5	SOIL	0.113	0.13	—	0.624	—	0.275939	—	—
RE21-07-5214	21-601107	3.5–4	QBT3	—	—	—	0.122	—	0.195495	—	—
RE21-07-5215	21-601108	2–3	QBT3	0.0427	—	—	0.141	—	0.263227	—	0.095
RE21-07-5216	21-601108	4–5	QBT3	—	—	—	0.293	—	0.286687	—	0.099
RE21-07-5217	21-601109	4–5	QBT3	—	—	—	0.152	—	0.24201	—	—
RE21-07-5218	21-601109	6–7	QBT3	0.0288	—	—	0.134	—	0.18428	—	—
RE21-07-5219	21-601110	2–3	QBT3	0.0849	—	—	0.379	—	0.332126	—	—
RE21-07-5220	21-601110	4–5	QBT3	—	—	—	0.0787	—	0.433936	—	—
RE21-07-5221	21-601111	2–3	QBT3	—	—	—	0.0221	—	0.777312	—	—
RE21-07-5222	21-601111	4–5	QBT3	—	—	—	0.0338	—	0.688558	—	—
RE21-07-5227	21-601114	2–3	SOIL	0.281	—	0.167	2.25	—	0.0559192	—	—
RE21-07-5228	21-601114	4–5	SOIL	0.229	—	0.175	2.88	—	0.0833602	—	—
MD21-09-8818	21-601114	9–10	SOIL	NA[f]	NA	0.289	3.77	NA	NA	NA	NA
RE21-07-5229	21-601115	2–3	SOIL	—	—	—	0.12	—	0.107468	—	—
RE21-07-5230	21-601115	4–5	SOIL	—	—	—	0.0385	—	0.116734	—	—
RE21-07-5231	21-601116	2.5–3.5	QBT3	—	—	—	0.044 (J)	—	0.148364	—	—
RE21-07-5232	21-601116	4.5–5.5	QBT3	0.204 (J)	—	0.253	1.51 (J)	—	0.141778	—	—
RE21-07-5233	21-601117	2.5–3.5	QBT3	—	—	—	0.0323 (J)	—	0.118129	—	—
RE21-07-5234	21-601117	4.5–5.5	QBT3	0.0369 (J)	—	0.028	0.484 (J)	—	0.0595691	—	0.098
RE21-07-5235	21-601118	2–3	QBT3	—	—	—	0.164	0.13	0.14	—	—
RE21-07-5236	21-601118	4–5	QBT3	—	—	0.035	0.149	—	0.140476	—	—
RE21-07-5237	21-601119	2–3	QBT3	0.0772	—	0.048	1.51	—	0.215794	—	—
RE21-07-5238	21-601119	4–5	QBT3	0.119	—	—	0.727	—	0.265745	—	—
RE21-07-5239	21-601120	2–3	SOIL	—	—	—	0.0237	—	0.592029	—	—
RE21-07-5240	21-601120	4–5	SOIL	—	—	—	0.639	—	0.538788	—	—
MD21-09-8817	21-601120	9–10	QBT3	NA	NA	0.034	0.33	NA	NA	NA	NA
RE21-07-5241	21-601121	2–3	QBT3	—	—	—	—	—	0.0642857	—	—
RE21-07-5242	21-601121	4–5	QBT3	—	—	—	0.0489	—	0.0709669	—	0.107
RE21-07-5243	21-601122	2–3	QBT3	—	—	—	—	—	0.0920895	—	—
RE21-07-5244	21-601122	4–5	QBT3	—	—	—	0.647	—	0.077	—	—
RE21-07-5245	21-601123	5.5–6.5	QBT3	—	—	—	0.0561	—	0.0259252	—	—
RE21-07-5246	21-601123	7.5–8.5	QBT3	—	—	—	0.039	—	0.0392739	—	—

Table 6.5-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**1.31[c]**	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**
RE21-07-5247	21-601124	5.5–6.5	QBT3	0.17	—	—	2.51	—	—	—	—
RE21-07-5248	21-601124	7.5–8.5	QBT3	—	—	—	0.398	—	—	—	—
RE21-07-5249	21-601125	5–6	QBT3	—	—	—	0.0952	—	—	—	0.138
RE21-07-5250	21-601125	7–8	QBT3	—	—	—	0.102	—	—	—	0.124
RE21-07-5251	21-601126	7–8	QBT3	—	—	—	0.154	—	—	—	—
RE21-07-5252	21-601126	9–10	QBT3	—	—	—	0.169	—	—	—	0.104
RE21-07-5253	21-601127	2.25–3.25	SOIL	0.101	—	—	0.324	—	—	—	—
RE21-07-5254	21-601127	4.25–5.25	SOIL	0.129	—	—	0.459	—	—	—	—
RE21-07-5255	21-601128	5–6	QBT3	—	—	—	0.0531	—	0.234088	—	—
RE21-07-5256	21-601128	10–11	QBT3	—	—	—	0.0307	—	0.180924	—	—
RE21-07-5257	21-601128	15–16	QBT3	—	—	—	0.0291	—	0.168947	—	—
RE21-07-5258	21-601129	6–7	QBT3	—	—	0.028	0.0657 (J)	—	0.111499	—	—
RE21-07-5259	21-601129	11–12	QBT3	0.0728 (J)	—	0.158	0.423 (J)	—	0.0734676	—	—
RE21-07-5260	21-601129	16–17	QBT3	0.116 (J)	—	0.139	1.38 (J)	—	0.0875905	—	—
RE21-07-5261	21-601130	4–5	QBT3	—	—	—	0.0963 (J)	—	0.0619836	—	—
RE21-07-5262	21-601130	9–10	QBT3	—	—	—	0.078 (J)	—	0.0605795	—	—
RE21-07-5263	21-601130	14–15	QBT3	—	—	—	0.247 (J)	—	0.0553694	—	—
RE21-08-7054	21-603010	3–4	SOIL	0.056	—	—	0.296	—	0.0235969	—	—
RE21-08-7055	21-603010	5–6	SOIL	—	—	—	0.156	—	0.0151217	—	—
RE21-08-7057	21-603011	5–6	QBT3	—	—	—	0.167 (J)	—	0.0093382	—	—
RE21-08-7058	21-603012	4–5	QBT3	—	—	—	0.116 (J)	—	0.0910085	—	—
RE21-08-7059	21-603012	6–7	QBT3	—	—	—	0.0384 (J)	—	0.209002	—	—
RE21-08-7060	21-603013	5.25–6.25	QBT3	0.0571	—	—	0.0592 (J)	—	0.0407466	—	—
RE21-08-7061	21-603013	7.25–8.25	QBT3	—	—	—	—	—	0.0345174	—	—
RE21-08-7062	21-603014	6–7	QBT3	—	—	—	—	—	0.0326594	—	—
RE21-08-7063	21-603014	8–9	QBT3	—	—	—	—	—	0.0143319	—	—
RE21-08-7064	21-603015	3.5–4.5	QBT3	1.75	—	0.076	0.086 (J)	1.95	0.194452	7.95	0.457
RE21-08-7065	21-603015	5.5–6.5	QBT3	2.3	—	—	0.0742 (J)	—	0.218761	2.53	0.143
MD21-09-8814	21-603015	10.5–11.5	QBT3	0.724	NA	NA	NA	NA	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.
[a] BVs/FVs are from LANL (1998, 059730).
[b] na = Not available.
[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.
[d] SALs from LANL (2014, 600064).
[e] — = Not detected or not detected above BV/FV.
[f] NA = Not analyzed.

Table 6.6-1
Samples Collected and Analyses Requested at SWMU 21-024(b)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	VOC	SVOC	Total Cyanide	pH
RE21-07-2202	21-600498	0–0.5	ALLH	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	—*	07-120	07-121	07-121
RE21-07-2203	21-600498	2–3	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	07-120	07-120	07-121	07-121
RE21-07-2204	21-600499	0–0.5	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	—	07-120	07-121	07-121
RE21-07-2205	21-600499	2–3	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	07-120	07-120	07-121	07-121
RE21-07-2206	21-600500	0–0.5	ALLH	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	—	07-120	07-121	07-121
RE21-07-2207	21-600500	2–3	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	07-120	07-120	07-121	07-121
RE21-07-2208	21-600501	0–0.5	ALLH	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	—	07-120	07-121	07-121
RE21-07-2209	21-600501	2–3	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	07-120	07-120	07-121	07-121
RE21-07-2210	21-600502	0–0.5	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	—	07-120	07-121	07-121
RE21-07-2211	21-600502	2–3	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	07-120	07-120	07-121	07-121
RE21-07-2212	21-600503	0–0.5	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	—	07-120	07-121	07-121
RE21-07-2213	21-600503	2–3	QBT3	07-121	07-122	07-122	07-122	07-122	07-122	07-122	07-122	07-121	07-120	07-120	07-121	07-121
RE21-07-2214	21-600504	0–0.5	ALLH	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	—	07-124	07-125	07-125
RE21-07-2215	21-600504	2–3	ALLH	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-124	07-124	07-125	07-125
RE21-07-2216	21-600505	0–0.5	ALLH	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	—	07-124	07-125	07-125
RE21-07-2217	21-600505	2–3	QBT3	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-124	07-124	07-125	07-125
RE21-07-2244	21-600512	0–0.5	ALLH	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	—	07-124	07-125	07-125
RE21-07-2245	21-600512	2–3	ALLH	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-124	07-124	07-125	07-125
RE21-07-2246	21-600512	5–6	QBT3	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-125	07-124	07-124	07-125	07-125
RE21-07-5147	21-601086	5.3–6.3	ALLH	07-433	07-433	07-433	07-433	07-433	07-433	07-433	07-433	07-433	07-433	07-433	07-433	07-433
RE21-07-5148	21-601086	7.3–8.3	QBT3	07-473	07-474	07-474	07-474	07-474	07-474	07-474	07-473	07-473	07-472	07-472	07-473	07-473
RE21-07-5150	21-601087	7.5–8.5	QBT3	07-473	07-474	07-474	07-474	07-474	07-474	07-474	07-473	07-473	07-472	07-472	07-473	07-473
RE21-07-5152	21-601088	7.5–8.5	QBT3	07-473	07-474	07-474	07-474	07-474	07-474	07-474	07-473	07-473	07-472	07-472	07-473	07-473
RE21-07-5154	21-601089	5.3–6.3	QBT3	07-473	07-474	07-474	07-474	07-474	07-474	07-474	07-473	07-473	07-472	07-472	07-473	07-473
MD21-11-24239	21-601090	5.5–6.5	ALLH	—	—	—	—	—	11-3032	—	—	—	—	—	—	—
RE21-07-5161	21-601093	8–9	QBT3	07-621	07-622	07-622	07-622	07-622	07-622	07-622	07-621	07-621	07-620	07-620	07-621	07-621
RE21-07-5162	21-601093	13–14	QBT3	07-621	07-622	07-622	07-622	07-622	07-622	07-622	07-621	07-621	07-620	07-620	07-621	07-621
RE21-07-5163	21-601093	18–19	QBT3	07-621	07-622	07-622	07-622	07-622	07-622	07-622	07-621	07-621	07-620	07-620	07-621	07-621
MD21-09-8847	21-605285	0–0.5	ALLH	09-2491	—	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24240	21-614569	0–0.5	ALLH	—	—	—	—	11-3183	11-3183	—	—	—	—	—	—	—
MD21-11-24241	21-614569	1.5–2	ALLH	—	—	—	—	11-3183	11-3183	—	—	—	—	—	—	—
MD21-11-24242	21-614570	0–0.5	ALLH	—	—	—	—	11-3183	11-3183	—	—	—	—	—	—	—
MD21-11-24243	21-614570	1.5–2	ALLH	—	—	—	—	11-3183	11-3183	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.6-2
Inorganic Chemicals above BVs at SWMU 21-024(b)

Sample ID	Location ID	Depth (ft)	Media	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Lead	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Strontium	Zinc
Qbt2, 3, 4 BV[a]				**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**11.2**	**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**1**	**na**	**63.5**
Soil BV[a]				**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**22.3**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**na**	**48.8**
Construction Worker SSL[c]				**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**186**	**800**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**186000**	**92900**
Industrial SSL[c]				**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**681**	**800**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**681000**	**341000**
Residential SSL[c]				**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**46.9**	**400**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**46900**	**23500**
RE21-07-2202	21-600498	0–0.5	SOIL	—[g]	—	0.486 (U)	—	—	—	—	—	—	—	—	2.55	—	—	—	NA[h]	—
RE21-07-2203	21-600498	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.93	0.00152 (J-)	1.47 (U)	—	NA	—
RE21-07-2204	21-600499	0–0.5	QBT3	49.2	—	—	—	—	—	—	—	14.9	—	—	3.27	—	0.671 (J)	—	NA	—
RE21-07-2205	21-600499	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.83	—	1.51 (U)	—	NA	—
RE21-07-2206	21-600500	0–0.5	SOIL	—	—	0.501 (U)	—	—	—	—	—	—	—	—	2.5	—	—	—	NA	54.7
RE21-07-2207	21-600500	2–3	QBT3	—	—	—	3740 (J+)	—	—	—	—	—	—	—	10.4	0.0139	1.48 (U)	—	NA	—
RE21-07-2208	21-600501	0–0.5	SOIL	—	—	0.48 (U)	—	—	—	—	—	—	—	—	1.39	—	—	—	NA	—
RE21-07-2209	21-600501	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.45 (U)	—	NA	—
RE21-07-2210	21-600502	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.5	—	1.51 (U)	—	NA	—
RE21-07-2211	21-600502	2–3	QBT3	—	—	—	—	8.16	—	—	—	—	—	—	—	—	1.51 (U)	—	NA	—
RE21-07-2212	21-600503	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.45	—	1.46 (U)	—	NA	—
RE21-07-2213	21-600503	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.48 (U)	—	NA	—
RE21-07-2214	21-600504	0–0.5	SOIL	—	—	—	—	—	—	—	0.95	—	—	—	43.5	0.00285	—	—	NA	50.4
RE21-07-2215	21-600504	2–3	SOIL	—	2.38	0.573 (U)	30200	—	—	—	—	—	0.109 (J+)	16.3 (J+)	5.62	0.0109	—	—	NA	—
RE21-07-2216	21-600505	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	0.138 (J+)	—	5.63	0.000807 (J-)	—	—	NA	96.7
RE21-07-2217	21-600505	2–3	QBT3	60.5 (J+)	—	—	—	15.7	—	—	—	—	—	—	38.9	0.00102 (J)	0.807 (J)	—	NA	—
RE21-07-2244	21-600512	0–0.5	SOIL	—	—	0.511 (U)	—	—	—	—	—	—	—	—	16.8	0.00631	—	—	NA	59
RE21-07-2245	21-600512	2–3	SOIL	—	—	0.496 (U)	—	—	—	—	—	—	—	—	67.2	0.00609 (J-)	—	—	NA	48.9
RE21-07-2246	21-600512	5–6	QBT3	85.2 (J+)	—	—	—	16	4.2	5.02	—	19.1	—	7.14 (J+)	36.8	0.00374 (J-)	1.06 (J)	—	NA	—
RE21-07-5147	21-601086	5.3–6.3	SOIL	—	—	0.555 (U)	—	—	—	—	—	—	0.16 (J+)	—	2.01	—	1.67 (U)	—	17.6	50 (J)
RE21-07-5148	21-601086	7.3–8.3	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.3	—	1.65 (U)	—	4.18	—
RE21-07-5150	21-601087	7.5–8.5	QBT3	—	—	—	—	12.4	—	4.81 (J)	—	—	0.144	—	6.67	—	1.57 (U)	—	4.17	—
RE21-07-5152	21-601088	7.5–8.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	4.25	0.00088 (J)	1.53 (U)	—	3.64	—
RE21-07-5154	21-601089	5.3–6.3	QBT3	—	—	—	—	13.3	—	16 (J)	—	—	0.385	—	1.37	—	1.56 (U)	5.81	6.14	—
RE21-07-5161	21-601093	8–9	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.42	—	1.44 (U)	—	1.05	—
RE21-07-5162	21-601093	13–14	QBT3	—	—	—	—	—	—	—	—	—	—	—	1.84	—	0.72 (J)	—	1.46	—
RE21-07-5163	21-601093	18–19	QBT3	—	—	—	2510	—	—	—	—	—	—	—	1.19	—	1.43 (U)	—	4.02	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.
[a] BVs from LANL (1998, 059730).
[b] SSLs from NMED (2012, 209971) unless otherwise noted.
[c] na = Not available.
[d] SSL for trivalent chromium.
[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).
[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).
[g] — = Not detected or not detected above BV.
[h] NA = Not analyzed.

Table 6.6-3
Organic Chemicals Detected at SWMU 21-024(b)

Sample ID	Location ID	Depth (ft)	Media	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Bis(2-ethylhexyl)phthalate	Chrysene	Fluoranthene	Phenanthrene	Pyrene	Toluene
Construction Worker SSL[a]				**21.3**	**213**	**6680[b]**	**4760**	**20600**	**8910**	**7150**	**6680**	**13400**
Industrial SSL[a]				**2.34**	**23.4**	**18300[b]**	**1370**	**2340**	**24400**	**20500**	**18300**	**57700**
Residential SSL[a]				**0.148**	**1.48**	**1720[b]**	**347**	**148**	**2290**	**1830**	**1720**	**5270**
RE21-07-2202	21-600498	0–0.5	SOIL	—[c]	0.0203 (J)	—	—	0.0146 (J)	0.0348	0.016 (J)	0.0261 (J)	NA[d]
RE21-07-2204	21-600499	0–0.5	QBT3	—	—	—	—	—	0.0188 (J)	—	0.0176 (J)	NA
RE21-07-2206	21-600500	0–0.5	SOIL	—	0.0129 (J)	—	—	0.0117 (J)	0.0264 (J)	0.0126 (J)	0.0224 (J)	NA
RE21-07-2211	21-600502	2–3	QBT3	—	—	—	0.0764 (J)	—	—	—	—	—
RE21-07-2215	21-600504	2–3	SOIL	—	—	—	—	—	—	—	—	0.00079 (J)
RE21-07-2216	21-600505	0–0.5	SOIL	—	—	—	—	—	0.0183 (J)	—	0.0174 (J)	NA
RE21-07-2217	21-600505	2–3	QBT3	—	—	—	—	—	—	—	—	0.00089 (J)
RE21-07-2244	21-600512	0–0.5	SOIL	—	—	—	—	—	0.0145 (J)	—	0.016 (J)	NA
RE21-07-2245	21-600512	2–3	SOIL	—	—	—	—	—	—	—	—	0.00114
RE21-07-2246	21-600512	5–6	QBT3	—	—	—	—	—	—	—	—	0.00064 (J)
RE21-07-5147	21-601086	5.3–6.3	SOIL	—	0.0118 (J)	—	0.0964 (J)	—	0.0122 (J)	—	0.0131 (J)	—
RE21-07-5150	21-601087	7.5–8.5	QBT3	—	—	—	—	—	0.0114 (J)	—	—	—
RE21-07-5154	21-601089	5.3–6.3	QBT3	0.0263 (J)	0.0336 (J)	0.0165 (J)	—	0.0243 (J)	0.0481	—	0.0336 (J)	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971).

[b] Pyrene used as a surrogate based on structural similarity.

[c] — = Not detected.

[d] NA = Not analyzed.

Table 6.6-4
Radionuclides Detected or Detected above BVs/FVs SWMU 21-024(b)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2, 3, 4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-2202	21-600498	0–0.5	SOIL	0.239	—[e]	—	3.59	—	2.8	—	2.87
RE21-07-2204	21-600499	0–0.5	QBT3	0.706	0.34	0.515	15.7	0.0129199	—	0.09	—
RE21-07-2205	21-600499	2–3	QBT3	—	—	—	0.232	0.0048565	—	—	—
RE21-07-2206	21-600500	0–0.5	SOIL	0.082	—	—	1.37	—	—	—	—
RE21-07-2207	21-600500	2–3	QBT3	—	—	—	0.0369	0.0113094	—	—	—
RE21-07-2208	21-600501	0–0.5	SOIL	0.118	—	0.024	4.08	0.0049138	—	—	—
RE21-07-2209	21-600501	2–3	QBT3	—	—	—	0.0231	—	—	—	—
RE21-07-2210	21-600502	0–0.5	QBT3	—	0.27	—	0.465	—	—	—	—
RE21-07-2211	21-600502	2–3	QBT3	—	—	—	0.0243	—	—	—	—
RE21-07-2212	21-600503	0–0.5	QBT3	—	0.14	—	0.231	0.0077118	—	0.092	—
RE21-07-2213	21-600503	2–3	QBT3	—	—	—	—	—	—	0.103	—
RE21-07-2214	21-600504	0–0.5	SOIL	3.4	—	—	70.4 (J)	—	—	—	—
RE21-07-2215	21-600504	2–3	SOIL	0.471	—	—	10.3 (J)	0.0796809	—	—	—
RE21-07-2216	21-600505	0–0.5	SOIL	2.23	—	0.352	59.5 (J)	—	—	—	—
RE21-07-2217	21-600505	2–3	QBT3	0.792	—	0.164	24.2 (J)	0.0322377	—	—	—
RE21-07-2244	21-600512	0–0.5	SOIL	2.64	—	0.642	76.3 (J)	—	—	—	—
RE21-07-2245	21-600512	2–3	SOIL	2.85	—	0.666	131 (J)	0.0387987	—	—	—
RE21-07-2246	21-600512	5–6	QBT3	0.536	—	—	9.16 (J)	0.0135864	—	—	—
RE21-07-5147	21-601086	5.3–6.3	SOIL	—	—	—	0.345	—	—	—	—
RE21-07-5148	21-601086	7.3–8.3	QBT3	—	—	—	0.259	0.023415	—	—	—
RE21-07-5150	21-601087	7.5–8.5	QBT3	1.05	—	0.32	17.4	0.0423507	2.03	0.16	—
RE21-07-5152	21-601088	7.5–8.5	QBT3	0.916	—	—	2.05	—	—	0.095	—
RE21-07-5154	21-601089	5.3–6.3	QBT3	4.68	—	0.171	5.09	0.0210167	—	0.097	—

Table 6.6-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
MD21-11-24239	21-601090	5.5–6.5	SOIL	NA[f]	NA	0.103	11.9	NA	NA	NA	NA
RE21-07-5161	21-601093	8–9	QBT3	0.197	—	—	1.87	—	—	—	—
RE21-07-5162	21-601093	13–14	QBT3	0.254	—	0.036	6.22	—	—	—	—
RE21-07-5163	21-601093	18–19	QBT3	0.123	—	—	2.19	—	—	—	—
MD21-11-24240	21-614569	0–0.5	SOIL	0.091	NA	—	1.75	NA	NA	NA	NA
MD21-11-24241	21-614569	1.5–2	SOIL	0.068	NA	—	1.47	NA	NA	NA	NA
MD21-11-24242	21-614570	0–0.5	SOIL	0.575	NA	0.076	9.68	NA	NA	NA	NA
MD21-11-24243	21-614570	1.5–2	SOIL	0.646	NA	0.089	13	NA	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.7-1
Samples Collected and Analyses Requested at SWMU 21-024(d)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE19-07-6120	19-601285	10–11	QBT3	08-56	08-56	08-56	08-56	08-56	08-56	08-56	08-56	08-56	—*	08-56	08-56	—	—	08-56	08-56
RE19-07-6121	19-601285	15–16	QBT3	08-56	08-56	08-56	08-56	08-56	08-56	08-56	08-56	08-56	—	08-56	08-56	—	—	08-56	08-56
RE19-07-6122	19-601285	20–21	QBT3	08-56	08-56	08-56	08-56	08-56	08-56	08-56	08-56	08-56	—	08-56	08-56	—	—	08-56	08-56
MD21-09-8609	19-601285	25–26	QBT3	—	—	—	09-1977	09-1977	—	—	09-1977	—	—	—	09-1977	—	—	—	—
RE21-07-75010	21-27365	0–0.5	ALLH	6539S	6541S	6541S	6541S	6541S	6541S	6541S	6539S	6539S	—	—	6538S	—	—	6539S	6540S
RE21-08-10278	21-27365	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	08-556	—	—	08-555	08-556	—	—
RE21-08-10279	21-27365	2–2.5	ALLH	—	—	—	—	—	—	—	—	—	08-556	—	—	08-555	08-556	—	—
RE21-07-75011	21-27365	2–2.5	ALLH	6539S	6541S	6541S	6541S	6541S	6541S	6541S	6539S	6539S	—	6538S	6538S	—	—	6539S	6540S
RE21-07-75012	21-27365	3–3.5	QBT3	6539S	6541S	6541S	6541S	6541S	6541S	6541S	6539S	6539S	—	6538S	6538S	—	—	6539S	6540S
MD21-09-8616	21-27365	4–5	QBT3	—	—	—	—	—	—	—	—	—	09-2579	—	—	—	—	—	—
RE21-07-75013	21-27366	0–0.5	ALLH	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	—	6526S	—	—	6527S	6528S
RE21-07-75014	21-27366	2–2.5	QBT3	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	6526S	6526S	—	—	6527S	6528S
MD21-09-8613	21-27366	4–5	QBT3	—	—	09-2470	—	—	—	—	09-2470	—	—	—	—	—	—	—	—
MD21-09-12448	21-27366	9–10	QBT3	—	—	—	—	—	—	—	09-3248	—	—	—	—	—	—	—	—
MD21-10-4665	21-27366	9–10	QBT3	—	—	—	—	—	—	—	10-747	—	—	—	—	—	—	—	—
RE21-07-75015	21-27367	0–0.5	ALLH	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	—	6526S	—	—	6527S	6528S
RE21-07-3012	21-27367	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	07-263	—	—	07-264	07-263	—	—
RE21-07-75016	21-27367	2–2.5	QBT3	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	6526S	6526S	—	—	6527S	6528S
RE21-07-75017	21-27368	0–0.5	ALLH	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	—	6526S	—	—	6527S	6528S
RE21-07-75018	21-27368	2–2.5	QBT3	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	6526S	6526S	—	—	6527S	6528S
RE21-07-75019	21-27369	0–0.5	ALLH	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	—	6526S	—	—	6527S	6528S
RE21-07-75020	21-27369	2–2.5	QBT3	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	6526S	6526S	—	—	6527S	6528S
RE21-07-75021	21-27370	0–0.5	ALLH	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	—	6526S	—	—	6527S	6528S
RE21-08-10281	21-27370	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	08-556	—	—	08-555	08-556	—	—
RE21-08-10282	21-27370	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	08-556	—	—	08-555	08-556	—	—
RE21-07-75022	21-27370	2–2.5	QBT3	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	6526S	6526S	—	—	6527S	6528S
RE21-07-75023	21-27371	0–0.5	ALLH	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	—	6526S	—	—	6527S	6528S
RE21-07-75024	21-27371	2–2.5	QBT3	6527S	6529S	6529S	6529S	6529S	6529S	6529S	6527S	6527S	—	6526S	6526S	—	—	6527S	6528S
RE21-07-75025	21-27372	0–0.5	ALLH	6539S	6541S	6541S	6541S	6541S	6541S	6541S	6539S	6539S	—	—	6538S	—	—	6539S	6540S
RE21-07-75026	21-27372	2–2.5	ALLH	6539S	6541S	6541S	6541S	6541S	6541S	6541S	6539S	6539S	—	6538S	6538S	—	—	6539S	6540S
RE21-07-75027	21-27373	0–0.5	ALLH	6539S	6541S	6541S	6541S	6541S	6541S	6541S	6539S	6539S	—	—	6538S	—	—	6539S	6540S
RE21-07-75028	21-27373	2–2.5	ALLH	6539S	6541S	6541S	6541S	6541S	6541S	6541S	6539S	6539S	—	6538S	6538S	—	—	6539S	6540S
RE21-07-6090	21-601270	2–3	ALLH	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	—	07-1143	07-1143	—	—	07-1143	07-1143
RE21-07-6091	21-601270	4–5	ALLH	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	—	07-1143	07-1143	—	—	07-1143	07-1143
RE21-07-6092	21-601271	2–3	ALLH	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	—	07-1143	07-1143	—	—	07-1143	07-1143

Table 6.7-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-6093	21-601271	4–5	QBT3	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	07-1143	—	07-1143	07-1143	—	—	07-1143	07-1143
RE21-07-6094	21-601272	1–2	ALLH	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	—	08-66	08-66	—	—	08-67	08-67
RE21-07-6095	21-601272	3–4	QBT3	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	—	08-66	08-66	—	—	08-67	08-67
RE21-07-6096	21-601273	1–2	ALLH	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	—	08-66	08-66	—	—	08-67	08-67
RE21-07-6097	21-601273	2–3	ALLH	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	08-67	—	08-66	08-66	—	—	08-67	08-67
RE21-07-6098	21-601274	2–3	ALLH	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6099	21-601274	4–5	QBT3	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6100	21-601275	2–3	QBT3	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6101	21-601275	4–5	QBT3	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6102	21-601276	2–3	QBT3	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6103	21-601276	4–5	QBT3	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6104	21-601277	2–3	ALLH	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6105	21-601277	4–5	ALLH	08-74	08-75	08-75	08-75	08-75	08-75	08-75	08-74	08-74	—	08-73	08-73	—	—	08-74	08-74
RE21-07-6106	21-601278	2–3	ALLH	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6107	21-601278	4–5	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6108	21-601279	2–3	ALLH	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6109	21-601279	4–5	ALLH	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6110	21-601280	2–3	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6111	21-601280	4–5	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6112	21-601281	2–3	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6113	21-601281	4–5	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
MD21-09-8615	21-601281	9–10	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-2039	—	—	—	—
RE21-07-6114	21-601282	2–3	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6115	21-601282	4–5	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6116	21-601283	2–3	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6117	21-601283	4–5	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6138	21-601283	4–5	QBT3	—	—	—	—	—	—	—	—	—	08-122	—	—	08-123	08-122	—	—
MD21-09-8614	21-601283	9–10	QBT3	—	—	—	—	—	09-2039	—	—	—	—	—	—	—	—	—	—
RE21-07-6118	21-601284	2–3	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
RE21-07-6119	21-601284	4–5	QBT3	08-77	08-78	08-78	08-78	08-78	08-78	08-78	08-77	08-77	—	08-76	08-76	—	—	08-77	08-77
MD21-09-8848	21-605286	0–0.5	ALLH	09-2579	—	—	09-2579	09-2579	09-2579	09-2579	09-2579	—	—	—	—	—	—	09-2579	09-2579
MD21-09-8849	21-605286	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	—	09-2579	—	—	—	—	—
MD21-09-8850	21-605286	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	09-2579	—	—	—	—	—
MD21-11-24244	21-614571	25–26	QBT3	—	—	—	11-3209	11-3209	—	—	—	—	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.7-2
Inorganic Chemicals above BVs at SWMU 21-024(d)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Lead	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**7340**	**2.8**	**46**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**11.2**	**482**	**0.1**	**6.58**	**na**[b]	**na**	**0.3**	**1**	**2.4**	**17**	**63.5**
Soil BV[a]				**29200**	**8.2**	**295**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**22.3**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**186**	**800**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**18**	**223000**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**681**	**800**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**78000**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**46.9**	**400**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**391**	**23500**
RE19-07-6120	19-601285	10–11	QBT3	—[g]	3.1	—	—	4720 (J+)	—	—	—	—	61.7	—	—	—	1.07	—	2.2	—	NA[h]	—	—
RE19-07-6121	19-601285	15–16	QBT3	—	4.2	—	—	11800 (J+)	—	—	4.88	—	98.8	—	—	—	1.16	—	5.3	—	NA	—	—
RE19-07-6122	19-601285	20–21	QBT3	—	3.7	—	—	6390 (J+)	—	—	10.4	—	65.2	—	—	—	1.66	—	2.7	—	NA	—	—
MD21-09-8609	19-601285	25–26	QBT3	NA	NA	NA	NA	NA	NA	NA	—	NA	57	NA	NA	NA	NA	NA	—	NA	NA	NA	NA
RE21-07-75010	21-27365	0–0.5	SOIL	—	—	—	0.627	—	—	—	33.1	0.57	35.5	—	0.218 (J+)	—	16.6	0.0011 (J-)	1.66 (U)	7.22	3.27 (J)	—	71.5
RE21-07-75011	21-27365	2–2.5	SOIL	—	—	—	1.04	—	37.4	—	160	0.938	47.1	—	0.699 (J+)	—	41.7	—	—	9.23	4.5 (J)	—	96
RE21-07-75012	21-27365	3–3.5	QBT3	7420 (J+)	2.9	53.1	—	—	27.4	—	106	—	27.5	—	0.352 (J+)	—	16.4	—	0.872 (J)	4.6	3.76 (J)	19.3	69.7
RE21-07-75013	21-27366	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	2.73	—	1.6 (U)	—	—	—	—
RE21-07-75014	21-27366	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	42.8	—	—	—	2.89	—	1.52 (U)	—	—	—	—
MD21-09-8613	21-27366	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	53 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-12448	21-27366	9–10	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-10-4665	21-27366	9–10	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	48	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75015	21-27367	0–0.5	SOIL	—	—	—	1.8	—	43.2	—	109	2.24	75.9	—	0.689	—	8.61	—	1.59 (U)	20.1	14.8	—	140
RE21-07-75016	21-27367	2–2.5	QBT3	—	—	—	—	2460 (J+)	—	—	10.2	—	—	—	—	—	4.24	—	1.46 (U)	4.68	—	—	—
RE21-07-75017	21-27368	0–0.5	SOIL	—	—	—	0.952	—	—	—	51.7	0.514	—	—	0.168	—	5.72	—	1.58 (U)	9.14	4.3	—	55.4
RE21-07-75018	21-27368	2–2.5	QBT3	—	—	—	—	—	—	—	7.82	—	—	—	—	—	7.61	—	1.48 (U)	—	—	—	—
RE21-07-75019	21-27369	0–0.5	SOIL	—	—	—	0.502 (U)	—	—	—	—	—	—	—	—	—	1.35	—	—	—	—	—	—
RE21-07-75020	21-27369	2–2.5	QBT3	—	—	—	—	—	8.2	—	—	—	—	—	—	—	0.717 (J)	—	1.46 (U)	—	—	—	—
RE21-07-75021	21-27370	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2	—	1.53 (U)	6.42	—	—	—
RE21-07-75022	21-27370	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.53 (U)	2.19	—	—	—
RE21-07-75023	21-27371	0–0.5	SOIL	—	—	—	—	—	—	—	—	0.621	—	—	—	—	1.89	—	1.56 (U)	4.3	2.27	—	—
RE21-07-75024	21-27371	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	—	1.51 (U)	—	—	—	—
RE21-07-75025	21-27372	0–0.5	SOIL	—	—	—	2.3	—	36.5	—	161	2.28	56.6	—	0.826 (J+)	—	121	0.00591 (J-)	—	11	8.51 (J)	—	145
RE21-07-75026	21-27372	2–2.5	SOIL	—	—	—	1.11	—	23.6	—	85.1	1.17	37.3	—	0.422 (J+)	—	65	0.00237 (J-)	—	4.34	6.79 (J)	—	107
RE21-07-75027	21-27373	0–0.5	SOIL	—	—	—	0.493 (J)	—	—	—	—	0.554	—	—	—	—	53.5	0.00187 (J-)	1.61 (U)	1.25	2.11 (J)	—	51.7
RE21-07-75028	21-27373	2–2.5	SOIL	—	—	—	0.436 (J)	—	—	—	—	—	22.7	—	—	—	28.1	0.00329 (J-)	1.65 (U)	—	—	—	—
RE21-07-6091	21-601270	4–5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	0.52	—	—	—	NA	—	—
RE21-07-6092	21-601271	2–3	SOIL	—	—	—	—	10700	—	—	—	—	94.1	—	—	—	0.2 (J)	—	—	—	NA	—	—
RE21-07-6093	21-601271	4–5	QBT3	—	—	—	—	—	14.3	—	—	—	—	—	—	7.8	0.34	—	—	—	NA	—	—
RE21-07-6094	21-601272	1–2	SOIL	—	12	—	1.4	7380	—	—	35.2	—	44.9	1360	0.388	15.7 (J-)	3.37	—	7.98	2.56	NA	—	158 (J+)
RE21-07-6095	21-601272	3–4	QBT3	—	9.4	71.1 (J+)	—	5170	18	—	37.7	—	38.3	615	0.465	12.1 (J-)	—	—	5.82	2.77	NA	18.2	131 (J+)

Table 6.7-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Lead	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**7340**	**2.8**	**46**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**11.2**	**482**	**0.1**	**6.58**	**na**[b]	**na**	**0.3**	**1**	**2.4**	**17**	**63.5**
Soil BV[a]				**29200**	**8.2**	**295**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**22.3**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**186**	**800**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**1130000**	**18**	**223000**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**681**	**800**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**78000**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**46.9**	**400**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**391**	**23500**
RE21-07-6096	21-601273	1–2	SOIL	—	—	—	1.24	8700	233	10	575	—	102	—	1.5	70.4 (J-)	2.04	0.00068 (J)	9.7	18.1	NA	—	258 (J+)
RE21-07-6097	21-601273	2–3	SOIL	—	—	—	1.09	9460	29.1	—	199	—	74.3	—	0.691	—	1.63	—	7.17	11.3	NA	—	163 (J+)
RE21-07-6098	21-601274	2–3	SOIL	—	—	—	0.511 (U)	—	—	—	—	—	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-6099	21-601274	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.66 (U)	—	NA	—	—
RE21-07-6100	21-601275	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	2.16	—	1.82 (U)	—	NA	—	—
RE21-07-6101	21-601275	4–5	QBT3	—	2.8	—	—	—	—	—	—	—	—	—	—	—	2.16	—	1.8 (U)	—	NA	—	—
RE21-07-6102	21-601276	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.48	—	1.72 (U)	—	NA	—	—
RE21-07-6103	21-601276	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.22	—	1.62 (U)	—	NA	—	—
RE21-07-6104	21-601277	2–3	SOIL	—	—	—	0.609 (U)	—	—	—	—	—	—	—	—	—	2.11	—	1.83 (U)	—	NA	—	—
RE21-07-6105	21-601277	4–5	SOIL	—	—	—	0.622 (U)	—	—	—	—	—	—	—	—	—	1.91	—	—	—	NA	—	—
RE21-07-6106	21-601278	2–3	SOIL	—	—	—	0.565 (U)	7480	—	—	—	—	—	—	—	—	—	—	1.69 (U)	—	NA	—	—
RE21-07-6107	21-601278	4–5	QBT3	—	3.7	121 (J+)	—	9640	—	—	5.84	—	—	—	—	6.78 (J+)	—	—	1.71 (U)	—	NA	—	—
RE21-07-6108	21-601279	2–3	SOIL	—	—	—	0.58 (U)	—	—	—	—	—	—	—	—	—	—	—	1.74 (U)	—	NA	—	—
RE21-07-6109	21-601279	4–5	SOIL	—	—	—	0.574 (U)	—	—	—	—	—	—	—	—	—	—	—	1.72 (U)	—	NA	—	—
RE21-07-6110	21-601280	2–3	QBT3	—	3.2	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7 (U)	—	NA	—	—
RE21-07-6111	21-601280	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.64 (U)	—	NA	—	—
RE21-07-6112	21-601281	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.62 (U)	—	NA	—	—
RE21-07-6113	21-601281	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.63 (U)	—	NA	—	—
RE21-07-6114	21-601282	2–3	QBT3	—	3.3	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7 (U)	—	NA	—	—
RE21-07-6115	21-601282	4–5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.64 (U)	—	NA	—	—
RE21-07-6116	21-601283	2–3	QBT3	—	—	—	—	8810	—	—	—	—	—	—	—	—	—	—	1.67 (U)	—	NA	—	—
RE21-07-6117	21-601283	4–5	QBT3	—	—	—	—	4520	—	—	—	—	—	—	0.143	—	—	—	1.63 (U)	—	NA	—	—
RE21-07-6118	21-601284	2–3	QBT3	—	—	—	—	5150	—	—	—	—	—	—	—	—	—	—	1.67 (U)	—	NA	—	—
RE21-07-6119	21-601284	4–5	QBT3	—	—	—	—	2600	—	—	—	—	—	—	—	—	—	—	1.61 (U)	—	NA	—	—
MD21-09-8848	21-605286	0–0.5	SOIL	NA	NA	NA	—	NA	—	NA	—	0.74 (U)	26	NA	—	NA	—	NA	NA	—	—	NA	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] SSLs from NMED (2012, 209971) unless otherwise noted.

[c] na = Not available.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

[h] NA = Not analyzed.

Table 6.7-3
Organic Chemicals Detected at SWMU 21-024(d)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Carbazole	Chrysene	Di-n-butylphthalate
Construction Worker SSL[a]				**18600**	**6680[b]**	**66800**	**75.8**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**1080000[c]**	**4760**	**53800[c]**	**na[d]**	**20600**	**23800**
Industrial SSL[a]				**36700**	**18300[b]**	**183000**	**8.26**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**3300000[e]**	**1370**	**12000[e]**	**na**	**2340**	**68400**
Residential SSL[a]				**3440**	**1720[b]**	**17200**	**2.22**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**250000[e]**	**347**	**2800[e]**	**na**	**148**	**6110**
RE19-07-6120	19-601285	10–11	QBT3	—[f]	—	—	NA[g]	NA	NA	—	—	—	—	—	—	—	—	NA	—	0.0674 (J)
RE19-07-6121	19-601285	15–16	QBT3	—	—	—	NA	NA	NA	—	—	0.0115 (J)	—	—	—	0.0751 (J)	—	NA	0.0107 (J)	0.0979 (J)
RE19-07-6122	19-601285	20–21	QBT3	0.04	—	0.124	NA	NA	NA	0.18	0.147	0.234	0.0818 (J)	—	—	0.0897 (J)	—	NA	0.16	0.154 (J)
RE21-07-75010	21-27365	0–0.5	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	—	0.181 (J)	—	NA	—	0.184 (J)
RE21-08-10278	21-27365	0–0.5	SOIL	NA	NA	NA	0.178	0.422	0.186	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75011	21-27365	2–2.5	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	—	0.307	0.248 (J)	NA	—	0.335 (J)
RE21-08-10279	21-27365	2–2.5	SOIL	NA	NA	NA	0.256	0.457	0.188	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75012	21-27365	3–3.5	QBT3	—	—	—	NA	NA	NA	—	—	—	—	—	—	0.287	—	NA	—	0.308 (J)
MD21-09-8616	21-27365	4–5	QBT3	NA	NA	NA	—	0.26	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75014	21-27366	2–2.5	QBT3	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-3012	21-27367	0–0.5	SOIL	NA	NA	NA	—	0.129	0.051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75016	21-27367	2–2.5	QBT3	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-75017	21-27368	0–0.5	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	0.445 (J)	—	—	NA	—	—
RE21-07-75018	21-27368	2–2.5	QBT3	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-75020	21-27369	2–2.5	QBT3	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-08-10281	21-27370	0–0.5	SOIL	NA	NA	NA	—	0.029	0.0117	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75022	21-27370	2–2.5	QBT3	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-08-10282	21-27370	2–2.5	QBT3	NA	NA	NA	0.004	0.006	0.0024 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75024	21-27371	2–2.5	QBT3	—	—	—	NA	NA	NA	—	—	—	—	—	0.453 (J)	—	—	NA	—	—
RE21-07-75025	21-27372	0–0.5	SOIL	—	0.0162 (J)	—	NA	NA	NA	0.1 (J)	—	0.42 (J)	—	—	—	0.43 (J)	—	NA	0.198 (J)	0.395
RE21-07-75026	21-27372	2–2.5	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	—	0.159 (J)	—	NA	—	0.132 (J)
RE21-07-75027	21-27373	0–0.5	SOIL	0.0758	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-75028	21-27373	2–2.5	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-6090	21-601270	2–3	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-6091	21-601270	4–5	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	—	—	—	NA	—	—
RE21-07-6092	21-601271	2–3	SOIL	—	—	0.047 (J)	NA	NA	NA	0.3 (J)	0.27 (J)	0.28 (J)	0.12 (J)	0.3 (J)	—	—	—	NA	0.5	—
RE21-07-6093	21-601271	4–5	QBT3	—	—	—	NA	NA	NA	0.11 (J)	0.1 (J)	0.11 (J)	0.052 (J)	0.11 (J)	—	—	—	NA	0.19 (J)	—
RE21-07-6094	21-601272	1–2	SOIL	—	—	—	NA	NA	NA	—	0.0155 (J)	0.0392	0.0183 (J)	—	—	—	—	NA	—	0.125 (J)

Table 6.7-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Anthracene	Aroclor-1242	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Carbazole	Chrysene	Di-n-butylphthalate
Construction Worker SSL[a]				**18600**	**6680[b]**	**66800**	**75.8**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**1080000[c]**	**4760**	**53800[c]**	**na[d]**	**20600**	**23800**
Industrial SSL[a]				**36700**	**18300[b]**	**183000**	**8.26**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**3300000[e]**	**1370**	**12000[e]**	**na**	**2340**	**68400**
Residential SSL[a]				**3440**	**1720[b]**	**17200**	**2.22**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**250000[e]**	**347**	**2800[e]**	**na**	**148**	**6110**
RE21-07-6095	21-601272	3–4	QBT3	—	—	—	NA	NA	NA	—	—	0.0404	0.0146 (J)	—	—	—	—	NA	0.0204 (J)	0.0706 (J)
RE21-07-6096	21-601273	1–2	SOIL	0.0181 (J-)	—	0.0538 (J-)	NA	NA	NA	—	0.0991 (J-)	0.162 (J-)	0.0555 (J-)	—	—	0.187 (J)	0.211 (J-)	NA	0.0941 (J-)	0.164 (J-)
RE21-07-6097	21-601273	2–3	SOIL	—	—	—	NA	NA	NA	—	—	—	—	—	—	0.0956 (J)	0.0827 (J)	NA	—	0.0568 (J)
RE21-07-6112	21-601281	2–3	QBT3	—	—	—	NA	NA	NA	0.0574	—	—	0.0283 (J)	—	—	—	—	NA	—	—
RE21-07-6113	21-601281	4–5	QBT3	—	—	0.166 (J)	NA	NA	NA	0.456	0.486 (J)	0.93 (J)	0.226	—	—	—	—	NA	0.63 (J)	—
MD21-09-8615	21-601281	9–10	QBT3	—	—	0.11 (J)	NA	NA	NA	0.42	0.35 (J)	0.57 (J)	0.17 (J)	0.33 (J)	—	—	—	0.1 (J)	0.42	—
RE21-07-6138	21-601283	4–5	QBT3	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.7-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dichlorobenzene[1,2-]	Dichlorobenzene[1,3-]	Dichlorobenzene[1,4-]	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]
Construction Worker SSL[a]				**21.3**	**2710**	**2710**[h]	**831**	**8910**	**8910**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**2.34**	**14000**	**14000**[h]	**177**	**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**0.148**	**2310**	**2310**[h]	**31.7**	**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
RE19-07-6120	19-601285	10–11	QBT3	—	—	—	—	0.0112 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA
RE19-07-6121	19-601285	15–16	QBT3	—	—	—	—	0.0182 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA
RE19-07-6122	19-601285	20–21	QBT3	—	—	—	0.000331 (J)	0.41	0.0505	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75010	21-27365	0–0.5	SOIL	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10278	21-27365	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.000677	0.00134	0.000175	7.31E-06	0.000604	3.33E-05	3.88E-05	3.32E-05
RE21-07-75011	21-27365	2–2.5	SOIL	—	—	—	0.000241 (J)	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10279	21-27365	2–2.5	SOIL	NA	NA	NA	NA	NA	NA	0.000312	0.000628	9.11E-05	3.50E-06	0.000287	1.68E-05	1.80E-05	1.66E-05
RE21-07-75012	21-27365	3–3.5	QBT3	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-8616	21-27365	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75014	21-27366	2–2.5	QBT3	—	—	—	0.000306 (J)	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3012	21-27367	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	0.000408	0.000868	0.000129	4.03E-06	0.000348	1.18E-05	1.98E-05	1.66E-05
RE21-07-75016	21-27367	2–2.5	QBT3	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75017	21-27368	0–0.5	SOIL	—	—	—	—	0.0103 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75018	21-27368	2–2.5	QBT3	—	—	—	0.00062 (J)	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75020	21-27369	2–2.5	QBT3	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10281	21-27370	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	3.41E-05	7.37E-05	1.03E-05	4.37E-07 (J)	2.47E-05	1.3E-06 (J)	1.92E-06 (J)	1.36E-06 (J)
RE21-07-75022	21-27370	2–2.5	QBT3	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10282	21-27370	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	2.93E-06	6.72E-06	8.33E-07 (J)	—	2.04E-06	1.52E-07 (J)	1.95E-07 (J)	—
RE21-07-75024	21-27371	2–2.5	QBT3	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75025	21-27372	0–0.5	SOIL	—	—	—	—	0.0407	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75026	21-27372	2–2.5	SOIL	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75027	21-27373	0–0.5	SOIL	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75028	21-27373	2–2.5	SOIL	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6090	21-601270	2–3	SOIL	—	—	—	—	0.043 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6091	21-601270	4–5	SOIL	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6092	21-601271	2–3	SOIL	0.04 (J)	—	—	—	0.88	—	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.7-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dibenz(a,h)anthracene	Dichlorobenzene[1,2-]	Dichlorobenzene[1,3-]	Dichlorobenzene[1,4-]	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]
Construction Worker SSL[a]				**21.3**	**2710**	**2710**[h]	**831**	**8910**	**8910**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**2.34**	**14000**	**14000**[h]	**177**	**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**0.148**	**2310**	**2310**[h]	**31.7**	**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-07-6093	21-601271	4–5	QBT3	—	0.00025 (J)	0.00025 (J)	—	0.3 (J)		NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6094	21-601272	1–2	SOIL	—	—	—	—	0.0142 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6095	21-601272	3–4	QBT3	—	—	—	0.000307 (J)	0.0122 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6096	21-601273	1–2	SOIL	—	—	—	0.097 (J-)	0.169 (J-)	0.0206 (J-)	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6097	21-601273	2–3	SOIL	—	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6112	21-601281	2–3	QBT3	—	—	—	—	0.131 (J)	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-6113	21-601281	4–5	QBT3	—	—	—	—	1.17 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-8615	21-601281	9–10	QBT3	0.085 (J)	—	—	—	1.1	—	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6138	21-601283	4–5	QBT3	NA	NA	NA	NA	NA	NA	3.93E-06	8.77E-06	1.27E-06 (J)	—	3.6E-06 (J)	—	2.78E-07 (J)	2.71E-07 (J)

Table 6.7-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[1,2,3,7,8,9-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxin[1,2,3,7,8-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]
Construction Worker SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[i]	**1120**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[i]	**4700**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[i]	**409**	**na**	**na**	**na**	**na**	**na**
RE19-07-6120	19-601285	10–11	QBT3	NA	NA	NA	NA	NA	NA	—	0.00117	—	NA	NA	NA	NA	NA
RE19-07-6121	19-601285	15–16	QBT3	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE19-07-6122	19-601285	20–21	QBT3	NA	NA	NA	NA	NA	NA	0.0726	0.0027	—	NA	NA	NA	NA	NA
RE21-07-75010	21-27365	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA
RE21-08-10278	21-27365	0–0.5	SOIL	0.00056	1.14E-05	4.82E-06	2.67E-06	6.98E-06	0.000215	NA	NA	NA	0.00439	0.000414	1.54E-05	0.000234	2.65E-06
RE21-07-75011	21-27365	2–2.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-08-10279	21-27365	2–2.5	SOIL	0.000273	5.45E-06	2.41E-06 (J)	1.26E-06 (J)	3.55E-06	0.000109	NA	NA	NA	0.00169	0.000166	6.63E-06	0.000106	1.12E-06 (J)
RE21-07-75012	21-27365	3–3.5	QBT3	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
MD21-09-8616	21-27365	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75014	21-27366	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-07-3012	21-27367	0–0.5	SOIL	0.000277	4.85E-06	4.00E-06	1.28E-06 (J)	5.95E-06	0.000171	NA	NA	NA	0.0024	0.000267	5.59E-06	9.47E-05	1.18E-06 (J)
RE21-07-75016	21-27367	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	—	0.000495 (J)	—	NA	NA	NA	NA	NA
RE21-07-75017	21-27368	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA
RE21-07-75018	21-27368	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-07-75020	21-27369	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-08-10281	21-27370	0–0.5	SOIL	2.74E-05	5.47E-07 (J)	5.01E-007 (J)	—	7.43E-07 (J)	1.35E-05	NA	NA	NA	0.000221	1.44E-05	6.5E-07 (J)	9.03E-06	1.86E-07 (J)
RE21-07-75022	21-27370	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-08-10282	21-27370	2–2.5	QBT3	2.09E-06	—	—	—	—	4.14E-07	NA	NA	NA	1.78E-05	—	—	4.75E-07	—
RE21-07-75024	21-27371	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-07-75025	21-27372	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA
RE21-07-75026	21-27372	2–2.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-07-75027	21-27373	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA
RE21-07-75028	21-27373	2–2.5	SOIL	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-07-6090	21-601270	2–3	SOIL	NA	NA	NA	NA	NA	NA	—	—	0.02	NA	NA	NA	NA	NA
RE21-07-6091	21-601270	4–5	SOIL	NA	NA	NA	NA	NA	NA	—	—	0.01	NA	NA	NA	NA	NA
RE21-07-6092	21-601271	2–3	SOIL	NA	NA	NA	NA	NA	NA	0.13 (J)	—	0.01	NA	NA	NA	NA	NA

Table 6.7-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[1,2,3,7,8,9-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxin[1,2,3,7,8-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]
Construction Worker SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[i]	**1120**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[i]	**4700**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[i]	**409**	**na**	**na**	**na**	**na**	**na**
RE21-07-6093	21-601271	4–5	QBT3	NA	NA	NA	NA	NA	NA	0.057 (J)	—	0.01	NA	NA	NA	NA	NA
RE21-07-6094	21-601272	1–2	SOIL	NA	NA	NA	NA	NA	NA	0.0127 (J)	—	—	NA	NA	NA	NA	NA
RE21-07-6095	21-601272	3–4	QBT3	NA	NA	NA	NA	NA	NA	0.0123 (J)	—	—	NA	NA	NA	NA	NA
RE21-07-6096	21-601273	1–2	SOIL	NA	NA	NA	NA	NA	NA	0.05 (J-)	—	—	NA	NA	NA	NA	NA
RE21-07-6097	21-601273	2–3	SOIL	NA	NA	NA	NA	NA	NA	—	—	—	NA	NA	NA	NA	NA
RE21-07-6112	21-601281	2–3	QBT3	NA	NA	NA	NA	NA	NA	0.0226 (J)	—	—	NA	NA	NA	NA	NA
RE21-07-6113	21-601281	4–5	QBT3	NA	NA	NA	NA	NA	NA	0.222	—	—	NA	NA	NA	NA	NA
MD21-09-8615	21-601281	9–10	QBT3	NA	NA	NA	NA	NA	NA	0.21 (J)	NA	NA	NA	NA	NA	NA	NA
RE21-07-6138	21-601283	4–5	QBT3	5.49E-07	—	—	—	—	4.8E-07	NA	NA	NA	2.8E-05 (J)	2.84E-06 (J)	—	—	—

Table 6.7-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Trichloroethene
Construction Worker SSL[a]				**na**	**na**	**7150**	**6680**	**0.000284**	**na**	**0.0152**	**na**	**13400**	**7.68**
Industrial SSL[a]				**na**	**na**	**20500**	**18300**	**0.000204**	**na**	**0.00204**	**na**	**57700**	**41.3**
Residential SSL[a]				**na**	**na**	**1830**	**1720**	**0.000045**	**na**	**0.00045**	**na**	**5270**	**8.77**
RE19-07-6120	19-601285	10–11	QBT3	NA	NA	—	—	NA	NA	NA	NA	—	—
RE19-07-6121	19-601285	15–16	QBT3	NA	NA	0.0161 (J)	0.0148 (J)	NA	NA	NA	NA	—	—
RE19-07-6122	19-601285	20–21	QBT3	NA	NA	0.402	0.308	NA	NA	NA	NA	—	—
RE21-07-75010	21-27365	0–0.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-08-10278	21-27365	0–0.5	SOIL	6.36E-06	0.000102	NA	NA	2.23E-06	8.93E-05	6.11E-06	5.97E-05	NA	NA
RE21-07-75011	21-27365	2–2.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	0.00333	0.0023
RE21-08-10279	21-27365	2–2.5	SOIL	3.12E-06	4.68E-05	NA	NA	1.00E-06	3.88E-05	2.72E-06	3.04E-05	NA	NA
RE21-07-75012	21-27365	3–3.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	0.00677	0.0029
MD21-09-8616	21-27365	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75014	21-27366	2–2.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	—	—
RE21-07-3012	21-27367	0–0.5	SOIL	4.93E-06	5.73E-05	NA	NA	8.62E-07	3.05E-05	5.52E-06	4.48E-05	NA	NA
RE21-07-75016	21-27367	2–2.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	0.0032	0.0024
RE21-07-75017	21-27368	0–0.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-07-75018	21-27368	2–2.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	0.00166	0.0014
RE21-07-75020	21-27369	2–2.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	—	0.0011
RE21-08-10281	21-27370	0–0.5	SOIL	7.84E-07 (J)	9.90E-06	NA	NA	—	1.21E-06	8.12E-07	6.37E-06	NA	NA
RE21-07-75022	21-27370	2–2.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	0.00148	—
RE21-08-10282	21-27370	2–2.5	QBT3	—	2.91E-07	NA	NA	—	—	8.61E-08 (J)	1.80E-07	NA	NA
RE21-07-75024	21-27371	2–2.5	QBT3	NA	NA	—	—	NA	NA	NA	NA	0.00304	—
RE21-07-75025	21-27372	0–0.5	SOIL	NA	NA	—	0.0756 (J)	NA	NA	NA	NA	NA	NA
RE21-07-75026	21-27372	2–2.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	0.00897	0.0041
RE21-07-75027	21-27373	0–0.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	NA	NA
RE21-07-75028	21-27373	2–2.5	SOIL	NA	NA	—	—	NA	NA	NA	NA	0.00225	0.0021
RE21-07-6090	21-601270	2–3	SOIL	NA	NA	—	0.037 (J)	NA	NA	NA	NA	0.0003 (J)	—
RE21-07-6091	21-601270	4–5	SOIL	NA	NA	—	—	NA	NA	NA	NA	—	—
RE21-07-6092	21-601271	2–3	SOIL	NA	NA	0.37	0.62	NA	NA	NA	NA	—	—

Table 6.7-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Trichloroethene
Construction Worker SSL[a]				**na**	**na**	**7150**	**6680**	**0.000284**	**na**	**0.0152**	**na**	**13400**	**7.68**
Industrial SSL[a]				**na**	**na**	**20500**	**18300**	**0.000204**	**na**	**0.00204**	**na**	**57700**	**41.3**
Residential SSL[a]				**na**	**na**	**1830**	**1720**	**0.000045**	**na**	**0.00045**	**na**	**5270**	**8.77**
RE21-07-6093	21-601271	4–5	QBT3	NA	NA	0.13 (J)	0.22 (J)	NA	NA	NA	NA	—	—
RE21-07-6094	21-601272	1–2	SOIL	NA	NA	—	0.0169 (J)	NA	NA	NA	NA	—	—
RE21-07-6095	21-601272	3–4	QBT3	NA	NA	—	0.015 (J)	NA	NA	NA	NA	—	—
RE21-07-6096	21-601273	1–2	SOIL	NA	NA	0.151 (J-)	0.158 (J-)	NA	NA	NA	NA	—	—
RE21-07-6097	21-601273	2–3	SOIL	NA	NA	—	—	NA	NA	NA	NA	—	—
RE21-07-6112	21-601281	2–3	QBT3	NA	NA	0.146 (J)	0.127 (J)	NA	NA	NA	NA	—	—
RE21-07-6113	21-601281	4–5	QBT3	NA	NA	0.86 (J)	1.3 (J)	NA	NA	NA	NA	—	—
MD21-09-8615	21-601281	9–10	QBT3	NA	NA	0.59	0.95	NA	NA	NA	NA	NA	NA
RE21-07-6138	21-601283	4–5	QBT3	—	1.38E-07	NA	NA	—	1.2E-06	—	—	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] na = Not available.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[e] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[f] — = Not detected.

[g] NA = Not analyzed.

[h] Dichlorobenzene[1,2-] used as a surrogate based on structural similarity.

[i] Isopropylbenzene used as a surrogate based on structural similarity.

Table 6.7-4
Radionuclides Detected or Detected above BVs/FVs at SWMU 21-024(d)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**1.31[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE19-07-6120	19-601285	10–11	QBT3	—[e]	—	—	0.385	—	0.0251193	—	—	—
RE19-07-6121	19-601285	15–16	QBT3	—	—	—	1.01	—	0.0308023	—	—	—
RE19-07-6122	19-601285	20–21	QBT3	0.0379	—	—	0.492	—	0.0532239	—	—	—
RE21-07-75010	21-27365	0–0.5	SOIL	0.471	—	0.104	16.8	—	0.0377727	—	—	—
RE21-07-75011	21-27365	2–2.5	SOIL	0.708	0.1	0.166	16.3	—	0.123101	4.49	—	2.81
RE21-07-75012	21-27365	3–3.5	QBT3	0.302	0.11	—	3.92	—	0.095431	2.29	0.091	—
RE21-07-75013	21-27366	0–0.5	SOIL	—	—	—	1.14	—	—	—	—	—
RE21-07-75014	21-27366	2–2.5	QBT3	—	0.16	—	0.533	0.32	0.0078642	—	—	—
RE21-07-75015	21-27367	0–0.5	SOIL	2.21	—	0.593	32.7	—	0.0614043	9.03	0.538	6.58
RE21-07-75016	21-27367	2–2.5	QBT3	0.228	—	0.0679	3.97	—	0.0181721	—	0.1	—
RE21-07-75017	21-27368	0–0.5	SOIL	0.619	—	0.112	14.1	—	0.0166406	3.17	—	2.57
RE21-07-75018	21-27368	2–2.5	QBT3	0.115	0.18	—	1.9	—	0.0098551	—	—	—
RE21-07-75019	21-27369	0–0.5	SOIL	—	—	—	0.196	—	—	—	—	—
RE21-07-75020	21-27369	2–2.5	QBT3	—	—	—	0.101	—	—	—	—	—
RE21-07-75021	21-27370	0–0.5	SOIL	0.184	—	—	6.22	—	—	—	—	—
RE21-07-75022	21-27370	2–2.5	QBT3	—	—	—	0.246	—	—	—	—	—
RE21-07-75023	21-27371	0–0.5	SOIL	0.0471	—	—	1.04	—	—	—	—	—
RE21-07-75024	21-27371	2–2.5	QBT3	—	0.12	—	1.07	—	—	—	—	—
RE21-07-75025	21-27372	0–0.5	SOIL	1.73	—	0.168	16.5	—	0.138667	6	0.63	3.67
RE21-07-75026	21-27372	2–2.5	SOIL	0.284	0.13	0.069	3.5	—	0.110556	3.35	—	2.44
RE21-07-75027	21-27373	0–0.5	SOIL	0.222	—	0.0469	5.45	—	—	—	—	—
RE21-07-75028	21-27373	2–2.5	SOIL	—	0.17	—	0.765	—	0.100607	—	—	—
RE21-07-6090	21-601270	2–3	SOIL	—	—	—	0.18 (J)	—	—	—	—	—
RE21-07-6094	21-601272	1–2	SOIL	2.31 (J)	0.31	0.123	33.8 (J)	—	0.0467354	—	—	—
RE21-07-6095	21-601272	3–4	QBT3	0.539 (J)	0.31	0.0405	7.55 (J)	—	0.0317707	—	—	—
RE21-07-6096	21-601273	1–2	SOIL	1.12 (J)	0.25	0.106 (J-)	19.3 (J-)	—	—	4.28	0.222	—
RE21-07-6097	21-601273	2–3	SOIL	0.209 (J)	—	—	4.38 (J-)	—	—	—	—	—
RE21-07-6098	21-601274	2–3	SOIL	—	—	—	0.0558	0.26	—	—	—	—

Table 6.7-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Strontium-90	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**1.31**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**1600**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**3500**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**15**	**850**	**270**	**39**	**150**
RE21-07-6101	21-601275	4–5	QBT3	—	—	—	0.137	—	—	—	—	—
RE21-07-6102	21-601276	2–3	QBT3	—	—	—	—	—	—	—	0.11	—
RE21-07-6106	21-601278	2–3	SOIL	0.0664	—	—	0.0384	0.22	—	—	—	—
RE21-07-6107	21-601278	4–5	QBT3	—	—	—	0.0307	—	0.0379361	—	0.096	—
RE21-07-6108	21-601279	2–3	SOIL	—	—	—	0.0241	—	—	—	—	—
RE21-07-6109	21-601279	4–5	SOIL	—	—	—	—	0.85	0.0588704	—	—	—
RE21-07-6112	21-601281	2–3	QBT3	0.123	—	—	—	—	—	—	0.115	—
RE21-07-6114	21-601282	2–3	QBT3	—	—	—	0.027	—	—	—	0.106	—
RE21-07-6115	21-601282	4–5	QBT3	—	—	—	0.0502	—	—	—	—	—
RE21-07-6116	21-601283	2–3	QBT3	—	—	—	2.1	—	—	—	0.119	—
RE21-07-6117	21-601283	4–5	QBT3	—	—	0.0246	5.02	—	—	—	—	—
MD21-09-8614	21-601283	9–10	QBT3	NA[f]	NA	—	1.24	NA	NA	NA	NA	NA
RE21-07-6119	21-601284	4–5	QBT3	—	—	—	0.0258	—	—	—	—	—
MD21-09-8848	21-605286	0–0.5	SOIL	0.276	NA	0.0315	3.37	NA	—	—	—	—
MD21-11-24244	21-614571	25–26	QBT3	0.0436	NA	NA	NA	NA	0.03412	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.8-1
Samples Collected and Analyses Requested at SWMU 21-024(g)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-75871	21-27592	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—*	—	6624S	—	—	6625S	6625S
RE21-07-75872	21-27592	2–2.5	QBT3	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
RE21-07-75873	21-27593	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	—	6624S	—	—	6625S	6625S
RE21-07-75874	21-27593	2–2.5	QBT3	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
RE21-07-75875	21-27594	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	—	6624S	—	—	6625S	6625S
RE21-07-75876	21-27594	2–2.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
RE21-07-75877	21-27595	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	—	6624S	—	—	6625S	6625S
RE21-07-75878	21-27595	2–2.5	QBT3	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
RE21-07-75879	21-27596	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	—	6624S	—	—	6625S	6625S
RE21-07-75880	21-27596	2–2.5	QBT3	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
RE21-07-582	21-27596	2–3	QBT3	—	—	—	—	—	—	—	—	—	07-84	—	—	07-102	07-84	—	—
RE21-07-75881	21-27597	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	—	6624S	—	—	6625S	6625S
RE21-07-75882	21-27597	2–2.5	QBT3	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
RE21-07-75883	21-27598	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	—	6624S	—	—	6625S	6625S
RE21-07-75884	21-27598	2–2.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
RE21-07-75885	21-27599	0–0.5	ALLH	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	—	6624S	—	—	6625S	6625S
RE21-07-75886	21-27599	2–2.5	QBT3	6625S	6626S	6626S	6626S	6626S	6626S	6626S	6625S	6625S	—	6624S	6624S	—	—	6625S	6625S
MD21-09-8749	21-27599	4–5	QBT3	—	—	—	—	—	—	—	09-1978	—	—	—	—	—	—	—	—
RE21-07-75887	21-27600	0–0.5	ALLH	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	—	6629S	—	—	6630S	6630S
RE21-07-75888	21-27600	2–2.5	QBT3	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	6629S	6629S	—	—	6630S	6630S
RE21-07-75889	21-27601	0–0.5	ALLH	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	—	6629S	—	—	6630S	6630S
RE21-07-75890	21-27601	2–2.5	QBT3	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	6629S	6629S	—	—	6630S	6630S
RE21-07-75891	21-27602	0–0.5	ALLH	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	—	6629S	—	—	6630S	6630S
RE21-07-75892	21-27602	2–2.5	QBT3	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	6629S	6629S	—	—	6630S	6630S
RE21-07-75893	21-27603	0–0.5	ALLH	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	—	6629S	—	—	6630S	6630S
RE21-07-75894	21-27603	2–2.5	ALLH	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	6629S	6629S	—	—	6630S	6630S
RE21-07-75895	21-27604	0–0.5	ALLH	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	—	6629S	—	—	6630S	6630S
RE21-07-75896	21-27604	2–2.5	ALLH	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	6629S	6629S	—	—	6630S	6630S
RE21-07-75897	21-27605	0–0.5	QBT3	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	—	6629S	—	—	6630S	6630S
RE21-07-75898	21-27605	2–2.5	QBT3	6630S	6631S	6631S	6631S	6631S	6631S	6631S	6630S	6630S	—	6629S	6629S	—	—	6630S	6630S
RE21-07-75911	21-27606	0–1	ALLH	6975S	6976S	6976S	6976S	6976S	6976S	6976S	6975S	6975S	—	—	6974S	—	—	6975S	6975S
RE21-07-75912	21-27606	5–6	ALLH	6975S	6976S	6976S	6976S	6976S	6976S	6976S	6975S	6975S	—	6974S	6974S	—	—	6975S	6975S
RE21-07-75913	21-27606	10–11	QBT3	6975S	6976S	6976S	6976S	6976S	6976S	6976S	6975S	6975S	—	6974S	6974S	—	—	6975S	6975S
MD21-09-8756	21-27606	11–11.5	ALLH	—	—	—	—	—	09-1916	—	—	—	—	—	—	—	—	—	—

Table 6.8-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-75914	21-27607	0–1	ALLH	6975S	6976S	6976S	6976S	6976S	6976S	6976S	6975S	6975S	—	—	6974S	—	—	6975S	6975S
RE21-07-75915	21-27607	5–6	QBT3	6975S	6976S	6976S	6976S	6976S	6976S	6976S	6975S	6975S	—	6974S	6974S	—	—	6975S	6975S
RE21-07-75916	21-27607	10–11	QBT3	6975S	6976S	6976S	6976S	6976S	6976S	6976S	6975S	6975S	—	6974S	6974S	—	—	6975S	6975S
RE21-07-75917	21-27608	0–0.5	ALLH	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	—	6977S	—	—	6978S	6978S
RE21-07-75918	21-27608	2–3	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75919	21-27608	5–6	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75920	21-27609	3.2–4.2	ALLH	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75921	21-27609	8.2–9.2	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75922	21-27609	13.2–14.2	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75923	21-27610	0–0.5	ALLH	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75924	21-27610	5–6	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75925	21-27610	10–11	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
MD21-09-8748	21-27610	11–11.5	ALLH	—	—	—	—	—	—	—	09-1886	—	—	—	—	—	—	—	—
RE21-07-75926	21-27611	0–0.5	ALLH	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	—	6977S	—	—	6978S	6978S
RE21-07-75927	21-27611	2–3	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75928	21-27611	5–6	QBT3	6978S	6979S	6979S	6979S	6979S	6979S	6979S	6978S	6978S	—	6977S	6977S	—	—	6978S	6978S
RE21-07-75929	21-27612	0–0.5	ALLH	6633S	6634S	6634S	6634S	6634S	6634S	6634S	6633S	6633S	—	—	6632S	—	—	6633S	6633S
RE21-07-75930	21-27612	2–2.5	QBT3	6633S	6634S	6634S	6634S	6634S	6634S	6634S	6633S	6633S	—	6632S	6632S	—	—	6633S	6633S
RE21-07-75931	21-27613	0–0.5	ALLH	6633S	6634S	6634S	6634S	6634S	6634S	6634S	6633S	6633S	—	—	6632S	—	—	6633S	6633S
RE21-07-75932	21-27613	2–2.5	ALLH	6633S	6634S	6634S	6634S	6634S	6634S	6634S	6633S	6633S	—	6632S	6632S	—	—	6633S	6633S
RE21-07-75933	21-27614	1.8–2.8	QBT3	6871S	6872S	6872S	6872S	6872S	6872S	6872S	6871S	6871S	—	6870S	6870S	—	—	6871S	6871S
RE21-07-75934	21-27614	3.8–4.8	QBT3	6871S	6872S	6872S	6872S	6872S	6872S	6872S	6871S	6871S	—	6870S	6870S	—	—	6871S	6871S
MD21-09-8753	21-27614	9–10	ALLH	—	09-1978	—	—	—	—	—	09-1978	—	—	—	—	—	—	—	—
RE21-07-75935	21-27615	2.5–3.5	QBT3	6874S	6875S	6875S	6875S	6875S	6875S	6875S	6874S	6874S	—	6873S	6873S	—	—	6874S	6874S
RE21-07-75936	21-27615	4.5–5.5	QBT3	6874S	6875S	6875S	6875S	6875S	6875S	6875S	6874S	6874S	—	6873S	6873S	—	—	6874S	6874S
RE21-07-75937	21-27616	0–0.5	ALLH	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75938	21-27616	2–3	QBT3	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75939	21-27617	0–1	QBT3	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75940	21-27617	2–3	QBT3	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75941	21-27618	0–1	QBT3	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75942	21-27618	2–3	QBT3	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75943	21-27619	4–5	ALLH	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75944	21-27619	6–7	QBT3	6879S	6880S	6880S	6880S	6880S	6880S	6880S	6879S	6879S	—	6878S	6878S	—	—	6879S	6879S
RE21-07-75945	21-27620	4.6–5.6	QBT3	6885S	6886S	6886S	6886S	6886S	6886S	6886S	6885S	6885S	—	6884S	6884S	—	—	6885S	6885S
RE21-07-75946	21-27620	6.6–7.6	QBT3	6885S	6886S	6886S	6886S	6886S	6886S	6886S	6885S	6885S	—	6884S	6884S	—	—	6885S	6885S

Table 6.8-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-75947	21-27621	3.6–4.6	QBT3	6885S	6886S	6886S	6886S	6886S	6886S	6886S	6885S	6885S	—	6884S	6884S	—	—	6885S	6885S
RE21-07-75948	21-27621	5.6–6.6	QBT3	6885S	6886S	6886S	6886S	6886S	6886S	6886S	6885S	6885S	—	6884S	6884S	—	—	6885S	6885S
RE21-07-75949	21-27622	4–5	QBT3	6913S	6914S	6914S	6914S	6914S	6914S	6914S	6913S	6913S	—	6912S	6912S	—	—	6913S	6913S
RE21-07-75950	21-27622	6–7	QBT3	6913S	6914S	6914S	6914S	6914S	6914S	6914S	6913S	6913S	—	6912S	6912S	—	—	6913S	6913S
RE21-07-75951	21-27623	4–5	QBT3	6916S	6917S	6917S	6917S	6917S	6917S	6917S	6916S	6916S	—	6915S	6915S	—	—	6916S	6916S
RE21-07-75952	21-27623	6–7	QBT3	6916S	6917S	6917S	6917S	6917S	6917S	6917S	6916S	6916S	—	6915S	6915S	—	—	6916S	6916S
RE21-07-75970	21-27625	0–0.5	QBT3	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	—	6950S	—	—	6951S	6951S
RE21-07-75971	21-27625	5–6	QBT3	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	6950S	6950S	—	—	6951S	6951S
RE21-07-75972	21-27625	10–11	QBT3	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	6950S	6950S	—	—	6951S	6951S
RE21-07-75973	21-27626	0–0.5	ALLH	6957S	6958S	6958S	6958S	6958S	6958S	6958S	6957S	6957S	—	—	6956S	—	—	6957S	6957S
RE21-07-75974	21-27626	5–6	QBT3	6957S	6958S	6958S	6958S	6958S	6958S	6958S	6957S	6957S	—	6956S	6956S	—	—	6957S	6957S
RE21-07-75975	21-27626	10–11	QBT3	6957S	6958S	6958S	6958S	6958S	6958S	6958S	6957S	6957S	—	6956S	6956S	—	—	6957S	6957S
RE21-07-75976	21-27627	10–11	QBT3	7075S	7076S	7076S	7076S	7076S	7076S	7076S	7075S	7075S	—	7074S	7074S	—	—	7075S	7075S
RE21-07-75977	21-27627	15–16	QBT3	7075S	7076S	7076S	7076S	7076S	7076S	7076S	7075S	7075S	—	7074S	7074S	—	—	7075S	7075S
RE21-07-75978	21-27627	20–21	QBT3	7075S	7076S	7076S	7076S	7076S	7076S	7076S	7075S	7075S	—	7074S	7074S	—	—	7075S	7075S
RE21-07-75979	21-27628	0–0.5	ALLH	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	—	6950S	—	—	6951S	6951S
RE21-07-75980	21-27628	2–3	QBT3	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	6950S	6950S	—	—	6951S	6951S
RE21-07-75981	21-27629	0–0.5	ALLH	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	—	6950S	—	—	6951S	6951S
RE21-07-75982	21-27629	2–3	QBT3	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	6950S	6950S	—	—	6951S	6951S
RE21-07-75983	21-27630	0–0.5	ALLH	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	—	6950S	—	—	6951S	6951S
RE21-07-75984	21-27630	2–3	QBT3	6951S	6952S	6952S	6952S	6952S	6952S	6952S	6951S	6951S	—	6950S	6950S	—	—	6951S	6951S
RE21-08-10263	21-603268	3–4	QBT3	08-542	08-542	08-542	08-542	08-542	08-542	08-542	08-542	08-542	—	08-542	08-542	—	—	08-542	08-542
RE21-08-10264	21-603268	5–6	QBT3	08-542	08-542	08-542	08-542	08-542	08-542	08-542	08-542	08-542	—	08-542	08-542	—	—	08-542	08-542
MD21-09-8747	21-605245	0–0.5	ALLH	—	—	—	—	09-1978	09-1978	—	—	—	—	—	09-1978	—	—	—	—
MD21-09-8750	21-605246	2–2.5	QBT3	—	—	—	—	—	—	—	09-1978	—	—	—	—	—	—	—	—
MD21-09-8751	21-605246	4–5	QBT3	—	—	—	—	—	—	—	09-1978	—	—	—	—	—	—	—	—
MD21-09-8752	21-605247	0–0.5	ALLH	—	—	—	—	—	—	—	09-1978	—	—	—	—	—	—	—	—
MD21-09-8754	21-605248	5–6	ALLH	—	—	—	—	—	—	—	—	—	—	—	09-1978	—	—	—	—
MD21-09-8755	21-605249	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-1978	—	—	—	—
MD21-09-8757	21-605250	0–0.5	ALLH	—	—	—	—	09-1978	09-1978	—	—	—	—	—	—	—	—	—	—
MD21-11-24245	21-614572	9–10	QBT3	—	—	—	—	—	—	11-3121	—	—	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.8-2
Inorganic Chemicals above BVs at SWMU 21-024(g)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Iron	Lead	Magnesium
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**
Soil BV[a]				**29200**	**0.83**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**0.5**	**21500**	**22.3**	**4610**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**186**	**217000**	**800**	**na**
Industrial SSL[c]				**1130000**	**454**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**681**	**795000**	**800**	**na**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**46.9**	**54800**	**400**	**na**
RE21-07-75871	21-27592	0–0.5	SOIL	—[g]	—	—	—	—	0.541 (U)	—	—	—	—	—	—	—	—
RE21-07-75872	21-27592	2–2.5	QBT3	—	—	—	—	—	—	—	18.7	—	—	—	—	—	—
RE21-07-75873	21-27593	0–0.5	SOIL	—	—	—	—	—	0.506 (U)	—	—	—	—	—	—	—	—
RE21-07-75874	21-27593	2–2.5	QBT3	—	—	3.34	53.5	—	—	—	—	—	4.82	—	—	17.2	—
RE21-07-75875	21-27594	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	0.844	—	—	—
RE21-07-75876	21-27594	2–2.5	SOIL	—	—	—	—	—	0.556 (U)	—	—	—	—	—	—	—	—
RE21-07-75877	21-27595	0–0.5	SOIL	—	—	—	—	—	0.807	—	—	—	23.1	1.25	—	37.7	—
RE21-07-75878	21-27595	2–2.5	QBT3	—	—	6.22	—	—	—	2240 (J+)	11.7	—	11.4	—	—	12.1	—
RE21-07-75879	21-27596	0–0.5	SOIL	—	—	—	—	—	0.537 (U)	—	—	—	—	—	—	22.5	—
RE21-07-75880	21-27596	2–2.5	QBT3	—	—	—	—	—	—	—	11.6	—	—	—	—	13	—
RE21-07-75881	21-27597	0–0.5	SOIL	—	—	—	—	—	0.609 (U)	—	—	—	—	—	—	23	—
RE21-07-75882	21-27597	2–2.5	QBT3	10800 (J+)	—	—	—	—	—	—	23.7	—	—	—	—	16.1	—
RE21-07-75883	21-27598	0–0.5	SOIL	—	—	—	—	—	1.14	—	—	—	25.4	1.17	—	35.1	—
RE21-07-75884	21-27598	2–2.5	SOIL	—	—	—	—	—	0.803	—	—	—	16.2	0.685	—	—	—
RE21-07-75885	21-27599	0–0.5	SOIL	—	—	—	—	—	0.571 (U)	—	—	—	—	—	—	28.1	—
RE21-07-75886	21-27599	2–2.5	QBT3	—	—	—	—	—	—	—	37.5	—	—	—	—	12.1	—
RE21-07-75887	21-27600	0–0.5	SOIL	—	—	—	—	—	0.591 (U)	—	—	—	—	—	—	—	—
RE21-07-75888	21-27600	2–2.5	QBT3	—	—	—	—	—	—	—	19.2	—	—	—	—	—	—
RE21-07-75889	21-27601	0–0.5	SOIL	—	—	—	—	—	0.563 (U)	—	—	—	—	—	—	36.2	—
RE21-07-75890	21-27601	2–2.5	QBT3	15000 (J+)	—	3.98	130	—	—	—	10.6	—	7.51	—	—	20.8	2070
RE21-07-75891	21-27602	0–0.5	SOIL	—	—	—	—	—	0.554 (U)	—	—	—	—	—	—	—	—
RE21-07-75892	21-27602	2–2.5	QBT3	10900 (J+)	—	3.49	73.8	—	—	2290	—	—	—	—	—	—	—
RE21-07-75893	21-27603	0–0.5	SOIL	—	—	—	—	—	0.543 (U)	—	—	—	—	—	—	—	—
RE21-07-75894	21-27603	2–2.5	SOIL	—	—	—	—	—	0.522 (U)	—	—	—	—	—	—	—	—
RE21-07-75895	21-27604	0–0.5	SOIL	—	—	—	—	—	0.57 (U)	—	—	—	—	—	—	—	—
RE21-07-75896	21-27604	2–2.5	SOIL	—	—	—	—	—	0.543 (U)	—	—	—	—	—	—	—	—
RE21-07-75897	21-27605	0–0.5	QBT3	—	—	—	—	—	—	—	8.36	—	—	—	—	—	—
RE21-07-75898	21-27605	2–2.5	QBT3	—	—	—	—	—	—	—	11.9	—	—	—	—	—	—
RE21-07-75911	21-27606	0–1	SOIL	—	—	—	—	—	0.561 (U)	—	—	—	—	—	—	—	—
RE21-07-75912	21-27606	5–6	SOIL	—	—	—	—	—	0.54 (U)	—	31.6	—	—	—	—	—	—

Table 6.8-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Iron	Lead	Magnesium
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**
Soil BV[a]				**29200**	**0.83**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**0.5**	**21500**	**22.3**	**4610**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**186**	**217000**	**800**	**na**
Industrial SSL[c]				**1130000**	**454**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**681**	**795000**	**800**	**na**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**46.9**	**54800**	**400**	**na**
RE21-07-75913	21-27606	10–11	QBT3	—	—	—	—	—	—	—	15.2	—	—	—	—	—	—
RE21-07-75914	21-27607	0–1	SOIL	—	—	—	—	—	0.533 (U)	—	—	—	—	—	—	—	—
RE21-07-75915	21-27607	5–6	QBT3	—	—	—	—	—	—	—	12.4	—	—	—	—	—	—
RE21-07-75916	21-27607	10–11	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75917	21-27608	0–0.5	SOIL	—	—	—	—	—	0.537 (U)	—	—	—	—	—	—	—	—
RE21-07-75918	21-27608	2–3	QBT3	—	—	6.93	—	—	—	—	11	—	—	—	—	—	—
RE21-07-75919	21-27608	5–6	QBT3	—	—	5.21	—	—	—	—	13.8	—	4.67	—	—	—	—
RE21-07-75920	21-27609	3.2–4.2	SOIL	—	—	—	—	—	0.597 (U)	—	—	—	—	—	—	—	—
RE21-07-75921	21-27609	8.2–9.2	QBT3	—	—	—	—	—	—	—	28.3	—	—	—	—	—	—
RE21-07-75922	21-27609	13.2–14.2	QBT3	—	—	—	—	—	—	4600	—	—	—	—	—	—	—
RE21-07-75923	21-27610	0–0.5	SOIL	—	—	—	—	—	0.574 (U)	—	—	—	—	—	—	—	—
RE21-07-75924	21-27610	5–6	QBT3	—	—	—	—	—	—	—	7.79	—	—	—	—	—	—
RE21-07-75925	21-27610	10–11	QBT3	—	—	—	—	—	—	—	45.6	—	—	—	—	—	—
RE21-07-75926	21-27611	0–0.5	SOIL	—	—	—	—	—	0.532 (U)	—	—	—	—	—	—	35	—
RE21-07-75927	21-27611	2–3	QBT3	—	—	—	50.4	—	—	—	12.3	—	6.81	—	—	27.5	—
RE21-07-75928	21-27611	5–6	QBT3	—	—	—	—	—	—	—	7.15	—	—	—	—	17.9	—
RE21-07-75929	21-27612	0–0.5	SOIL	—	—	—	—	—	0.576 (U)	—	—	—	—	—	—	—	—
RE21-07-75930	21-27612	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	20.3	—
RE21-07-75931	21-27613	0–0.5	SOIL	—	—	—	—	—	0.619 (U)	—	—	—	—	—	—	24.5	—
RE21-07-75932	21-27613	2–2.5	SOIL	—	—	—	—	—	0.606 (U)	—	—	—	—	—	—	—	—
RE21-07-75933	21-27614	1.8–2.8	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	41.9 (J+)	—
RE21-07-75934	21-27614	3.8–4.8	QBT3	—	0.511 (UJ)	—	—	—	—	—	26.2	—	—	—	—	109 (J+)	—
RE21-07-75935	21-27615	2.5–3.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75936	21-27615	4.5–5.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75937	21-27616	0–0.5	SOIL	—	—	—	—	—	0.565 (U)	—	—	—	—	—	—	—	—
RE21-07-75938	21-27616	2–3	QBT3	—	—	—	—	—	—	—	21.4	—	—	—	—	—	—
RE21-07-75939	21-27617	0–1	QBT3	—	—	—	—	—	—	—	10.2	5.49	—	—	—	—	—
RE21-07-75940	21-27617	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75941	21-27618	0–1	QBT3	—	—	—	—	—	—	—	24	—	—	—	—	—	—
RE21-07-75942	21-27618	2–3	QBT3	—	—	—	—	—	—	—	16.8	—	—	—	—	—	—
RE21-07-75943	21-27619	4–5	SOIL	—	—	—	—	—	0.585 (U)	—	—	—	—	—	—	—	—

Table 6.8-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Iron	Lead	Magnesium
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.79**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**0.5**	**14500**	**11.2**	**1690**
Soil BV[a]				**29200**	**0.83**	**8.17**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**0.5**	**21500**	**22.3**	**4610**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**186**	**217000**	**800**	**na**
Industrial SSL[c]				**1130000**	**454**	**17.7**	**223000**	**2260**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**681**	**795000**	**800**	**na**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**46.9**	**54800**	**400**	**na**
RE21-07-75944	21-27619	6–7	QBT3	—	—	—	—	—	—	8450 (J-)	—	—	—	—	—	—	—
RE21-07-75945	21-27620	4.6–5.6	QBT3	—	—	3.47	—	—	—	—	—	—	—	—	—	20.9 (J)	—
RE21-07-75946	21-27620	6.6–7.6	QBT3	8670 (J+)	0.548 (U)	10.8	79	1.44	—	2580 (J+)	13.4 (J)	—	5.19	—	—	32.5 (J)	—
RE21-07-75947	21-27621	3.6–4.6	QBT3	—	—	2.85	—	—	—	—	12.9 (J)	—	—	—	—	—	—
RE21-07-75948	21-27621	5.6–6.6	QBT3	—	—	—	—	—	—	—	10.8 (J)	—	—	—	—	—	—
RE21-07-75949	21-27622	4–5	QBT3	8440	—	3.89	96	1.41 (J)	3.05 (U)	6570	14.5	—	7.32	—	25800 (J+)	16.8	1940 (J+)
RE21-07-75950	21-27622	6–7	QBT3	—	—	—	—	—	—	—	11.7	—	—	—	—	—	—
RE21-07-75951	21-27623	4–5	QBT3	—	—	—	54.3	—	—	—	11.8	—	—	—	—	—	—
RE21-07-75952	21-27623	6–7	QBT3	—	—	—	—	—	—	3260 (J-)	—	—	—	—	—	—	—
RE21-07-75970	21-27625	0–0.5	QBT3	—	—	3.88	67.6	—	—	—	—	—	—	—	—	—	—
RE21-07-75971	21-27625	5–6	QBT3	—	—	4.35	55.9	—	—	2500	11	—	5.39	—	—	—	—
RE21-07-75972	21-27625	10–11	QBT3	—	—	—	—	—	—	—	26.4	—	—	—	—	—	—
RE21-07-75973	21-27626	0–0.5	SOIL	—	—	—	—	—	0.549 (U)	—	—	—	—	—	—	—	—
RE21-07-75974	21-27626	5–6	QBT3	—	—	—	—	—	—	—	28.8	—	—	—	—	—	—
RE21-07-75975	21-27626	10–11	QBT3	—	—	—	—	—	—	—	18.3	—	—	—	—	—	—
RE21-07-75976	21-27627	10–11	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75977	21-27627	15–16	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	15.7	—
RE21-07-75978	21-27627	20–21	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75979	21-27628	0–0.5	SOIL	—	—	—	—	—	0.537 (U)	—	—	—	—	—	—	—	—
RE21-07-75980	21-27628	2–3	QBT3	—	—	—	—	—	—	—	20.8	—	—	—	—	—	—
RE21-07-75981	21-27629	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75982	21-27629	2–3	QBT3	—	—	3.4	65.8	—	—	—	8.43	—	—	—	—	—	—
RE21-07-75983	21-27630	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75984	21-27630	2–3	QBT3	—	—	—	—	—	—	—	21.2	—	—	—	—	—	—
RE21-08-10263	21-603268	3–4	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-08-10264	21-603268	5–6	QBT3	—	—	—	—	—	—	—	9.56	—	—	—	—	—	—
MD21-09-8750	21-605246	2–2.5	QBT3	NA[h]	NA	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA

Table 6.8-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Sodium	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**2770**	**2.4**	**17**	**63.5**
Soil BV[a]				**0.1**	**15.4**	**na**	**na**	**1.52**	**915**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**92.9**	**6190**	**496000**	**217**	**1550**	**na**	**929**	**1550**	**92900**
Industrial SSL[c]				**341**	**22500**	**1820000**	**795**	**5680**	**na**	**3410**	**5680**	**341000**
Residential SSL[c]				**23.5**	**1560**	**125000**	**54.8**	**391**	**na**	**235**	**391**	**23500**
RE21-07-75871	21-27592	0–0.5	SOIL	—	—	—	—	—	—	—	—	—
RE21-07-75872	21-27592	2–2.5	QBT3	—	—	—	—	1.59 (U)	—	—	—	—
RE21-07-75873	21-27593	0–0.5	SOIL	—	—	—	—	—	—	—	—	—
RE21-07-75874	21-27593	2–2.5	QBT3	—	—	1.16	—	1.66 (U)	—	—	—	—
RE21-07-75875	21-27594	0–0.5	SOIL	0.139	—	—	—	—	—	2.43	—	69.9
RE21-07-75876	21-27594	2–2.5	SOIL	—	—	—	0.00062 (J-)	—	—	—	—	57.8
RE21-07-75877	21-27595	0–0.5	SOIL	0.786	—	3.26	—	—	—	5.79	—	156
RE21-07-75878	21-27595	2–2.5	QBT3	0.249	—	1.42	—	1.75 (U)	—	2.55	—	131
RE21-07-75879	21-27596	0–0.5	SOIL	—	—	—	—	—	—	—	—	—
RE21-07-75880	21-27596	2–2.5	QBT3	—	—	—	—	1.53 (U)	—	—	—	—
RE21-07-75881	21-27597	0–0.5	SOIL	—	—	1.66	—	—	—	2	—	—
RE21-07-75882	21-27597	2–2.5	QBT3	—	—	—	—	0.757 (J)	—	—	—	—
RE21-07-75883	21-27598	0–0.5	SOIL	1.14	—	3.58	—	—	—	6.83	—	221
RE21-07-75884	21-27598	2–2.5	SOIL	0.525	—	1.94	—	1.69 (U)	—	4.37	—	181
RE21-07-75885	21-27599	0–0.5	SOIL	—	—	—	—	1.71 (U)	—	—	—	—
RE21-07-75886	21-27599	2–2.5	QBT3	—	—	—	—	1.63 (U)	—	—	—	—
RE21-07-75887	21-27600	0–0.5	SOIL	—	—	—	—	1.77 (U)	—	—	—	—
RE21-07-75888	21-27600	2–2.5	QBT3	—	—	—	—	1.63 (U)	—	—	—	—
RE21-07-75889	21-27601	0–0.5	SOIL	—	—	0.865 (J)	0.000745 (J-)	—	937	2	—	65.2
RE21-07-75890	21-27601	2–2.5	QBT3	—	—	0.612 (J)	0.00138 (J-)	1.82 (U)	—	—	21.3	—
RE21-07-75891	21-27602	0–0.5	SOIL	—	—	0.962 (J)	—	—	—	—	—	—
RE21-07-75892	21-27602	2–2.5	QBT3	—	—	0.609 (J)	—	1.59 (U)	—	—	—	—
RE21-07-75893	21-27603	0–0.5	SOIL	—	—	0.88 (J)	—	—	—	—	—	—
RE21-07-75894	21-27603	2–2.5	SOIL	—	—	—	—	—	—	—	—	—
RE21-07-75895	21-27604	0–0.5	SOIL	—	—	—	—	1.71 (U)	—	—	—	110
RE21-07-75896	21-27604	2–2.5	SOIL	—	—	—	—	1.63 (U)	—	—	—	—
RE21-07-75897	21-27605	0–0.5	QBT3	—	—	0.604 (J)	—	1.66 (U)	—	—	—	—
RE21-07-75898	21-27605	2–2.5	QBT3	—	—	—	—	1.61 (U)	—	—	—	—
RE21-07-75911	21-27606	0–1	SOIL	—	—	1.15	—	1.68 (U)	—	—	—	57.5
RE21-07-75912	21-27606	5–6	SOIL	—	—	1.63	—	1.62 (U)	—	—	—	53.6
RE21-07-75913	21-27606	10–11	QBT3	—	—	1.29	—	1.59 (U)	—	—	—	—

Table 6.8-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Sodium	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**2770**	**2.4**	**17**	**63.5**
Soil BV[a]				**0.1**	**15.4**	**na**	**na**	**1.52**	**915**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**92.9**	**6190**	**496000**	**217**	**1550**	**na**	**929**	**1550**	**92900**
Industrial SSL[c]				**341**	**22500**	**1820000**	**795**	**5680**	**na**	**3410**	**5680**	**341000**
Residential SSL[c]				**23.5**	**1560**	**125000**	**54.8**	**391**	**na**	**235**	**391**	**23500**
RE21-07-75914	21-27607	0–1	SOIL	—	—	1.44	—	1.6 (U)	—	—	—	—
RE21-07-75915	21-27607	5–6	QBT3	—	—	1.24	—	1.58 (U)	—	—	—	—
RE21-07-75916	21-27607	10–11	QBT3	—	—	1.14	0.00119 (J+)	1.44 (U)	—	—	—	—
RE21-07-75917	21-27608	0–0.5	SOIL	—	—	1.56	—	1.61 (U)	—	—	—	—
RE21-07-75918	21-27608	2–3	QBT3	—	—	—	—	1.66 (U)	—	—	—	—
RE21-07-75919	21-27608	5–6	QBT3	0.13	—	—	—	1.6 (U)	—	—	—	—
RE21-07-75920	21-27609	3.2–4.2	SOIL	—	—	—	—	1.79 (U)	—	16.6	—	64.5
RE21-07-75921	21-27609	8.2–9.2	QBT3	—	—	—	—	1.61 (U)	—	—	—	—
RE21-07-75922	21-27609	13.2–14.2	QBT3	—	—	1.32	—	1.66 (U)	—	—	—	—
RE21-07-75923	21-27610	0–0.5	SOIL	—	—	—	—	1.72 (U)	—	—	—	—
RE21-07-75924	21-27610	5–6	QBT3	—	—	—	—	1.66 (U)	—	—	—	—
RE21-07-75925	21-27610	10–11	QBT3	—	—	—	—	1.63 (U)	—	—	—	—
RE21-07-75926	21-27611	0–0.5	SOIL	—	—	1.26	—	1.6 (U)	—	—	—	86.1
RE21-07-75927	21-27611	2–3	QBT3	—	—	—	—	1.66 (U)	—	—	—	—
RE21-07-75928	21-27611	5–6	QBT3	—	—	1.69	—	1.61 (U)	—	—	—	—
RE21-07-75929	21-27612	0–0.5	SOIL	—	—	—	—	1.73 (U)	—	—	—	60.6
RE21-07-75930	21-27612	2–2.5	QBT3	—	—	—	—	1.55 (U)	—	—	—	—
RE21-07-75931	21-27613	0–0.5	SOIL	—	—	—	—	—	—	—	—	80.3
RE21-07-75932	21-27613	2–2.5	SOIL	—	—	—	—	1.82 (U)	—	—	—	—
RE21-07-75933	21-27614	1.8–2.8	QBT3	—	—	1.21	—	1.85 (U)	—	2.89	—	—
RE21-07-75934	21-27614	3.8–4.8	QBT3	—	8.75	—	—	1.84 (U)	—	4.23	—	—
RE21-07-75935	21-27615	2.5–3.5	QBT3	0.109	—	—	—	1.04 (J)	—	4.73	—	—
RE21-07-75936	21-27615	4.5–5.5	QBT3	—	—	—	—	1.71 (U)	—	2.45	—	—
RE21-07-75937	21-27616	0–0.5	SOIL	—	—	—	—	1.7 (U)	—	6.25	—	—
RE21-07-75938	21-27616	2–3	QBT3	—	—	—	—	1.75 (U)	—	3.02	—	—
RE21-07-75939	21-27617	0–1	QBT3	—	—	—	—	1.71 (U)	—	—	—	—
RE21-07-75940	21-27617	2–3	QBT3	—	—	—	—	1.81 (U)	—	—	—	—
RE21-07-75941	21-27618	0–1	QBT3	—	—	0.922 (J)	—	1.67 (U)	—	—	—	—
RE21-07-75942	21-27618	2–3	QBT3	—	—	—	—	1.59 (U)	—	—	—	—
RE21-07-75943	21-27619	4–5	SOIL	—	—	—	—	1.75 (U)	—	—	—	—
RE21-07-75944	21-27619	6–7	QBT3	—	—	1.12	—	1.64 (U)	—	—	—	—
RE21-07-75945	21-27620	4.6–5.6	QBT3	—	—	—	—	1.74 (U)	—	—	—	—

Table 6.8-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Sodium	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**0.1**	**6.58**	**na[b]**	**na**	**0.3**	**2770**	**2.4**	**17**	**63.5**
Soil BV[a]				**0.1**	**15.4**	**na**	**na**	**1.52**	**915**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**92.9**	**6190**	**496000**	**217**	**1550**	**na**	**929**	**1550**	**92900**
Industrial SSL[c]				**341**	**22500**	**1820000**	**795**	**5680**	**na**	**3410**	**5680**	**341000**
Residential SSL[c]				**23.5**	**1560**	**125000**	**54.8**	**391**	**na**	**235**	**391**	**23500**
RE21-07-75946	21-27620	6.6–7.6	QBT3	—	—	—	—	2.08 (U)	—	—	—	—
RE21-07-75947	21-27621	3.6–4.6	QBT3	—	—	—	—	1.71 (U)	—	—	—	—
RE21-07-75948	21-27621	5.6–6.6	QBT3	—	—	—	—	1.68 (U)	—	—	—	—
RE21-07-75949	21-27622	4–5	QBT3	0.392	11.1	1.39	—	9.14 (U)	—	—	—	—
RE21-07-75950	21-27622	6–7	QBT3	—	—	1.6	—	0.658 (J)	—	—	—	—
RE21-07-75951	21-27623	4–5	QBT3	—	—	2.19	—	1 (J)	—	—	—	—
RE21-07-75952	21-27623	6–7	QBT3	—	—	1.38	—	1.66 (U)	—	—	—	—
RE21-07-75970	21-27625	0–0.5	QBT3	—	—	1.88	—	16.9 (U)	—	—	—	—
RE21-07-75971	21-27625	5–6	QBT3	—	—	—	0.00248	15.6 (U)	—	—	—	—
RE21-07-75972	21-27625	10–11	QBT3	—	—	—	0.000838 (J)	1.52 (U)	—	—	—	—
RE21-07-75973	21-27626	0–0.5	SOIL	—	—	4.6	—	16.5 (U)	—	—	—	—
RE21-07-75974	21-27626	5–6	QBT3	—	—	1.36	—	15.4 (U)	—	—	—	—
RE21-07-75975	21-27626	10–11	QBT3	—	—	1.28	—	15 (U)	—	—	—	—
RE21-07-75976	21-27627	10–11	QBT3	—	—	1.93	—	0.641 (J)	—	—	—	—
RE21-07-75977	21-27627	15–16	QBT3	—	—	2.44	—	1.52 (U)	—	—	—	—
RE21-07-75978	21-27627	20–21	QBT3	—	—	1.84	—	1.5 (U)	—	—	—	—
RE21-07-75979	21-27628	0–0.5	SOIL	—	—	2.77	—	16.1 (U)	—	—	—	51.7
RE21-07-75980	21-27628	2–3	QBT3	—	—	—	—	1.77 (U)	—	—	—	—
RE21-07-75981	21-27629	0–0.5	SOIL	—	—	4.15	—	17.1 (U)	—	—	—	—
RE21-07-75982	21-27629	2–3	QBT3	—	—	1.24	—	16.9 (U)	—	—	—	—
RE21-07-75983	21-27630	0–0.5	SOIL	—	—	1.79	—	17.1 (U)	—	1.84	—	—
RE21-07-75984	21-27630	2–3	QBT3	—	—	—	—	1.74 (U)	—	—	—	—
RE21-08-10263	21-603268	3–4	QBT3	—	—	—	—	1.78 (U)	—	NA	—	—
RE21-08-10264	21-603268	5–6	QBT3	—	—	—	—	1.75 (U)	—	NA	—	—
MD21-09-8750	21-605246	2–2.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971) unless otherwise noted.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

[h] NA = Not analyzed.

Table 6.8-3
Organic Chemicals Detected at SWMU 21-024(g)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Bis(2-ethylhexyl)phthalate	Chloroform	Chrysene	Di-n-butylphthalate	Ethylbenzene
Construction Worker SSL[a]				**18600**	**6680**[b]	**221000**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**1080000**[c]	**4760**	**154**	**20600**	**23800**	**1830**
Industrial SSL[a]				**36700**	**18300**[b]	**868000**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**3300000**[d]	**1370**	**32.7**	**2340**	**68400**	**378**
Residential SSL[a]				**3440**	**1720**[b]	**66600**	**17200**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**250000**[d]	**347**	**5.86**	**148**	**6110**	**68.4**
RE21-07-75874	21-27593	2–2.5	QBT3	—[e]	—	—	—	NA[f]	NA	—	—	—	—	—	0.224 (J)	—	—	—	—	—
RE21-07-75875	21-27594	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	0.0141 (J)	—	—	—	—	NA	—	—	NA
RE21-07-75878	21-27595	2–2.5	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75879	21-27596	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	NA
RE21-07-582	21-27596	2–3	QBT3	NA	NA	NA	NA	0.0025 (J)	0.0022 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75881	21-27597	0–0.5	SOIL	—	—	NA	—	NA	NA	0.0239 (J)	0.0213 (J)	0.0457	—	—	—	—	NA	0.0292 (J)	—	NA
RE21-07-75883	21-27598	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	NA
RE21-07-75884	21-27598	2–2.5	SOIL	—	—	—	—	NA	NA	—	—	0.0207 (J)	—	—	—	—	—	—	—	0.000265 (J)
RE21-07-75885	21-27599	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	0.0203 (J)	—	NA
RE21-07-75887	21-27600	0–0.5	SOIL	—	—	NA	—	NA	NA	—	0.0409 (J)	0.0547 (J)	—	—	—	—	NA	0.0458	—	NA
RE21-07-75889	21-27601	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	0.0289 (J)	—	NA
RE21-07-75890	21-27601	2–2.5	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75891	21-27602	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	NA
RE21-07-75892	21-27602	2–2.5	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75893	21-27603	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	0.0405	—	0.0191 (J)	—	—	NA	0.0295 (J)	—	NA
RE21-07-75895	21-27604	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	NA
RE21-07-75897	21-27605	0–0.5	QBT3	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	—	0.327 (J)	NA
RE21-07-75912	21-27606	5–6	SOIL	—	0.0265 (J)	—	0.0409	NA	NA	0.82	2.17	3.53 (J)	2.49	—	—	0.0863 (J)	—	—	—	—
RE21-07-75913	21-27606	10–11	QBT3	—	—	—	—	NA	NA	—	0.241	—	0.22	0.242	—	—	—	—	—	—
RE21-07-75914	21-27607	0–1	SOIL	—	—	NA	—	NA	NA	0.0196 (J)	—	—	—	0.0446	—	—	NA	0.0267 (J)	—	NA
RE21-07-75922	21-27609	13.2–14.2	QBT3	—	—	0.00541 (J)	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75923	21-27610	0–0.5	SOIL	—	—	0.0846	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75924	21-27610	5–6	QBT3	—	—	0.0501	—	NA	NA	—	—	—	—	—	—	0.136 (J)	—	—	—	—
RE21-07-75925	21-27610	10–11	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	0.0754 (J)	—	—	—	—
RE21-07-75926	21-27611	0–0.5	SOIL	—	—	NA	0.0157 (J)	NA	NA	0.14	—	0.36 (J)	0.0975 (J)	—	—	0.11 (J)	NA	0.17	—	NA
RE21-07-75927	21-27611	2–3	QBT3	—	—	—	—	NA	NA	0.0177 (J)	0.0213 (J)	0.0344 (J)	—	0.0143 (J)	0.407 (J)	0.0779 (J)	—	0.0274 (J)	—	—
RE21-07-75928	21-27611	5–6	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	0.0784 (J)	—	0.0167 (J)	—	—
RE21-07-75929	21-27612	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	0.0322 (J)	—	NA

Table 6.8-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Bis(2-ethylhexyl)phthalate	Chloroform	Chrysene	Di-n-butylphthalate	Ethylbenzene
Construction Worker SSL[a]				**18600**	**6680[b]**	**221000**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**1080000[c]**	**4760**	**154**	**20600**	**23800**	**1830**
Industrial SSL[a]				**36700**	**18300[b]**	**868000**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**3300000[d]**	**1370**	**32.7**	**2340**	**68400**	**378**
Residential SSL[a]				**3440**	**1720[b]**	**66600**	**17200**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**250000[d]**	**347**	**5.86**	**148**	**6110**	**68.4**
RE21-07-75930	21-27612	2–2.5	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75931	21-27613	0–0.5	SOIL	0.0369 (J)	—	NA	0.0551	NA	NA	0.227	0.222 (J)	0.401 (J)	0.127 (J)	—	—	—	NA	0.255	—	NA
RE21-07-75937	21-27616	0–0.5	SOIL	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75938	21-27616	2–3	QBT3	—	—	—	—	NA	NA	—	—	0.0703 (J)	—	—	—	—	—	0.0489 (J)	—	—
RE21-07-75939	21-27617	0–1	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75941	21-27618	0–1	QBT3	—	—	0.00392 (J)	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75942	21-27618	2–3	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75943	21-27619	4–5	SOIL	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75944	21-27619	6–7	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	0.000233 (J)	—	—	—
RE21-07-75945	21-27620	4.6–5.6	QBT3	—	—	—	—	NA	NA	—	—	—	—	—	—	—	—	0.0132 (J)	—	—
RE21-07-75948	21-27621	5.6–6.6	QBT3	—	—	0.00308 (J)	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75949	21-27622	4–5	QBT3	—	—	0.0033 (J)	0.105	NA	NA	0.502	0.359	0.813	0.22 (J)	—	—	—	—	0.62	—	—
RE21-07-75951	21-27623	4–5	QBT3	—	—	0.00479 (J)	—	NA	NA	—	—	0.0129 (J)	—	—	—	—	—	—	—	—
RE21-07-75973	21-27626	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	—	—	—	—	—	NA	—	—	NA
RE21-07-75979	21-27628	0–0.5	SOIL	—	—	NA	—	NA	NA	—	—	0.186 (J)	—	—	—	—	NA	—	—	NA
RE21-07-75981	21-27629	0–0.5	SOIL	—	—	NA	—	NA	NA	0.0374 (J)	—	0.24 (J)	—	—	—	—	NA	0.0521	—	NA
RE21-07-75982	21-27629	2–3	QBT3	—	—	—	—	NA	NA	—	—	—	—	0.0202 (J)	—	—	—	—	—	—
RE21-07-75983	21-27630	0–0.5	SOIL	—	—	NA	0.0116 (J)	NA	NA	—	—	—	—	0.0251 (J)	—	—	NA	0.0209 (J)	—	NA

Table 6.8-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Toluene	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**8910**	**8910**	**na**[g]	**na**	**na**	**na**	**na**	**213**	**2810**[h]	**1420**[c]	**158**	**na**	**na**	**na**	**7150**	**6680**	**13400**	**743**[i]
Industrial SSL[a]				**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[h]	**3000**[d]	**241**	**na**	**na**	**na**	**20500**	**18300**	**57700**	**3980**[i]
Residential SSL[a]				**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[h]	**230**[d]	**43**	**na**	**na**	**na**	**1830**	**1720**	**5270**	**814**[i]
RE21-07-75874	21-27593	2–2.5	QBT3	0.0487	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	0.0565	—	—
RE21-07-75875	21-27594	0–0.5	SOIL	0.0142 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	—	NA	NA
RE21-07-75878	21-27595	2–2.5	QBT3	—	—	NA	NA	NA	NA	NA	—	0.00205 (J)	—	—	NA	NA	NA	—	—	0.00273	—
RE21-07-75879	21-27596	0–0.5	SOIL	0.0267 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	0.0319 (J)	NA	NA
RE21-07-582	21-27596	2–3	QBT3	NA	NA	1.3E-06 (J)	2.67E-06	5.46E-07 (J)	9.98E-07	4.15E-07	NA	NA	NA	NA	8.79E-06	7.14E-07 (J)	2.23E-07	NA	NA	NA	NA
RE21-07-75881	21-27597	0–0.5	SOIL	0.0436	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	0.038 (J)	NA	NA
RE21-07-75883	21-27598	0–0.5	SOIL	0.0205 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	0.0173 (J)	NA	NA
RE21-07-75884	21-27598	2–2.5	SOIL	0.0145 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	0.00329	0.000319 (J)
RE21-07-75885	21-27599	0–0.5	SOIL	0.0194 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	0.0263 (J)	NA	NA
RE21-07-75887	21-27600	0–0.5	SOIL	0.0703	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0342 (J)	0.0984	NA	NA
RE21-07-75889	21-27601	0–0.5	SOIL	0.0392	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0276 (J)	0.0594	NA	NA
RE21-07-75890	21-27601	2–2.5	QBT3	0.0128 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	0.0164 (J)	—	—
RE21-07-75891	21-27602	0–0.5	SOIL	0.0115 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	—	NA	NA
RE21-07-75892	21-27602	2–2.5	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	0.000408 (J)	—
RE21-07-75893	21-27603	0–0.5	SOIL	0.0439	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0221 (J)	0.0398	NA	NA
RE21-07-75895	21-27604	0–0.5	SOIL	0.0139 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	—	NA	NA
RE21-07-75897	21-27605	0–0.5	QBT3	—	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	—	NA	NA
RE21-07-75912	21-27606	5–6	SOIL	0.0628	—	NA	NA	NA	NA	NA	1.7 (J)	—	—	—	NA	NA	NA	0.0126 (J)	0.382	0.000409 (J)	—
RE21-07-75913	21-27606	10–11	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	0.0181 (J)	—	—
RE21-07-75914	21-27607	0–1	SOIL	0.0253 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0117 (J)	0.0325 (J)	NA	NA
RE21-07-75922	21-27609	13.2–14.2	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	—	—
RE21-07-75923	21-27610	0–0.5	SOIL	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	0.000478 (J)	—
RE21-07-75924	21-27610	5–6	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	—	—
RE21-07-75925	21-27610	10–11	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	—	—
RE21-07-75926	21-27611	0–0.5	SOIL	0.222	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0856	0.288	NA	NA
RE21-07-75927	21-27611	2–3	QBT3	0.039 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	0.0181 (J)	0.0301 (J)	—	—
RE21-07-75928	21-27611	5–6	QBT3	0.022 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	0.011 (J)	0.033 (J)	—	—
RE21-07-75929	21-27612	0–0.5	SOIL	0.0499	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0312 (J)	0.0711	NA	NA

Table 6.8-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Toluene	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**8910**	**8910**	**na**[g]	**na**	**na**	**na**	**na**	**213**	**2810**[h]	**1420**[c]	**158**	**na**	**na**	**na**	**7150**	**6680**	**13400**	**743**[i]
Industrial SSL[a]				**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[h]	**3000**[d]	**241**	**na**	**na**	**na**	**20500**	**18300**	**57700**	**3980**[i]
Residential SSL[a]				**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[h]	**230**[d]	**43**	**na**	**na**	**na**	**1830**	**1720**	**5270**	**814**[i]
RE21-07-75930	21-27612	2–2.5	QBT3	0.0111 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	0.0132 (J)	—	—
RE21-07-75931	21-27613	0–0.5	SOIL	0.52	0.041 (J)	NA	NA	NA	NA	NA	0.104 (J)	NA	0.029 (J)	0.044	NA	NA	NA	0.403	0.633	NA	NA
RE21-07-75937	21-27616	0–0.5	SOIL	—	—	NA	NA	NA	NA	NA	—	0.00038 (J)	—	—	NA	NA	NA	—	—	0.000804 (J)	—
RE21-07-75938	21-27616	2–3	QBT3	0.0973 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	0.0588 (J)	0.124 (J)	0.000425 (J)	—
RE21-07-75939	21-27617	0–1	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	0.000563 (J)	—
RE21-07-75941	21-27618	0–1	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	0.00101 (J)	—
RE21-07-75942	21-27618	2–3	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	0.00101 (J)	—
RE21-07-75943	21-27619	4–5	SOIL	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	0.00127	—
RE21-07-75944	21-27619	6–7	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	—	—
RE21-07-75945	21-27620	4.6–5.6	QBT3	0.0214 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	0.0204 (J)	—	—
RE21-07-75948	21-27621	5.6–6.6	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	—	—
RE21-07-75949	21-27622	4–5	QBT3	1.47	—	NA	NA	NA	NA	NA	0.204 (J)	—	—	—	NA	NA	NA	0.36	0.964	0.00184	—
RE21-07-75951	21-27623	4–5	QBT3	0.0195 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	0.0144 (J)	—	—
RE21-07-75973	21-27626	0–0.5	SOIL	0.0252 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	0.0243 (J)	NA	NA
RE21-07-75979	21-27628	0–0.5	SOIL	0.0265 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0131 (J)	0.0321 (J)	NA	NA
RE21-07-75981	21-27629	0–0.5	SOIL	0.0503	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	0.0195 (J)	0.0482	NA	NA
RE21-07-75982	21-27629	2–3	QBT3	—	—	NA	NA	NA	NA	NA	—	—	—	—	NA	NA	NA	—	—	—	—
RE21-07-75983	21-27630	0–0.5	SOIL	0.0245 (J)	—	NA	NA	NA	NA	NA	—	NA	—	—	NA	NA	NA	—	0.0265 (J)	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] — = Not detected.

[f] NA = Not analyzed.

[g] na = Not available.

[h] Isopropylbenzene used as a surrogate based on structural similarity.

[i] Xylenes used as a surrogate based on structural similarity.

Table 6.8-4
Radionuclides Detected or Detected above BVs/FVs at SWMU 21-024(g)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**	**0.054**[c]	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-75871	21-27592	0–0.5	SOIL	—[e]	—	—	0.268	—	—	—	—
RE21-07-75872	21-27592	2–2.5	QBT3	—	—	—	—	0.0431304	—	—	—
RE21-07-75873	21-27593	0–0.5	SOIL	—	—	—	0.136	0.00847059	—	—	—
RE21-07-75874	21-27593	2–2.5	QBT3	0.0818	0.679	—	0.709	0.0275965	—	—	—
RE21-07-75875	21-27594	0–0.5	SOIL	0.0881	—	—	1.18	—	—	—	—
RE21-07-75876	21-27594	2–2.5	SOIL	—	0.17	—	0.205	0.0248803	—	—	—
RE21-07-75877	21-27595	0–0.5	SOIL	0.146	—	0.0439	3.92	0.19858	—	—	—
RE21-07-75878	21-27595	2–2.5	QBT3	—	0.307	—	0.526	0.126432	—	—	—
RE21-07-75879	21-27596	0–0.5	SOIL	0.0475	—	—	1.2	—	—	—	—
RE21-07-75880	21-27596	2–2.5	QBT3	—	0.111	—	0.236	0.0110982	—	—	—
RE21-07-75881	21-27597	0–0.5	SOIL	—	—	—	1.87	—	—	—	—
RE21-07-75882	21-27597	2–2.5	QBT3	—	—	—	0.0214	0.0367228	—	—	—
RE21-07-75883	21-27598	0–0.5	SOIL	0.181	—	0.0327	3.79	0.158735	3.71	—	3.32
RE21-07-75884	21-27598	2–2.5	SOIL	0.0766	0.608	—	1.5	0.114161	2.74	—	2.58
RE21-07-75885	21-27599	0–0.5	SOIL	0.0612	—	—	0.887	0.0281628	—	—	—
RE21-07-75886	21-27599	2–2.5	QBT3	—	—	—	0.11	0.0201461	—	—	—
RE21-07-75887	21-27600	0–0.5	SOIL	0.0301	—	—	0.176	—	—	—	—
RE21-07-75888	21-27600	2–2.5	QBT3	—	—	—	0.0504	—	—	0.0919	—
RE21-07-75889	21-27601	0–0.5	SOIL	0.0697	—	—	1.18	0.036	—	—	—
RE21-07-75890	21-27601	2–2.5	QBT3	0.0509	—	—	1.41	—	—	—	—
RE21-07-75891	21-27602	0–0.5	SOIL	—	—	—	0.36	0.0615506	—	—	—
RE21-07-75892	21-27602	2–2.5	QBT3	—	—	—	0.182	0.0222973	—	—	—
RE21-07-75893	21-27603	0–0.5	SOIL	—	—	—	0.235	0.0253333	—	—	—
RE21-07-75894	21-27603	2–2.5	SOIL	—	—	—	0.162	0.0243479	—	—	—
RE21-07-75895	21-27604	0–0.5	SOIL	0.0335	—	—	0.341	—	—	—	—
RE21-07-75896	21-27604	2–2.5	SOIL	—	—	—	0.205	0.0275618	—	—	—
RE21-07-75897	21-27605	0–0.5	QBT3	—	—	—	0.0452	—	—	—	—
RE21-07-75898	21-27605	2–2.5	QBT3	—	—	—	—	0.0229564	—	—	—
RE21-07-75911	21-27606	0–1	SOIL	—	—	—	0.179	—	—	—	—

Table 6.8-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**	**0.054**[c]	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-75912	21-27606	5–6	SOIL	—	—	—	0.348	—	—	—	—
RE21-07-75913	21-27606	10–11	QBT3	—	—	—	1.72	0.0636034	—	—	—
MD21-09-8756	21-27606	11–11.5	SOIL	NA[f]	NA	—	0.049	NA	NA	NA	NA
RE21-07-75914	21-27607	0–1	SOIL	—	—	—	0.524	—	—	—	—
RE21-07-75915	21-27607	5–6	QBT3	—	—	—	—	0.0217894	—	—	—
RE21-07-75916	21-27607	10–11	QBT3	—	—	—	—	0.00282994	—	—	—
RE21-07-75917	21-27608	0–0.5	SOIL	—	—	—	0.356	—	—	—	—
RE21-07-75919	21-27608	5–6	QBT3	—	—	—	0.131	—	—	0.0961	—
RE21-07-75920	21-27609	3.2–4.2	SOIL	—	—	—	0.0941	—	4.43	0.256	4.31
RE21-07-75921	21-27609	8.2–9.2	QBT3	—	—	—	—	—	—	0.122	—
RE21-07-75922	21-27609	13.2–14.2	QBT3	—	—	—	0.0365	0.195922	—	—	—
RE21-07-75923	21-27610	0–0.5	SOIL	0.0285 (J)	—	—	1.58	—	—	—	—
RE21-07-75924	21-27610	5–6	QBT3	—	—	—	0.0515	—	—	—	—
RE21-07-75925	21-27610	10–11	QBT3	—	—	—	0.0317	0.0233509	—	—	—
RE21-07-75926	21-27611	0–0.5	SOIL	—	—	—	0.202	—	—	—	—
RE21-07-75927	21-27611	2–3	QBT3	—	0.0858	—	0.477	—	—	—	—
RE21-07-75928	21-27611	5–6	QBT3	—	—	—	0.106	—	—	—	—
RE21-07-75929	21-27612	0–0.5	SOIL	0.0501	—	—	0.127	—	—	—	—
RE21-07-75930	21-27612	2–2.5	QBT3	—	—	—	0.0806	0.0145946	—	—	—
RE21-07-75931	21-27613	0–0.5	SOIL	—	—	—	0.178	—	—	—	—
RE21-07-75932	21-27613	2–2.5	SOIL	—	—	—	0.0865	0.0384691	—	—	—
RE21-07-75933	21-27614	1.8–2.8	QBT3	—	—	—	—	—	—	0.162	—
RE21-07-75934	21-27614	3.8–4.8	QBT3	—	—	—	—	0.041284	2.56	0.176	2.76
RE21-07-75935	21-27615	2.5–3.5	QBT3	—	—	—	—	0.0351628	2.22	0.167	2.17
RE21-07-75937	21-27616	0–0.5	SOIL	—	—	—	—	—	2.99	0.23	3.15
RE21-07-75938	21-27616	2–3	QBT3	—	—	—	—	—	—	0.161	1.97
RE21-07-75939	21-27617	0–1	QBT3	—	—	—	0.0911 (J+)	—	2.22	0.109	2.21
RE21-07-75940	21-27617	2–3	QBT3	—	—	—	0.0496 (J+)	—	—	—	—
RE21-07-75941	21-27618	0–1	QBT3	—	—	—	—	0.0576949	—	—	—
RE21-07-75942	21-27618	2–3	QBT3	—	—	—	—	0.0546947	—	—	—
RE21-07-75943	21-27619	4–5	SOIL	—	0.105	—	0.12 (J+)	—	—	—	—
RE21-07-75945	21-27620	4.6–5.6	QBT3	—	—	—	0.198 (J+)	—	—	—	—

Table 6.8-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**	**0.054**[c]	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-75947	21-27621	3.6–4.6	QBT3	—	—	—	0.162 (J+)	—	—	0.109	—
RE21-07-75949	21-27622	4–5	QBT3	—	—	—	0.0587	0.100756	—	—	—
RE21-07-75950	21-27622	6–7	QBT3	—	—	—	—	0.0782727	—	—	—
RE21-07-75970	21-27625	0–0.5	QBT3	—	—	—	0.106	—	—	—	—
RE21-07-75971	21-27625	5–6	QBT3	—	—	—	0.0573	0.0506658	—	—	—
RE21-07-75972	21-27625	10–11	QBT3	—	—	—	—	0.00632514	—	—	—
RE21-07-75973	21-27626	0–0.5	SOIL	—	—	—	0.141	—	—	—	—
RE21-07-75974	21-27626	5–6	QBT3	—	—	—	—	0.00947755	—	—	—
RE21-07-75975	21-27626	10–11	QBT3	—	—	—	0.0475	—	—	—	—
RE21-07-75976	21-27627	10–11	QBT3	—	—	—	—	0.576794	—	—	—
RE21-07-75977	21-27627	15–16	QBT3	—	—	—	—	0.0124674	—	—	—
RE21-07-75978	21-27627	20–21	QBT3	—	—	—	—	0.0488473	—	—	—
RE21-07-75979	21-27628	0–0.5	SOIL	—	—	—	0.188	—	—	—	—
RE21-07-75981	21-27629	0–0.5	SOIL	—	—	—	0.395	—	—	—	—
RE21-07-75982	21-27629	2–3	QBT3	—	—	—	0.045	—	—	—	—
RE21-07-75983	21-27630	0–0.5	SOIL	0.0493	—	—	0.601	—	—	—	—
RE21-08-10264	21-603268	5–6	QBT3	—	—	—	—	0.0776471	—	—	—
MD21-09-8747	21-605245	0–0.5	SOIL	0.116	NA	—	1.49	NA	NA	NA	NA
MD21-09-8757	21-605250	0–0.5	SOIL	0.0228	NA	—	0.303	NA	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.9-1
Samples Collected and Analyses Requested at SWMU 21-024(k)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOTH	ISOU	Technetium-99	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-3839	21-600843	0–0.5	ALLH	07-242	07-243	07-243	07-243	07-243	07-243	—*	07-243	—	07-242	07-242	—	—	07-241	—	—	07-242	07-242
RE21-07-3840	21-600843	2–3	QBT3	07-242	07-243	07-243	07-243	07-243	07-243	—	07-243	—	07-242	07-242	—	07-241	07-241	—	—	07-242	07-242
RE21-07-3841	21-600844	0–0.5	ALLH	07-242	07-243	07-243	07-243	07-243	07-243	—	07-243	—	07-242	07-242	—	—	07-241	—	—	07-242	07-242
RE21-07-3842	21-600844	2–3	QBT3	07-242	07-243	07-243	07-243	07-243	07-243	—	07-243	—	07-242	07-242	—	07-241	07-241	—	—	07-242	07-242
RE21-07-3843	21-600845	0–0.5	ALLH	07-242	07-243	07-243	07-243	07-243	07-243	—	07-243	—	07-242	07-242	—	—	07-241	—	—	07-242	07-242
RE21-07-3844	21-600845	2–3	QBT3	07-242	07-243	07-243	07-243	07-243	07-243	—	07-243	—	07-242	07-242	—	07-241	07-241	—	—	07-242	07-242
RE21-07-3845	21-600846	0–0.5	ALLH	07-242	07-243	07-243	07-243	07-243	07-243	—	07-243	—	07-242	07-242	—	—	07-241	—	—	07-242	07-242
RE21-07-3846	21-600846	2–3	QBT3	07-242	07-243	07-243	07-243	07-243	07-243	—	07-243	—	07-242	07-242	—	07-241	07-241	—	—	07-242	07-242
RE21-07-3847	21-600847	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-08-10365	21-600847	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	08-572	—	—	—	—	—	—
RE21-08-10366	21-600847	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	08-572	—	—	—	—	—	—
RE21-07-3848	21-600847	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3849	21-600848	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-07-3850	21-600848	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3851	21-600849	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-07-3852	21-600849	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3853	21-600850	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-07-3854	21-600850	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3855	21-600851	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-08-10367	21-600851	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	08-572	—	—	—	—	—	—
RE21-07-3893	21-600851	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	07-293	—	—	07-294	07-293	—	—
RE21-07-3856	21-600851	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3857	21-600852	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-07-3858	21-600852	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3859	21-600853	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-07-3860	21-600853	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3861	21-600854	0–0.5	ALLH	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	—	07-252	—	—	07-253	07-253
RE21-07-3862	21-600854	2–3	QBT3	07-253	07-254	07-254	07-254	07-254	07-254	—	07-254	—	07-253	07-253	—	07-252	07-252	—	—	07-253	07-253
RE21-07-3872	21-600859	0–0.5	ALLH	07-245	07-246	07-246	07-246	07-246	07-246	—	07-246	—	07-245	07-245	—	—	07-244	—	—	07-245	07-245
RE21-07-3873	21-600859	2–3	ALLH	07-245	07-246	07-246	07-246	07-246	07-246	—	07-246	—	07-245	07-245	—	07-244	07-244	—	—	07-245	07-245
RE21-07-3874	21-600859	5–6	QBT3	07-245	07-246	07-246	07-246	07-246	07-246	—	07-246	—	07-245	07-245	—	07-244	07-244	—	—	07-245	07-245
MD21-09-8718	21-600859	10–11	QBT3	—	—	—	—	—	—	—	—	—	09-2335	—	—	—	—	—	—	—	—
RE21-07-3875	21-600860	0–0.5	ALLH	07-256	07-257	07-257	07-257	07-257	07-257	—	07-257	—	07-256	07-256	—	—	07-255	—	—	07-256	07-256
RE21-07-3876	21-600860	2–3	QBT3	07-256	07-257	07-257	07-257	07-257	07-257	—	07-257	—	07-256	07-256	—	07-255	07-255	—	—	07-256	07-256
RE21-07-3877	21-600860	5–6	QBT3	07-256	07-257	07-257	07-257	07-257	07-257	—	07-257	—	07-256	07-256	—	07-255	07-255	—	—	07-256	07-256
RE21-08-7242	21-603037	10.5–11.5	QBT3	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235
RE21-08-7241	21-603037	8.5–9.5	QBT3	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235

Table 6.9-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOTH	ISOU	Technetium-99	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-8721	21-603038	13.5–14.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	09-2114	—	—	—	—
RE21-08-7243	21-603038	6.5–7.5	ALLH	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235
RE21-08-7244	21-603038	8.5–9.5	QBT3	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235
RE21-08-7245	21-603039	7.5–8.5	QBT3	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235
RE21-08-7246	21-603039	9.5–10.5	QBT3	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235
RE21-08-7247	21-603040	5–6	QBT3	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235
RE21-08-7248	21-603040	7–8	QBT3	08-235	08-236	08-236	08-236	08-236	08-236	—	08-236	—	08-235	08-235	—	08-234	08-234	—	—	08-235	08-235
RE21-08-7249	21-603041	5.5–6.5	ALLH	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
RE21-08-7250	21-603041	7.5–8.5	ALLH	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
RE21-08-7251	21-603042	5.5–6.5	QBT3	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
RE21-08-7252	21-603042	7.5–8.5	QBT3	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
MD21-09-8720	21-603042	12.5–13.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	09-2102	—	—	—	—
RE21-08-7253	21-603043	9–10	QBT3	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
RE21-08-7254	21-603043	11–12	QBT3	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
RE21-08-7255	21-603044	11–12	QBT3	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
RE21-08-7256	21-603044	13–14	QBT3	08-238	08-239	08-239	08-239	08-239	08-239	—	08-239	—	08-238	08-238	—	08-237	08-237	—	—	08-238	08-238
RE21-08-7257	21-603045	11–12	QBT3	08-248	08-249	08-249	08-249	08-249	08-249	—	08-249	—	08-248	08-248	—	08-247	08-247	—	—	08-248	08-248
RE21-08-7258	21-603045	13–14	QBT3	08-248	08-249	08-249	08-249	08-249	08-249	—	08-249	—	08-248	08-248	—	08-247	08-247	—	—	08-248	08-248
RE21-08-7259	21-603046	2–3	QBT3	08-464	08-464	08-464	08-464	08-464	08-464	—	08-464	—	08-464	08-464	—	08-464	08-464	—	—	08-464	08-464
RE21-08-7260	21-603046	4–5	QBT3	08-464	08-464	08-464	08-464	08-464	08-464	—	08-464	—	08-464	08-464	—	08-464	08-464	—	—	08-464	08-464
RE21-08-7261	21-603047	10–10.5	QBT3	08-480	08-480	08-480	08-480	08-480	08-480	—	08-480	—	08-480	08-480	—	08-480	08-480	—	—	08-480	08-480
RE21-08-7262	21-603047	12.5–14.5	QBT3	08-480	08-480	08-480	08-480	08-480	08-480	—	08-480	—	08-480	08-480	—	08-480	08-480	—	—	08-480	08-480
RE21-08-7275	21-603054	10–11	QBT3	08-469	08-470	08-470	08-470	08-470	08-470	—	08-470	—	08-469	08-469	—	08-468	08-468	—	—	08-469	08-469
RE21-08-7276	21-603054	15–16	QBT3	08-469	08-470	08-470	08-470	08-470	08-470	—	08-470	—	08-469	08-469	—	08-468	08-468	—	—	08-469	08-469
RE21-08-7277	21-603054	20–21	QBT3	08-469	08-470	08-470	08-470	08-470	08-470	—	08-470	—	08-469	08-469	—	08-468	08-468	—	—	08-469	08-469
MD21-09-8719	21-603054	25–26	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	09-2102	—	—	—	—
RE21-08-7281	21-603056	11–12	QBT3	08-285	08-286	08-286	08-286	08-286	08-286	—	08-286	—	08-285	08-285	—	08-284	08-284	—	—	08-285	08-285
RE21-08-7282	21-603056	16–17	QBT3	08-285	08-286	08-286	08-286	08-286	08-286	—	08-286	—	08-285	08-285	—	08-284	08-284	—	—	08-285	08-285
RE21-08-7283	21-603056	21–22	QBT3	08-285	08-286	08-286	08-286	08-286	08-286	—	08-286	—	08-285	08-285	—	08-284	08-284	—	—	08-285	08-285
RE21-08-7284	21-603056	26–27	QBT3	08-285	08-286	08-286	08-286	08-286	08-286	—	08-286	—	08-285	08-285	—	08-284	08-284	—	—	08-285	08-285
RE21-08-7285	21-603056	31–32	QBT3	08-285	08-286	08-286	08-286	08-286	08-286	—	08-286	—	08-285	08-285	—	08-284	08-284	—	—	08-285	08-285
RE21-11-7968	21-614228	7–8	ALLH	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	—	11-2484	11-2484	—	—	11-2484	11-2484
RE21-11-7969	21-614228	9–10	QBT3	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	11-2484	—	11-2484	11-2484	—	—	11-2484	11-2484
RE21-11-7970	21-614229	7–8	ALLH	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	—	11-2500	11-2500	—	—	11-2500	11-2500
RE21-11-7971	21-614229	9–10	ALLH	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	11-2500	—	11-2500	11-2500	—	—	11-2500	11-2500
RE21-11-7972	21-614230	7–8	QBT3	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	—	11-2536	11-2536	—	—	11-2536	11-2536
RE21-11-7973	21-614230	9–10	QBT3	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	11-2536	—	11-2536	11-2536	—	—	11-2536	11-2536

* — = Analyses not requested.

Table 6.9-2
Inorganic Chemicals above BVs at SWMU 21-024(k)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Lead	Lithium	Magnesium	Manganese	Mercury
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**11.2**	**na**[b]	**1690**	**482**	**0.1**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**22.3**	**na**	**4610**	**671**	**0.1**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**186**	**800**	**708**[e]	**na**	**440**	**92.9**
Industrial SSL[c]				**1130000**	**454**	**18**	**223000**	**2260**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**681**	**800**	**2300**[f]	**na**	**26700**	**341**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**46.9**	**400**	**160**[f]	**na**	**1860**	**23.5**
RE21-07-3839	21-600843	0–0.5	SOIL	—[g]	—	—	—	—	—	—	—	—	—	—	—	7.08 (J+)	—	—	—
RE21-07-3840	21-600843	2–3	QBT3	—	—	—	56.3 (J+)	—	—	3420	8.73	—	—	—	—	10.2 (J+)	—	—	—
RE21-07-3841	21-600844	0–0.5	SOIL	—	—	—	—	—	0.499 (U)	—	—	—	—	—	—	9.74 (J+)	—	—	—
RE21-07-3842	21-600844	2–3	QBT3	—	—	—	—	—	—	3510	—	—	—	—	—	8.77 (J+)	—	—	—
RE21-07-3843	21-600845	0–0.5	SOIL	—	—	—	—	—	0.518 (U)	—	—	—	—	0.62	—	9.13 (J+)	—	—	—
RE21-07-3844	21-600845	2–3	QBT3	9200	—	6.9	104 (J+)	2.65	—	14000	17.5	4.8	10.6	—	13.7	16.4 (J+)	2210	—	—
RE21-07-3845	21-600846	0–0.5	SOIL	—	—	—	—	—	0.492 (U)	—	—	—	—	—	—	6.76 (J+)	—	—	—
RE21-07-3846	21-600846	2–3	QBT3	—	—	—	—	—	—	—	8.43	—	—	—	38.5	3.76 (J+)	—	—	—
RE21-07-3847	21-600847	0–0.5	SOIL	—	—	—	—	—	0.495 (U)	—	—	—	—	—	—	5.33 (J)	—	—	—
RE21-07-3848	21-600847	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	4.7 (J)	—	—	—
RE21-07-3849	21-600848	0–0.5	SOIL	—	—	—	—	—	0.503 (U)	—	—	—	—	—	—	4.95 (J)	—	—	—
RE21-07-3850	21-600848	2–3	QBT3	—	—	—	—	—	—	3290	—	—	—	—	—	3.46 (J)	—	—	—
RE21-07-3851	21-600849	0–0.5	SOIL	—	—	—	—	—	0.492 (U)	—	—	—	—	—	—	6.8 (J)	—	—	—
RE21-07-3852	21-600849	2–3	QBT3	—	—	—	—	—	—	2520	—	—	—	—	—	7.81 (J)	—	—	—
RE21-07-3853	21-600850	0–0.5	SOIL	—	—	—	—	—	0.508 (U)	—	—	—	—	—	—	11.6 (J)	—	—	—
RE21-07-3854	21-600850	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	4.59 (J)	—	—	—
RE21-07-3855	21-600851	0–0.5	SOIL	—	—	—	—	—	0.497 (U)	—	—	—	—	—	—	5.02 (J)	—	—	—
RE21-07-3856	21-600851	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	6.59 (J)	—	—	—
RE21-07-3857	21-600852	0–0.5	SOIL	—	—	—	—	—	0.483 (U)	—	—	—	—	—	—	5.82 (J)	—	—	—
RE21-07-3858	21-600852	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	4.63 (J)	—	—	—
RE21-07-3859	21-600853	0–0.5	SOIL	—	—	—	—	—	0.488 (U)	—	—	—	—	—	—	7.57 (J)	—	—	—
RE21-07-3860	21-600853	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	4.39 (J)	—	—	—
RE21-07-3861	21-600854	0–0.5	SOIL	—	—	—	—	—	0.507 (U)	—	—	—	—	—	—	7.48 (J)	—	—	—
RE21-07-3862	21-600854	2–3	QBT3	—	—	—	49.4	—	—	4070	7.64	—	—	—	—	8.51 (J)	—	—	—
RE21-07-3872	21-600859	0–0.5	SOIL	—	—	—	—	—	0.528 (U)	—	—	—	—	0.54	—	5.6 (J+)	—	—	—
RE21-07-3873	21-600859	2–3	SOIL	—	—	—	—	—	0.562 (U)	—	—	—	—	—	—	18.3 (J+)	—	—	—
RE21-07-3874	21-600859	5–6	QBT3	11100	—	5.2	162 (J+)	2.39	—	34000	15.4	4.4	10.8	—	14.1	19.1 (J+)	3840	—	—
MD21-09-8718	21-600859	10–11	QBT3	7500	—	3.6	220	—	—	55000	—	—	7.9	NA[h]	—	NA	2900	—	—
RE21-07-3875	21-600860	0–0.5	SOIL	—	—	—	—	—	0.503 (U)	—	—	—	—	—	—	5.66 (J+)	—	—	—
RE21-07-3876	21-600860	2–3	QBT3	—	—	3.4	—	—	—	—	—	—	—	—	—	9.68 (J+)	—	—	—
RE21-07-3877	21-600860	5–6	QBT3	—	—	2.9	—	1.42	—	3470	—	—	5.74	—	—	11.5 (J+)	—	—	—
RE21-08-7241	21-603037	8.5–9.5	QBT3	—	—	3.3	—	—	—	—	—	—	—	0.63	16.8	7.27	—	—	—
RE21-08-7242	21-603037	10.5–11.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	6.11	—	—	—

Table 6.9-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Lead	Lithium	Magnesium	Manganese	Mercury
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**11.2**	**na[b]**	**1690**	**482**	**0.1**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**22.3**	**na**	**4610**	**671**	**0.1**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**186**	**800**	**708[e]**	**na**	**440**	**92.9**
Industrial SSL[c]				**1130000**	**454**	**18**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**681**	**800**	**2300[f]**	**na**	**26700**	**341**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**46.9**	**400**	**160[f]**	**na**	**1860**	**23.5**
RE21-08-7243	21-603038	6.5–7.5	SOIL	—	—	—	—	1.95	0.596 (U)	—	—	—	—	—	—	28.8	—	—	—
RE21-08-7244	21-603038	8.5–9.5	QBT3	10000	—	6.2	101	1.34	—	2830	8.08	3.3	7.86	—	16.8	17.6	2510 (J+)	552	—
RE21-08-7245	21-603039	7.5–8.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	8.89	—	—	—
RE21-08-7246	21-603039	9.5–10.5	QBT3	—	—	3.9	—	—	—	2600	—	—	—	—	—	5.79	—	—	—
RE21-08-7247	21-603040	5–6	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	10.3	—	—	—
RE21-08-7248	21-603040	7–8	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	2.74	—	—	—
RE21-08-7249	21-603041	5.5–6.5	SOIL	—	—	—	—	—	—	6190	—	—	—	—	—	10.8	—	—	—
RE21-08-7250	21-603041	7.5–8.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	9.18	—	—	—
RE21-08-7251	21-603042	5.5–6.5	QBT3	—	—	5.1	53.3	—	—	5450	—	—	—	—	17	10.2	—	—	—
RE21-08-7252	21-603042	7.5–8.5	QBT3	—	—	4.8	—	—	—	4710	—	—	—	—	—	9.92	—	—	—
RE21-08-7253	21-603043	9–10	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	6.48	—	—	—
RE21-08-7254	21-603043	11–12	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	5.4	—	—	—
RE21-08-7255	21-603044	11–12	QBT3	—	—	3.3	—	—	—	—	7.37	—	—	—	—	7.16	—	—	—
RE21-08-7256	21-603044	13–14	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	6.97	—	—	—
RE21-08-7257	21-603045	11–12	QBT3	—	—	—	—	—	—	—	7.2	—	—	—	—	7.41 (J+)	—	—	—
RE21-08-7258	21-603045	13–14	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	7.42 (J+)	—	—	—
RE21-08-7259	21-603046	2–3	QBT3	—	—	—	88	—	—	3390 (J)	—	—	15.7	—	13.4	9.06	—	—	1.74
RE21-08-7260	21-603046	4–5	QBT3	—	—	—	91	—	—	6760 (J)	9.22	—	—	—	—	9.66	—	—	0.14
RE21-08-7261	21-603047	10–10.5	QBT3	—	—	—	—	—	—	—	—	—	4.76	—	—	9.23	—	—	—
RE21-08-7262	21-603047	12.5–14.5	QBT3	—	—	—	—	—	—	—	—	—	5.32	—	—	8.83	—	—	—
RE21-08-7275	21-603054	10–11	QBT3	—	—	—	69.4	—	—	3890	—	—	—	—	—	19.7 (J+)	—	—	—
RE21-08-7276	21-603054	15–16	QBT3	—	—	—	—	—	—	—	9.8	—	—	—	—	4.44 (J+)	—	—	—
RE21-08-7277	21-603054	20–21	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	5.76 (J+)	—	—	—
RE21-08-7281	21-603056	11–12	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	3.68 (J+)	—	—	—
RE21-08-7282	21-603056	16–17	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	3.52 (J+)	—	—	—
RE21-08-7283	21-603056	21–22	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	3.9 (J+)	—	—	—
RE21-08-7284	21-603056	26–27	QBT3	—	—	—	—	—	—	3930 (J)	—	—	—	—	—	16.2 (J+)	—	—	—
RE21-08-7285	21-603056	31–32	QBT3	—	—	—	—	—	—	3000 (J)	—	—	—	—	—	37.3 (J+)	—	—	—
RE21-11-7968	21-614228	7–8	SOIL	—	1.4	—	—	—	0.506 (U)	—	28 (J)	—	—	—	—	NA	—	—	—
RE21-11-7969	21-614228	9–10	QBT3	—	1.05 (U)	—	—	—	—	—	16.5 (J)	—	8.97 (J)	—	—	NA	—	—	—
RE21-11-7970	21-614229	7–8	SOIL	—	1.54	—	—	—	0.499 (U)	—	38.6	—	—	—	—	NA	—	—	—
RE21-11-7971	21-614229	9–10	SOIL	—	1.5	—	—	—	0.523 (U)	7000	22.3	—	—	—	—	NA	—	—	0.19
RE21-11-7972	21-614230	7–8	QBT3	—	1.1 (U)	—	—	—	—	—	17.2	—	—	—	—	NA	—	—	—
RE21-11-7973	21-614230	9–10	QBT3	—	1.1 (U)	—	—	—	—	—	7.97	—	—	—	—	NA	—	—	—

Table 6.9-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Nickel	Nitrate	Perchlorate	Selenium	Silver	Strontium	Vanadium	Zinc
Qbt2, 3, 4 BV[a]				**6.58**	**na**	**na**	**0.3**	**1**	**na**	**17**	**63.5**
Soil BV[a]				**15.4**	**na**	**na**	**1.52**	**1**	**na**	**39.6**	**48.8**
Construction Worker SSL[c]				**6190**	**496000**	**217**	**1550**	**1550**	**186000**	**1550**	**92900**
Industrial SSL[c]				**22500**	**1820000**	**795**	**5680**	**5680**	**681000**	**5680**	**341000**
Residential SSL[c]				**1560**	**125000**	**54.8**	**391**	**391**	**46900**	**391**	**23500**
RE21-07-3839	21-600843	0–0.5	SOIL	—	1.01 (J)	—	—	—	27.4	—	132
RE21-07-3840	21-600843	2–3	QBT3	—	1.15	—	1.26 (J)	—	18.4	—	—
RE21-07-3841	21-600844	0–0.5	SOIL	—	4.76	—	—	—	24.4	—	—
RE21-07-3842	21-600844	2–3	QBT3	—	1.26	—	0.946 (J)	—	14.2	—	—
RE21-07-3843	21-600845	0–0.5	SOIL	—	1.2	—	1.55 (U)	—	16.3	—	—
RE21-07-3844	21-600845	2–3	QBT3	18.4	—	—	1.52 (J)	—	46.7	—	—
RE21-07-3845	21-600846	0–0.5	SOIL	—	1.84	—	—	—	17.9	—	—
RE21-07-3846	21-600846	2–3	QBT3	—	1.82	—	1.51 (U)	—	0.661	—	—
RE21-07-3847	21-600847	0–0.5	SOIL	—	2.46 (J+)	—	—	—	10.3	—	62.2
RE21-07-3848	21-600847	2–3	QBT3	—	1.88 (J+)	—	1.49 (U)	—	3.74	—	—
RE21-07-3849	21-600848	0–0.5	SOIL	—	3.87 (J+)	—	—	—	13.9	—	—
RE21-07-3850	21-600848	2–3	QBT3	—	1.89 (J+)	—	1.49 (U)	—	8.06	—	—
RE21-07-3851	21-600849	0–0.5	SOIL	—	3.42 (J+)	—	—	—	33.1	—	—
RE21-07-3852	21-600849	2–3	QBT3	—	2.58 (J+)	—	1.47 (U)	—	15.4	—	—
RE21-07-3853	21-600850	0–0.5	SOIL	—	4.03 (J+)	0.00181 (J)	—	—	26	—	—
RE21-07-3854	21-600850	2–3	QBT3	—	2.78 (J+)	—	0.898 (J)	—	9.6	—	—
RE21-07-3855	21-600851	0–0.5	SOIL	—	1.17 (J+)	—	—	—	6.26	—	—
RE21-07-3856	21-600851	2–3	QBT3	—	3.73 (J+)	—	0.606 (J)	—	4.62	—	—
RE21-07-3857	21-600852	0–0.5	SOIL	—	2.3 (J+)	0.000537 (J-)	—	—	8.68	—	—
RE21-07-3858	21-600852	2–3	QBT3	—	2.46 (J+)	—	0.528 (J)	—	5.02	—	—
RE21-07-3859	21-600853	0–0.5	SOIL	—	1.81 (J+)	—	—	—	16.8	—	52.5
RE21-07-3860	21-600853	2–3	QBT3	—	3.37 (J+)	—	1.5 (U)	—	7.03	—	—
RE21-07-3861	21-600854	0–0.5	SOIL	—	4.58 (J+)	—	—	—	11.6	—	—
RE21-07-3862	21-600854	2–3	QBT3	—	3.48 (J+)	0.00464	0.877 (J)	—	20.3	—	—
RE21-07-3872	21-600859	0–0.5	SOIL	—	1.73	0.00492	1.59 (U)	—	30.1	—	—
RE21-07-3873	21-600859	2–3	SOIL	—	—	0.00227 (J)	1.8	—	36.8	—	—
RE21-07-3874	21-600859	5–6	QBT3	18	—	0.00241	1.18 (J)	—	98.7	19.2	—
MD21-09-8718	21-600859	10–11	QBT3	8.2	NA	NA	0.56 (U)	1.1 (U)	120	—	—
RE21-07-3875	21-600860	0–0.5	SOIL	—	1.23 (J+)	—	—	—	12.3	—	—
RE21-07-3876	21-600860	2–3	QBT3	—	2.01 (J+)	—	1.58 (U)	—	14.2	—	—

Table 6.9-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Nickel	Nitrate	Perchlorate	Selenium	Silver	Strontium	Vanadium	Zinc
Qbt2, 3, 4 BV[a]				**6.58**	**na**	**na**	**0.3**	**1**	**na**	**17**	**63.5**
Soil BV[a]				**15.4**	**na**	**na**	**1.52**	**1**	**na**	**39.6**	**48.8**
Construction Worker SSL[c]				**6190**	**496000**	**217**	**1550**	**1550**	**186000**	**1550**	**92900**
Industrial SSL[c]				**22500**	**1820000**	**795**	**5680**	**5680**	**681000**	**5680**	**341000**
Residential SSL[c]				**1560**	**125000**	**54.8**	**391**	**391**	**46900**	**391**	**23500**
RE21-07-3877	21-600860	5–6	QBT3	8.64	—	—	0.737 (J)	—	15.4	—	—
RE21-08-7241	21-603037	8.5–9.5	QBT3	—	3.61 (J+)	—	1.6 (U)	—	9.1	—	—
RE21-08-7242	21-603037	10.5–11.5	QBT3	—	3.88 (J+)	—	1.62 (U)	—	5.89	—	—
RE21-08-7243	21-603038	6.5–7.5	SOIL	—	7.43 (J+)	—	1.79 (U)	—	17.7	—	—
RE21-08-7244	21-603038	8.5–9.5	QBT3	11.4	5.75 (J+)	—	1.42 (J)	—	29.6	—	—
RE21-08-7245	21-603039	7.5–8.5	QBT3	—	5.28 (J+)	—	1.53 (U)	—	5.35	—	—
RE21-08-7246	21-603039	9.5–10.5	QBT3	—	3.52 (J+)	—	1.54 (U)	—	4.87	—	—
RE21-08-7247	21-603040	5–6	QBT3	—	3.46 (J+)	—	1.66 (U)	—	1.28	—	—
RE21-08-7248	21-603040	7–8	QBT3	—	2.81 (J+)	—	1.64 (U)	—	1.67	—	—
RE21-08-7249	21-603041	5.5–6.5	SOIL	—	39.5	0.0041 (J-)	1.55 (U)	—	20.9	—	—
RE21-08-7250	21-603041	7.5–8.5	SOIL	—	21.9	0.00465 (J-)	1.56 (U)	—	14.1	—	—
RE21-08-7251	21-603042	5.5–6.5	QBT3	—	16.3	0.025 (J-)	0.949 (J)	—	18.4	—	—
RE21-08-7252	21-603042	7.5–8.5	QBT3	—	13.5	0.0112 (J-)	1.56 (U)	—	15.8	—	—
RE21-08-7253	21-603043	9–10	QBT3	—	6.67	0.000703 (J-)	1.5 (U)	—	4.81	—	—
RE21-08-7254	21-603043	11–12	QBT3	—	4.91	0.00056 (J-)	1.5 (U)	—	3.21	—	—
RE21-08-7255	21-603044	11–12	QBT3	—	0.977 (J)	0.000752 (J-)	1.5 (U)	—	7.5	—	—
RE21-08-7256	21-603044	13–14	QBT3	—	0.987 (J)	0.000729 (J-)	1.5 (U)	—	4.9	—	—
RE21-08-7257	21-603045	11–12	QBT3	—	—	—	0.873 (J)	—	4.47	—	—
RE21-08-7258	21-603045	13–14	QBT3	—	—	—	0.661 (J)	—	6.49	—	—
RE21-08-7259	21-603046	2–3	QBT3	—	6.8 (J-)	0.00194 (J)	1.57 (U)	—	20	—	—
RE21-08-7260	21-603046	4–5	QBT3	—	15.6 (J-)	0.00514	0.798 (J)	—	23.4	—	—
RE21-08-7261	21-603047	10–10.5	QBT3	—	—	—	2.37	—	7.34	—	—
RE21-08-7262	21-603047	12.5–14.5	QBT3	—	—	—	3.26	—	8.75	—	—
RE21-08-7275	21-603054	10–11	QBT3	8.09	1.52 (J-)	—	1.98	—	24.4	—	—
RE21-08-7276	21-603054	15–16	QBT3	—	2.3 (J-)	—	1.64	—	3.84	—	—
RE21-08-7277	21-603054	20–21	QBT3	—	2.72 (J-)	—	1.21 (J)	—	5.09	—	—
RE21-08-7281	21-603056	11–12	QBT3	—	0.871 (J)	—	1.45 (U)	—	0.823 (J+)	—	—
RE21-08-7282	21-603056	16–17	QBT3	—	0.937 (J)	—	1.48 (U)	—	0.3 (J+)	—	—
RE21-08-7283	21-603056	21–22	QBT3	—	—	—	1.51 (U)	—	0.684 (J+)	—	—
RE21-08-7284	21-603056	26–27	QBT3	—	0.945 (J)	0.000731 (J)	1.13 (J)	—	22.1 (J+)	—	—

Table 6.9-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Nickel	Nitrate	Perchlorate	Selenium	Silver	Strontium	Vanadium	Zinc
Qbt2, 3, 4 BV[a]				**6.58**	**na**	**na**	**0.3**	**1**	**na**	**17**	**63.5**
Soil BV[a]				**15.4**	**na**	**na**	**1.52**	**1**	**na**	**39.6**	**48.8**
Construction Worker SSL[c]				**6190**	**496000**	**217**	**1550**	**1550**	**186000**	**1550**	**92900**
Industrial SSL[c]				**22500**	**1820000**	**795**	**5680**	**5680**	**681000**	**5680**	**341000**
Residential SSL[c]				**1560**	**125000**	**54.8**	**391**	**391**	**46900**	**391**	**23500**
RE21-08-7285	21-603056	31–32	QBT3	—	0.954	—	0.598 (J)	—	14.1 (J+)	—	—
RE21-11-7968	21-614228	7–8	SOIL	—	1.42	—	—	—	NA	—	—
RE21-11-7969	21-614228	9–10	QBT3	—	2.04	—	1.12 (UJ)	—	NA	—	—
RE21-11-7970	21-614229	7–8	SOIL	—	3.08	0.0006 (J)	—	—	NA	—	58.3
RE21-11-7971	21-614229	9–10	SOIL	—	2.16	0.000702 (J)	—	—	NA	—	61.8
RE21-11-7972	21-614230	7–8	QBT3	—	1.34	—	0.995 (UJ)	—	NA	—	—
RE21-11-7973	21-614230	9–10	QBT3	—	1.26	—	1.09 (UJ)	—	NA	—	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971) unless otherwise noted.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

[h] NA = Not analyzed.

Table 6.9-3
Organic Chemicals Detected at SWMU 21-024(k)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Chrysene	Di-n-butylphthalate	Dibenzofuran	Dichlorobenzene[1,4-]
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**4760**	**20600**	**23800**	**354**[c]	**831**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**1370**	**2340**	**68400**	**1000**[d]	**177**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**347**	**148**	**6110**	**72**[d]	**31.7**
RE21-07-3839	21-600843	0–0.5	SOIL	—[e]	NA[f]	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3841	21-600844	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3842	21-600844	2–3	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3843	21-600845	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3844	21-600845	2–3	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3845	21-600846	0–0.5	SOIL	0.0587	NA	0.0873	NA	NA	0.186	—	0.261	0.216 (J)	—	—	0.199	—	—	—
RE21-07-3846	21-600846	2–3	QBT3	0.0123 (J)	—	0.018 (J)	NA	NA	—	—	0.0292 (J)	—	0.0194 (J)	—	0.0304 (J)	—	—	—
RE21-07-3847	21-600847	0–0.5	SOIL	—	NA	—	NA	NA	—	—	0.0267 (J)	—	—	—	0.0202 (J)	—	—	—
RE21-08-10365	21-600847	0–0.5	SOIL	NA	NA	NA	0.0065	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3848	21-600847	2–3	QBT3	—	0.0146	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3851	21-600849	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3853	21-600850	0–0.5	SOIL	—	NA	—	NA	NA	—	—	0.0338 (J)	—	—	—	0.0353	—	—	—
RE21-07-3854	21-600850	2–3	QBT3	—	0.00442 (J)	—	NA	NA	—	—	0.0118 (J)	—	—	—	—	—	—	—
RE21-07-3855	21-600851	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	—	0.0217 (J)	—	—	—
RE21-08-10367	21-600851	0–0.5	SOIL	NA	NA	NA	0.0094	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3893	21-600851	2–3	QBT3	NA	NA	NA	0.0012 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3857	21-600852	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3859	21-600853	0–0.5	SOIL	—	NA	—	NA	NA	—	—	0.0341	—	—	—	0.0241 (J)	—	—	—
RE21-07-3860	21-600853	2–3	QBT3	—	0.0141	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3861	21-600854	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3862	21-600854	2–3	QBT3	—	0.0142	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3872	21-600859	0–0.5	SOIL	—	NA	0.0106 (J)	NA	NA	—	0.0349 (J)	0.045	—	—	—	0.0335 (J)	—	—	—
RE21-07-3875	21-600860	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	—	0.0141 (J)	—	—	—
RE21-07-3876	21-600860	2–3	QBT3	—	0.00419 (J)	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3877	21-600860	5–6	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-08-7242	21-603037	10.5–11.5	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-08-7243	21-603038	6.5–7.5	SOIL	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-08-7244	21-603038	8.5–9.5	QBT3	—	—	—	NA	NA	0.0177 (J)	0.139	0.02 (J)	—	—	—	0.0164 (J)	—	—	—
RE21-08-7249	21-603041	5.5–6.5	SOIL	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—

Table 6.9-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Chrysene	Di-n-butylphthalate	Dibenzofuran	Dichlorobenzene[1,4-]
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**4760**	**20600**	**23800**	**354**[c]	**831**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**1370**	**2340**	**68400**	**1000**[d]	**177**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**347**	**148**	**6110**	**72**[d]	**31.7**
RE21-08-7250	21-603041	7.5–8.5	SOIL	—	—	—	NA	NA	0.0105 (J)	—	—	—	—	—	—	—	—	—
RE21-08-7251	21-603042	5.5–6.5	QBT3	—	—	0.00905 (J)	NA	NA	0.0182 (J)	0.123	0.0207 (J)	—	—	—	0.0174 (J)	—	—	—
RE21-08-7252	21-603042	7.5–8.5	QBT3	—	—	0.0251 (J)	NA	NA	—	0.136	0.069	0.0148 (J)	—	—	0.0509	—	—	—
RE21-08-7253	21-603043	9–10	QBT3	—	—	—	NA	NA	—	0.113	—	—	—	—	—	—	—	—
RE21-08-7254	21-603043	11–12	QBT3	—	—	—	NA	NA	—	0.107	0.0139 (J)	—	—	—	0.00985 (J)	—	—	—
RE21-08-7255	21-603044	11–12	QBT3	—	—	—	NA	NA	—	0.112	—	—	—	—	—	—	—	—
RE21-08-7256	21-603044	13–14	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-08-7259	21-603046	2–3	QBT3	—	—	—	NA	NA	—	0.0149 (J)	0.0165 (J)	0.0164 (J)	—	—	0.0148 (J)	—	—	—
RE21-08-7261	21-603047	10–10.5	QBT3	—	—	0.0194 (J)	NA	NA	—	0.0248 (J)	0.0337 (J)	0.0175 (J)	—	—	0.0302 (J)	—	—	—
RE21-08-7262	21-603047	12.5–14.5	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-08-7275	21-603054	10–11	QBT3	—	—	0.0213 (J)	NA	NA	0.0441	0.0357 (J)	0.044	0.0263 (J)	0.0183 (J)	—	0.0408	—	—	0.000358 (J)
RE21-08-7277	21-603054	20–21	QBT3	0.057	—	0.127	NA	NA	0.131	0.107	0.121	0.0895	—	—	0.121	—	—	—
RE21-11-7968	21-614228	7–8	SOIL	0.136	—	0.259	NA	NA	0.332	0.284	0.344	0.162	0.143	—	0.317	—	0.0936 (J)	—
RE21-11-7969	21-614228	9–10	QBT3	0.0424	—	0.0821	NA	NA	0.119	0.11	0.132	0.0643	0.0609	—	0.12	—	—	—
RE21-11-7970	21-614229	7–8	SOIL	0.019 (J)	—	0.0424	NA	NA	0.097	0.0834	0.102	0.0456	0.0474	—	0.0902	—	—	—
RE21-11-7971	21-614229	9–10	SOIL	0.0382	—	0.0822	NA	NA	0.162	0.156	0.191	0.0822	0.0797	0.0924 (J)	0.159	0.158 (J)	—	—

Table 6.9-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]
Construction Worker SSL[a]				**8910**	**8910**	**na**[g]	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[h]
Industrial SSL[a]				**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[h]
Residential SSL[a]				**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[h]
RE21-07-3839	21-600843	0–0.5	SOIL	0.0473	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3841	21-600844	0–0.5	SOIL	0.0316 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3842	21-600844	2–3	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3843	21-600845	0–0.5	SOIL	0.0604	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3844	21-600845	2–3	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3845	21-600846	0–0.5	SOIL	0.516	0.0405	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.186 (J)	NA
RE21-07-3846	21-600846	2–3	QBT3	0.0902	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3847	21-600847	0–0.5	SOIL	0.0345	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-08-10365	21-600847	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3848	21-600847	2–3	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3851	21-600849	0–0.5	SOIL	0.0182 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3853	21-600850	0–0.5	SOIL	0.0241 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3854	21-600850	2–3	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3855	21-600851	0–0.5	SOIL	0.0357	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-08-10367	21-600851	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3893	21-600851	2–3	QBT3	NA	NA	8.63E-06	1.59E-05	3.57E-06	6.58E-06	3.67E-07 (J)	2.54E-06	3.01E-07 (J)	2.07E-07 (J)	2.29E-07 (J)	3.20E-06	NA	NA
RE21-07-3857	21-600852	0–0.5	SOIL	0.0119 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3859	21-600853	0–0.5	SOIL	0.0493	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3860	21-600853	2–3	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3861	21-600854	0–0.5	SOIL	0.0107 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3862	21-600854	2–3	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3872	21-600859	0–0.5	SOIL	0.0608	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3875	21-600860	0–0.5	SOIL	0.0262 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA
RE21-07-3876	21-600860	2–3	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-07-3877	21-600860	5–6	QBT3	—	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	0.000969 (J)
RE21-08-7242	21-603037	10.5–11.5	QBT3	0.0995	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—

Table 6.9-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]
Construction Worker SSL[a]				**8910**	**8910**	**na**[g]	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[h]
Industrial SSL[a]				**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[h]
Residential SSL[a]				**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[h]
RE21-08-7243	21-603038	6.5–7.5	SOIL	0.115	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-08-7244	21-603038	8.5–9.5	QBT3	0.141	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0198 (J)	—
RE21-08-7249	21-603041	5.5–6.5	SOIL	0.104	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-08-7250	21-603041	7.5–8.5	SOIL	0.109	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0137 (J)	—
RE21-08-7251	21-603042	5.5–6.5	QBT3	0.129	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0171 (J)	—
RE21-08-7252	21-603042	7.5–8.5	QBT3	0.209	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0248 (J)	—
RE21-08-7253	21-603043	9–10	QBT3	0.106	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0138 (J)	—
RE21-08-7254	21-603043	11–12	QBT3	0.106	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0139 (J)	—
RE21-08-7255	21-603044	11–12	QBT3	0.103	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-08-7256	21-603044	13–14	QBT3	0.0993	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-08-7259	21-603046	2–3	QBT3	0.041	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0117 (J)	—
RE21-08-7261	21-603047	10–10.5	QBT3	0.0761	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0156 (J)	—
RE21-08-7262	21-603047	12.5–14.5	QBT3	0.0212 (J)	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	—
RE21-08-7275	21-603054	10–11	QBT3	0.117	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0247 (J)	—
RE21-08-7277	21-603054	20–21	QBT3	0.402	0.0576	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0792	—
RE21-11-7968	21-614228	7–8	SOIL	0.854	0.155	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.143	—
RE21-11-7969	21-614228	9–10	QBT3	0.269	0.0488	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0537	—
RE21-11-7970	21-614229	7–8	SOIL	0.191	0.0226 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0402	—
RE21-11-7971	21-614229	9–10	SOIL	0.377	0.0433	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.072	—

Table 6.9-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Trimethylbenzene[1,2,4-]
Construction Worker SSL[a]				**1420**[c]	**158**	**na**	**na**	**na**	**7150**	**6680**	**0.0152**	**na**	**13400**	**245**[c]
Industrial SSL[a]				**3000**[d]	**241**	**na**	**na**	**na**	**20500**	**18300**	**0.00204**	**na**	**57700**	**240**[d]
Residential SSL[a]				**230**[d]	**43**	**na**	**na**	**na**	**1830**	**1720**	**0.00045**	**na**	**5270**	**58**[d]
RE21-07-3839	21-600843	0–0.5	SOIL	—	—	NA	NA	NA	0.0221 (J)	0.0431	NA	NA	NA	NA
RE21-07-3841	21-600844	0–0.5	SOIL	—	—	NA	NA	NA	—	—	NA	NA	NA	NA
RE21-07-3842	21-600844	2–3	QBT3	—	—	NA	NA	NA	—	—	NA	NA	0.000394 (J)	—
RE21-07-3843	21-600845	0–0.5	SOIL	—	—	NA	NA	NA	0.035 (J)	0.0631	NA	NA	NA	NA
RE21-07-3844	21-600845	2–3	QBT3	—	—	NA	NA	NA	—	—	NA	NA	0.000857 (J)	—
RE21-07-3845	21-600846	0–0.5	SOIL	0.00858 (J)	—	NA	NA	NA	0.377	0.485	NA	NA	NA	NA
RE21-07-3846	21-600846	2–3	QBT3	—	—	NA	NA	NA	0.0724	0.0779	NA	NA	—	—
RE21-07-3847	21-600847	0–0.5	SOIL	—	—	NA	NA	NA	0.0197 (J)	0.0276 (J)	NA	NA	NA	NA
RE21-08-10365	21-600847	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3848	21-600847	2–3	QBT3	—	—	NA	NA	NA	—	—	NA	NA	—	—
RE21-07-3851	21-600849	0–0.5	SOIL	—	—	NA	NA	NA	0.0113 (J)	0.0163 (J)	NA	NA	NA	NA
RE21-07-3853	21-600850	0–0.5	SOIL	—	—	NA	NA	NA	0.0144 (J)	0.0194 (J)	NA	NA	NA	NA
RE21-07-3854	21-600850	2–3	QBT3	—	—	NA	NA	NA	—	—	NA	NA	—	—
RE21-07-3855	21-600851	0–0.5	SOIL	—	—	NA	NA	NA	0.0166 (J)	0.0339	NA	NA	NA	NA
RE21-08-10367	21-600851	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3893	21-600851	2–3	QBT3	NA	NA	5.21E-05	8.80E-06	7.29E-07	NA	NA	1.54E-07 (J)	3.78E-07	NA	NA
RE21-07-3857	21-600852	0–0.5	SOIL	—	—	NA	NA	NA	—	0.0137 (J)	NA	NA	NA	NA
RE21-07-3859	21-600853	0–0.5	SOIL	—	—	NA	NA	NA	0.0272 (J)	0.0403	NA	NA	NA	NA
RE21-07-3860	21-600853	2–3	QBT3	—	—	NA	NA	NA	—	—	NA	NA	—	—
RE21-07-3861	21-600854	0–0.5	SOIL	—	—	NA	NA	NA	—	—	NA	NA	NA	NA
RE21-07-3862	21-600854	2–3	QBT3	—	—	NA	NA	NA	—	—	NA	NA	0.000539 (J)	—
RE21-07-3872	21-600859	0–0.5	SOIL	—	—	NA	NA	NA	0.0426	0.0491	NA	NA	NA	NA
RE21-07-3875	21-600860	0–0.5	SOIL	—	—	NA	NA	NA	0.017 (J)	0.0241 (J)	NA	NA	NA	NA
RE21-07-3876	21-600860	2–3	QBT3	—	—	NA	NA	NA	—	—	NA	NA	0.000583 (J)	—
RE21-07-3877	21-600860	5–6	QBT3	—	—	NA	NA	NA	—	—	NA	NA	0.00123	—
RE21-08-7242	21-603037	10.5–11.5	QBT3	—	—	NA	NA	NA	—	—	NA	NA	—	—

Table 6.9-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Trimethylbenzene[1,2,4-]
Construction Worker SSL[a]				**1420[c]**	**158**	**na**	**na**	**na**	**7150**	**6680**	**0.0152**	**na**	**13400**	**245[c]**
Industrial SSL[a]				**3000[d]**	**241**	**na**	**na**	**na**	**20500**	**18300**	**0.00204**	**na**	**57700**	**240[d]**
Residential SSL[a]				**230[d]**	**43**	**na**	**na**	**na**	**1830**	**1720**	**0.00045**	**na**	**5270**	**58[d]**
RE21-08-7243	21-603038	6.5–7.5	SOIL	—	—	NA	NA	NA	—	—	NA	NA	—	—
RE21-08-7244	21-603038	8.5–9.5	QBT3	—	—	NA	NA	NA	0.021 (J)	0.0275 (J)	NA	NA	—	—
RE21-08-7249	21-603041	5.5–6.5	SOIL	—	—	NA	NA	NA	—	—	NA	NA	—	—
RE21-08-7250	21-603041	7.5–8.5	SOIL	—	—	NA	NA	NA	0.0128 (J)	0.0128 (J)	NA	NA	—	—
RE21-08-7251	21-603042	5.5–6.5	QBT3	—	—	NA	NA	NA	0.0316 (J)	0.0357	NA	NA	—	—
RE21-08-7252	21-603042	7.5–8.5	QBT3	—	—	NA	NA	NA	0.107	0.118	NA	NA	—	—
RE21-08-7253	21-603043	9–10	QBT3	—	—	NA	NA	NA	—	0.0137 (J)	NA	NA	—	—
RE21-08-7254	21-603043	11–12	QBT3	—	—	NA	NA	NA	0.0181 (J)	0.0215 (J)	NA	NA	—	—
RE21-08-7255	21-603044	11–12	QBT3	—	—	NA	NA	NA	—	—	NA	NA	—	—
RE21-08-7256	21-603044	13–14	QBT3	—	—	NA	NA	NA	—	—	NA	NA	—	—
RE21-08-7259	21-603046	2–3	QBT3	—	—	NA	NA	NA	0.0198 (J)	0.0316 (J)	NA	NA	—	—
RE21-08-7261	21-603047	10–10.5	QBT3	—	—	NA	NA	NA	0.0622	0.0608	NA	NA	—	—
RE21-08-7262	21-603047	12.5–14.5	QBT3	—	—	NA	NA	NA	0.0175 (J)	0.018 (J)	NA	NA	—	—
RE21-08-7275	21-603054	10–11	QBT3	—	—	NA	NA	NA	0.0826	0.115	NA	NA	—	0.000463 (J)
RE21-08-7277	21-603054	20–21	QBT3	0.0152 (J)	—	NA	NA	NA	0.399	0.327	NA	NA	—	—
RE21-11-7968	21-614228	7–8	SOIL	0.0552	0.235	NA	NA	NA	0.933	0.942	NA	NA	—	—
RE21-11-7969	21-614228	9–10	QBT3	0.0166 (J)	0.0681	NA	NA	NA	0.296	0.369	NA	NA	—	—
RE21-11-7970	21-614229	7–8	SOIL	—	0.0262 (J)	NA	NA	NA	0.169	0.244	NA	NA	—	—
RE21-11-7971	21-614229	9–10	SOIL	0.0102 (J)	0.0389	NA	NA	NA	0.344	0.455	NA	NA	—	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] — = Not detected.

[f] NA = Not analyzed.

[g] na = Not available.

[h] Isopropylbenzene used as a surrogate based on structural similarity.

Table 6.9-4
Radionuclides Detected or Detected above BVs/FVs SWMU 21-024(k)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**
RE21-07-3839	21-600843	0–0.5	SOIL	0.127	—[e]	0.096	0.14	0.022441	—	—
RE21-07-3840	21-600843	2–3	QBT3	—	—	—	0.0485	0.032091	—	—
RE21-07-3841	21-600844	0–0.5	SOIL	0.0588	—	—	0.638	0.021163	—	—
RE21-07-3842	21-600844	2–3	QBT3	—	—	—	0.0457	0.037146	—	—
RE21-07-3843	21-600845	0–0.5	SOIL	0.205	1.78	—	1.13	0.029631	—	—
RE21-07-3844	21-600845	2–3	QBT3	—	—	—	—	0.171589	—	—
RE21-07-3845	21-600846	0–0.5	SOIL	0.161	—	—	0.0927	0.004391	—	—
RE21-07-3846	21-600846	2–3	QBT3	—	—	—	—	0.01776	—	—
RE21-07-3847	21-600847	0–0.5	SOIL	0.0396	—	—	0.0636	—	—	—
RE21-07-3849	21-600848	0–0.5	SOIL	—	—	—	—	0.010816	—	—
RE21-07-3850	21-600848	2–3	QBT3	—	—	—	—	0.007052	—	—
RE21-07-3851	21-600849	0–0.5	SOIL	—	—	—	0.175	—	4.92	—
RE21-07-3852	21-600849	2–3	QBT3	—	—	—	—	—	3.79	0.191
RE21-07-3853	21-600850	0–0.5	SOIL	0.0483	—	—	0.372	0.016578	3.88	—
RE21-07-3854	21-600850	2–3	QBT3	—	0.281	—	0.273	0.013773	2.16	0.131
RE21-07-3855	21-600851	0–0.5	SOIL	0.0614	—	—	0.109	—	—	—
RE21-07-3856	21-600851	2–3	QBT3	—	0.177	—	—	—	—	—
RE21-07-3857	21-600852	0–0.5	SOIL	—	—	—	0.0703	—	—	—
RE21-07-3859	21-600853	0–0.5	SOIL	0.0731	—	—	0.478	0.005449	—	—
RE21-07-3861	21-600854	0–0.5	SOIL	—	—	—	0.143	0.008225	—	—
RE21-07-3862	21-600854	2–3	QBT3	—	—	—	—	0.023017	—	—
RE21-07-3872	21-600859	0–0.5	SOIL	0.094	—	—	0.784	—	—	—
RE21-07-3873	21-600859	2–3	SOIL	—	—	—	—	0.087833	—	—
RE21-07-3874	21-600859	5–6	QBT3	—	—	—	—	0.029032	—	—
RE21-07-3875	21-600860	0–0.5	SOIL	0.0399	—	—	0.059	0.010881	—	—
RE21-07-3876	21-600860	2–3	QBT3	—	—	—	2.45	0.05254	—	—
RE21-07-3877	21-600860	5–6	QBT3	—	0.114	—	0.269	0.058092	—	—
RE21-08-7241	21-603037	8.5–9.5	QBT3	—	—	—	—	0.351798	—	—
RE21-08-7242	21-603037	10.5–11.5	QBT3	—	—	—	—	0.307618	—	—
RE21-08-7243	21-603038	6.5–7.5	SOIL	—	—	—	—	0.754058	—	—
RE21-08-7244	21-603038	8.5–9.5	QBT3	—	—	—	0.0352	0.798753	—	—
RE21-08-7245	21-603039	7.5–8.5	QBT3	—	—	—	—	0.072731	—	0.112
RE21-08-7246	21-603039	9.5–10.5	QBT3	—	—	—	—	0.07338	—	0.0924

Table 6.9-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**
RE21-08-7247	21-603040	5–6	QBT3	—	—	—	—	0.985475	—	—
RE21-08-7248	21-603040	7–8	QBT3	—	—	—	—	0.045388	—	—
RE21-08-7249	21-603041	5.5–6.5	SOIL	—	—	—	0.0542	0.276183	—	—
RE21-08-7250	21-603041	7.5–8.5	SOIL	—	—	—	0.0572	0.148363	—	—
RE21-08-7251	21-603042	5.5–6.5	QBT3	—	—	—	0.0463	0.083042	—	0.0972
RE21-08-7252	21-603042	7.5–8.5	QBT3	—	—	—	0.0331	0.086465	—	—
RE21-08-7253	21-603043	9–10	QBT3	—	—	—	0.0332	0.010094	—	—
RE21-08-7254	21-603043	11–12	QBT3	—	—	—	0.0291	0.011427	—	—
RE21-08-7255	21-603044	11–12	QBT3	—	—	—	—	0.031763	2.64	0.157
RE21-08-7256	21-603044	13–14	QBT3	—	—	—	—	0.025924	2.57	0.11
RE21-08-7257	21-603045	11–12	QBT3	—	—	—	—	0.019177	—	—
RE21-08-7258	21-603045	13–14	QBT3	—	—	—	—	0.025065	—	—
RE21-08-7259	21-603046	2–3	QBT3	—	—	—	0.0342	0.122281	—	—
RE21-08-7260	21-603046	4–5	QBT3	—	—	—	—	0.202979	—	—
RE21-08-7261	21-603047	10–10.5	QBT3	—	—	—	—	0.027581	—	—
RE21-08-7262	21-603047	12.5–14.5	QBT3	—	—	—	—	0.037928	—	—
RE21-08-7275	21-603054	10–11	QBT3	—	—	—	0.0496 (J-)	0.182405	—	—
RE21-08-7276	21-603054	15–16	QBT3	—	—	—	—	0.012516	—	0.114
RE21-08-7277	21-603054	20–21	QBT3	—	—	—	—	0.051539	—	—
RE21-08-7285	21-603056	31–32	QBT3	—	—	—	—	—	—	0.107
RE21-11-7968	21-614228	7–8	SOIL	—	—	—	0.0351	0.826764	—	—
RE21-11-7969	21-614228	9–10	QBT3	—	—	—	—	0.688876	—	—
RE21-11-7970	21-614229	7–8	SOIL	—	—	—	—	0.172763	—	—
RE21-11-7971	21-614229	9–10	SOIL	—	—	—	0.0922	0.168908	—	—
RE21-11-7972	21-614230	7–8	QBT3	—	—	—	—	2.09202	—	—
RE21-11-7973	21-614230	9–10	QBT3	—	—	—	—	1.96927	—	—

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

Table 6.10-1
Samples Collected and Analyses Requested at Consolidated Unit 21-024(I)-99

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-75339	21-27439	0–0.5	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—*	6574S	6574S	—	—	6575S	6575S
RE21-07-75340	21-27439	3.5–4	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75341	21-27439	5–5.5	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75342	21-27440	3.5–4	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75343	21-27440	5–5.5	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75344	21-27441	3.5–4	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75345	21-27441	5–5.5	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75346	21-27442	3.5–4	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75347	21-27442	5–5.5	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75348	21-27443	3.5–4	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75349	21-27443	5.5–6	ALLH	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	6575S	—	6574S	6574S	—	—	6575S	6575S
RE21-07-75616	21-27514	10–11	QBT3	7054S	7055S	7055S	7055S	7055S	7055S	7055S	7054S	7054S	—	7053S	7053S	—	—	7054S	7054S
RE21-07-75617	21-27514	15–16	QBT3	7054S	7055S	7055S	7055S	7055S	7055S	7055S	7054S	7054S	—	7053S	7053S	—	—	7054S	7054S
RE21-07-75618	21-27514	20–21	QBT3	7054S	7055S	7055S	7055S	7055S	7055S	7055S	7054S	7054S	—	7053S	7053S	—	—	7054S	7054S
MD21-09-8819	21-27514	25–26	QBT3	—	—	—	—	09-1914	09-1914	—	—	—	—	—	09-1914	—	—	—	—
RE21-07-75619	21-27515	10–11	QBT3	7060S	7061S	7061S	7061S	7061S	7061S	7061S	7060S	7060S	—	7059S	7059S	—	—	7060S	7060S
RE21-07-75620	21-27515	15–16	QBT3	7060S	7061S	7061S	7061S	7061S	7061S	7061S	7060S	7060S	—	7059S	7059S	—	—	7060S	7060S
RE21-07-3963	21-27515	15–16	QBT3	—	—	—	—	—	—	—	—	—	07-258	—	—	07-259	07-258	—	—
RE21-07-75621	21-27515	20–21	QBT3	7060S	7061S	7061S	7061S	7061S	7061S	7061S	7060S	7060S	—	7059S	7059S	—	—	7060S	7060S
RE21-07-75622	21-27516	2–3	ALLH	7060S	7061S	7061S	7061S	7061S	7061S	7061S	7060S	7060S	—	7059S	7059S	—	—	7060S	7060S
RE21-07-75623	21-27516	4–5	QBT3	7060S	7061S	7061S	7061S	7061S	7061S	7061S	7060S	7060S	—	7059S	7059S	—	—	7060S	7060S
RE21-07-75624	21-27516	6–7	QBT3	7060S	7061S	7061S	7061S	7061S	7061S	7061S	7060S	7060S	—	7059S	7059S	—	—	7060S	7060S
RE21-07-75625	21-27517	0–0.5	ALLH	6602S	6603S	6603S	6603S	6603S	6603S	6603S	6602S	6602S	—	—	6601S	—	—	6602S	6602S
RE21-07-75626	21-27517	2–2.5	ALLH	6602S	6603S	6603S	6603S	6603S	6603S	6603S	6602S	6602S	—	6601S	6601S	—	—	6602S	6602S
MD21-09-8824	21-27517	7–8	QBT3	—	09-1979	—	—	09-1979	09-1979	—	09-1979	—	—	—	—	—	—	—	—
RE21-07-75627	21-27518	0–0.5	ALLH	6602S	6603S	6603S	6603S	6603S	6603S	6603S	6602S	6602S	—	—	6601S	—	—	6602S	6602S
RE21-07-75628	21-27518	2–2.5	ALLH	6602S	6603S	6603S	6603S	6603S	6603S	6603S	6602S	6602S	—	6601S	6601S	—	—	6602S	6602S
RE21-07-75629	21-27519	0–0.5	ALLH	6602S	6603S	6603S	6603S	6603S	6603S	6603S	6602S	6602S	—	—	6601S	—	—	6602S	6602S
RE21-07-75630	21-27519	2–2.5	ALLH	6602S	6603S	6603S	6603S	6603S	6603S	6603S	6602S	6602S	—	6601S	6601S	—	—	6602S	6602S
RE21-07-75632	21-27520	4–5	ALLH	7042S	7043S	7043S	7043S	7043S	7043S	7043S	7042S	7042S	—	7041S	7041S	—	—	7042S	7042S
RE21-07-75634	21-27521	4.5–5.5	ALLH	7048S	7049S	7049S	7049S	7049S	7049S	7049S	7048S	7048S	—	7047S	7047S	—	—	7048S	7048S
MD21-09-8831	21-27521	9.5–10.5	ALLH	—	—	—	—	—	—	—	09-1926	—	—	—	—	—	—	—	—
RE21-07-75635	21-27522	5–6	ALLH	7045S	7046S	7046S	7046S	7046S	7046S	7046S	7045S	7045S	—	7044S	7044S	—	—	7045S	7045S
RE21-07-75636	21-27522	7–8	QBT3	7045S	7046S	7046S	7046S	7046S	7046S	7046S	7045S	7045S	—	7044S	7044S	—	—	7045S	7045S

Table 6.10-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-8828	21-27522	12–13	QBT3	—	—	—	—	—	—	—	09-1926	—	—	—	—	—	—	—	—
RE21-07-75637	21-27523	3–4	ALLH	7054S	7055S	7055S	7055S	7055S	7055S	7055S	7054S	7054S	—	7053S	7053S	—	—	7054S	7054S
RE21-07-75638	21-27523	5–6	ALLH	7054S	7055S	7055S	7055S	7055S	7055S	7055S	7054S	7054S	—	7053S	7053S	—	—	7054S	7054S
RE21-07-75639	21-27524	2–3	ALLH	7042S	7043S	7043S	7043S	7043S	7043S	7043S	7042S	7042S	—	7041S	7041S	—	—	7042S	7042S
RE21-07-75640	21-27524	4–5	ALLH	7042S	7043S	7043S	7043S	7043S	7043S	7043S	7042S	7042S	—	7041S	7041S	—	—	7042S	7042S
RE21-07-75641	21-27525	5–6	QBT3	7045S	7046S	7046S	7046S	7046S	7046S	7046S	7045S	7045S	—	7044S	7044S	—	—	7045S	7045S
RE21-07-75642	21-27525	7–8	QBT3	7045S	7046S	7046S	7046S	7046S	7046S	7046S	7045S	7045S	—	7044S	7044S	—	—	7045S	7045S
RE21-07-75643	21-27526	4–5	ALLH	7054S	7055S	7055S	7055S	7055S	7055S	7055S	7054S	7054S	—	7053S	7053S	—	—	7054S	7054S
RE21-07-75644	21-27526	6–7	QBT3	7054S	7055S	7055S	7055S	7055S	7055S	7055S	7054S	7054S	—	7053S	7053S	—	—	7054S	7054S
RE21-07-75663	21-27530	0–0.5	ALLH	7057S	7058S	7058S	7058S	7058S	7058S	7058S	7057S	7057S	—	—	7056S	—	—	7057S	7057S
RE21-07-75664	21-27530	2–3	ALLH	7057S	7058S	7058S	7058S	7058S	7058S	7058S	7057S	7057S	—	7056S	7056S	—	—	7057S	7057S
RE21-07-75665	21-27530	5–6	ALLH	7057S	7058S	7058S	7058S	7058S	7058S	7058S	7057S	7057S	—	7056S	7056S	—	—	7057S	7057S
MD21-09-8834	21-27530	10–11	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-1950	—	—	—	—
RE21-07-75672	21-27533	0–0.5	QBT3	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	—	7032S	—	—	7033S	7033S
RE21-07-75673	21-27533	2–3	QBT3	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
RE21-07-75674	21-27534	0–0.5	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	—	7032S	—	—	7033S	7033S
RE21-07-75675	21-27534	2–3	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
RE21-07-75676	21-27535	0–0.5	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	—	7032S	—	—	7033S	7033S
RE21-07-75677	21-27535	2–3	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
RE21-07-75678	21-27536	0–0.5	ALLH	7039S	7040S	7040S	7040S	7040S	7040S	7040S	7039S	7039S	—	—	7038S	—	—	7039S	7039S
RE21-07-75679	21-27536	2–3	QBT3	7039S	7040S	7040S	7040S	7040S	7040S	7040S	7039S	7039S	—	7038S	7038S	—	—	7039S	7039S
RE21-07-75680	21-27537	0–0.5	ALLH	7039S	7040S	7040S	7040S	7040S	7040S	7040S	7039S	7039S	—	—	7038S	—	—	7039S	7039S
RE21-07-75681	21-27537	2–3	QBT3	7039S	7040S	7040S	7040S	7040S	7040S	7040S	7039S	7039S	—	7038S	7038S	—	—	7039S	7039S
RE21-07-75682	21-27538	0–0.5	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	—	7032S	—	—	7033S	7033S
RE21-07-75683	21-27538	2–3	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
RE21-07-75684	21-27539	2–3	ALLH	7035S	7035S	7035S	7035S	7035S	7035S	7035S	7035S	7035S	—	7035S	7035S	—	—	7035S	7035S
RE21-07-75685	21-27539	5–6	QBT3	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
MD21-09-8829	21-27539	10–11	QBT3	—	—	—	—	—	—	—	09-1950	—	—	—	—	—	—	—	—
RE21-07-75686	21-27540	0–0.5	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	—	7032S	—	—	7033S	7033S
RE21-07-75687	21-27540	2–3	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
MD21-09-8827	21-27540	7–8	ALLH	—	09-1950	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75690	21-27542	0–0.5	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	—	7032S	—	—	7033S	7033S
RE21-07-75691	21-27542	2–3	QBT3	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
RE21-07-75692	21-27543	0–0.5	ALLH	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	—	7032S	—	—	7033S	7033S
RE21-07-75693	21-27543	2–3	QBT3	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
RE21-07-75694	21-27544	2–3	QBT3	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S

Table 6.10-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-75695	21-27544	4–5	QBT3	7033S	7034S	7034S	7034S	7034S	7034S	7034S	7033S	7033S	—	7032S	7032S	—	—	7033S	7033S
RE21-07-75696	21-27545	3–4	ALLH	7051S	7052S	7052S	7052S	7052S	7052S	7052S	7051S	7051S	—	7050S	7050S	—	—	7051S	7051S
RE21-07-75697	21-27545	5–6	QBT3	7051S	7052S	7052S	7052S	7052S	7052S	7052S	7051S	7051S	—	7050S	7050S	—	—	7051S	7051S
RE21-07-75698	21-27546	1–2	ALLH	7051S	7052S	7052S	7052S	7052S	7052S	7052S	7051S	7051S	—	7050S	7050S	—	—	7051S	7051S
RE21-07-75699	21-27546	4–5	ALLH	7051S	7052S	7052S	7052S	7052S	7052S	7052S	7051S	7051S	—	7050S	7050S	—	—	7051S	7051S
RE21-07-75700	21-27547	0.5–1.5	ALLH	7051S	7052S	7052S	7052S	7052S	7052S	7052S	7051S	7051S	—	7050S	7050S	—	—	7051S	7051S
RE21-07-75701	21-27547	2.5–3.5	ALLH	7051S	7052S	7052S	7052S	7052S	7052S	7052S	7051S	7051S	—	7050S	7050S	—	—	7051S	7051S
MD21-09-8835	21-27547	7.5–8.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	09-1926	—	—	—	—
MD21-09-8820	21-605272	0–0.5	ALLH	—	09-1950	09-1950	—	09-1950	09-1950	—	—	—	—	—	—	—	—	—	—
MD21-09-8821	21-605272	7–8	QBT3	—	09-1950	09-1950	—	09-1950	09-1950	—	—	—	—	—	—	—	—	—	—
MD21-09-8822	21-605273	0–0.5	ALLH	—	09-1979	—	—	09-1979	09-1979	—	09-1979	—	—	—	—	—	—	—	—
MD21-09-8823	21-605273	7–8	QBT3	—	09-1979	—	—	09-1979	09-1979	—	09-1979	—	—	—	—	—	—	—	—
MD21-09-8825	21-605274	0–0.5	ALLH	—	—	—	—	09-1979	09-1979	—	09-1979	—	—	—	—	—	—	—	—
MD21-09-8826	21-605275	0–0.5	QBT3	—	—	—	—	09-1979	09-1979	—	09-1979	—	—	—	—	—	—	—	—
MD21-09-8830	21-605276	0–0.5	ALLH	—	—	—	—	—	09-1926	—	—	—	—	—	—	—	—	—	—
MD21-09-8832	21-605277	5–6	ALLH	—	—	—	—	—	—	—	09-1926	—	—	—	—	—	—	—	—
MD21-09-8833	21-605277	7–8	ALLH	—	—	—	—	—	—	—	09-1926	—	—	—	—	—	—	—	—
MD21-09-8836	21-605278	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	09-1950	—	—	—	—
MD21-09-8837	21-605278	10–11	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-1950	—	—	—	—

*— = Analyses not requested.

Table 6.10-2
Inorganic Chemicals above BVs at Consolidated Unit 21-024(I)-99

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**na**[b]
Soil BV[a]				**29200**	**8.17**	**295**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**na**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**217000**	**800**	**708**[e]
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**795000**	**800**	**2300**[f]
Residential SSL[c]				**78000**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**54800**	**400**	**160**[f]
RE21-07-75339	21-27439	0–0.5	SOIL	—[g]	—	—	—	—	—	—	—	—	—	13.6
RE21-07-75340	21-27439	3.5–4	SOIL	—	—	—	—	—	—	—	—	—	225 (J)	13.7
RE21-07-75341	21-27439	5–5.5	SOIL	46800 (J+)	—	—	2.74 (U)	—	24.9 (J)	—	—	27900	24.2 (J)	16.2
RE21-07-75342	21-27440	3.5–4	SOIL	—	—	—	—	—	—	—	—	—	—	12.1
RE21-07-75343	21-27440	5–5.5	SOIL	—	—	—	0.519 (U)	—	—	—	—	—	—	3.98
RE21-07-75344	21-27441	3.5–4	SOIL	—	—	—	0.526 (U)	—	—	—	—	—	—	10
RE21-07-75345	21-27441	5–5.5	SOIL	—	—	—	0.549 (U)	—	—	—	—	—	—	3.52
RE21-07-75346	21-27442	3.5–4	SOIL	—	—	—	0.536 (U)	—	—	—	—	—	—	12.2
RE21-07-75347	21-27442	5–5.5	SOIL	—	—	—	0.501 (U)	—	—	—	—	—	—	7.25
RE21-07-75348	21-27443	3.5–4	SOIL	—	—	—	0.522 (U)	—	—	—	—	—	—	11.7
RE21-07-75349	21-27443	5.5–6	SOIL	—	—	—	0.544 (U)	—	—	—	—	—	42.1 (J)	14
RE21-07-75616	21-27514	10–11	QBT3	—	—	—	—	—	10.3	—	—	—	13 (J)	5.4 (J+)
RE21-07-75617	21-27514	15–16	QBT3	—	—	—	—	—	7.64	—	—	—	13.9 (J)	29.6 (J+)
RE21-07-75618	21-27514	20–21	QBT3	—	—	—	—	—	8.1	—	—	—	25.1 (J)	9.7 (J+)
RE21-07-75619	21-27515	10–11	QBT3	—	—	—	—	—	7.72	—	—	—	—	13
RE21-07-75620	21-27515	15–16	QBT3	—	—	—	—	—	—	—	—	—	—	14.7
RE21-07-75621	21-27515	20–21	QBT3	—	—	—	—	—	7.38	—	—	—	—	6.61
RE21-07-75622	21-27516	2–3	SOIL	—	—	—	0.526 (U)	—	—	—	—	—	—	11.6
RE21-07-75623	21-27516	4–5	QBT3	—	—	—	—	—	—	—	—	—	16.8	2.3
RE21-07-75624	21-27516	6–7	QBT3	—	2.85	—	—	—	7.18	—	—	—	—	3.07
RE21-07-75625	21-27517	0–0.5	SOIL	—	—	—	0.545 (U)	—	—	—	—	—	35	10.5
RE21-07-75626	21-27517	2–2.5	SOIL	—	—	—	0.549 (U)	—	—	—	—	—	53.8	12.4
RE21-07-75627	21-27518	0–0.5	SOIL	—	—	—	0.565 (U)	—	—	—	—	—	—	12.6
RE21-07-75628	21-27518	2–2.5	SOIL	—	—	—	0.539 (U)	—	—	—	—	—	—	5.29
RE21-07-75629	21-27519	0–0.5	SOIL	—	—	—	0.562 (U)	—	—	—	—	—	—	13.2
RE21-07-75630	21-27519	2–2.5	SOIL	—	—	—	0.572 (U)	—	—	—	—	—	—	14.4
RE21-07-75632	21-27520	4–5	SOIL	—	—	—	0.618 (U)	—	—	—	—	—	—	17.8 (J+)
RE21-07-75634	21-27521	4.5–5.5	SOIL	—	—	—	0.523 (U)	—	—	—	—	—	—	7.72 (J+)
RE21-07-75635	21-27522	5–6	SOIL	—	—	342	0.703	—	—	—	—	—	41.1	12 (J+)
RE21-07-75636	21-27522	7–8	QBT3	—	3.09	—	—	—	13.6	—	—	—	59.8	6.24 (J+)
RE21-07-75637	21-27523	3–4	SOIL	—	—	—	0.556 (U)	—	—	—	—	—	53.6 (J)	11.8 (J+)

Table 6.10-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**na**[b]
Soil BV[a]				**29200**	**8.17**	**295**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**na**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**217000**	**800**	**708**[e]
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**795000**	**800**	**2300**[f]
Residential SSL[c]				**78000**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**54800**	**400**	**160**[f]
RE21-07-75638	21-27523	5–6	SOIL	—	—	—	0.563 (U)	—	—	—	—	—	—	9.67 (J+)
RE21-07-75639	21-27524	2–3	SOIL	—	—	—	0.578 (U)	—	—	—	36.4	—	312	10.9 (J+)
RE21-07-75640	21-27524	4–5	SOIL	—	—	—	0.562 (U)	6130	—	—	30.9	—	—	10.8 (J+)
RE21-07-75641	21-27525	5–6	QBT3	8950	3.56	137	—	2800	7.53	3.43	6.74	—	23.5	12.4 (J+)
RE21-07-75642	21-27525	7–8	QBT3	—	3.09	66.4	—	—	—	—	—	—	11.4	11.2 (J+)
RE21-07-75643	21-27526	4–5	SOIL	—	—	—	0.553 (U)	—	—	—	—	—	970 (J)	10.5 (J+)
RE21-07-75644	21-27526	6–7	QBT3	—	—	—	—	—	11.3	—	—	—	—	8.9 (J+)
RE21-07-75663	21-27530	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	10.9 (J+)
RE21-07-75664	21-27530	2–3	SOIL	—	—	—	0.537 (U)	—	—	—	—	—	—	7.49 (J+)
RE21-07-75665	21-27530	5–6	SOIL	—	—	—	0.55 (U)	—	—	—	—	—	—	10.1 (J+)
RE21-07-75672	21-27533	0–0.5	QBT3	—	—	48.7	—	—	11.3	—	11.8	—	12	5.1 (J+)
RE21-07-75673	21-27533	2–3	QBT3	—	—	—	—	—	7.81	—	—	—	—	3.4 (J+)
RE21-07-75674	21-27534	0–0.5	SOIL	—	—	—	0.449 (J)	9590	—	—	—	—	—	11.6 (J+)
RE21-07-75675	21-27534	2–3	SOIL	—	—	—	0.527 (U)	—	—	—	—	—	—	7.1 (J+)
RE21-07-75676	21-27535	0–0.5	SOIL	—	—	—	0.486 (U)	—	—	—	—	—	—	8.7 (J+)
RE21-07-75677	21-27535	2–3	SOIL	—	—	—	0.54 (U)	—	—	—	—	—	—	10.5 (J+)
RE21-07-75678	21-27536	0–0.5	SOIL	—	—	—	0.526 (U)	—	—	—	—	—	—	15.3 (J+)
RE21-07-75679	21-27536	2–3	QBT3	—	—	—	—	—	8.32	—	—	—	—	12.4 (J+)
RE21-07-75680	21-27537	0–0.5	SOIL	—	—	—	0.531 (U)	—	—	—	—	—	—	9.64 (J+)
RE21-07-75681	21-27537	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	12.5 (J+)
RE21-07-75682	21-27538	0–0.5	SOIL	—	—	—	0.55 (U)	—	—	—	—	—	24.6	11.3 (J+)
RE21-07-75683	21-27538	2–3	SOIL	—	—	—	0.518 (U)	—	—	—	—	—	—	13.5 (J+)
RE21-07-75684	21-27539	2–3	SOIL	—	—	—	0.542 (U)	—	—	—	—	—	—	11 (J+)
RE21-07-75685	21-27539	5–6	QBT3	—	—	—	—	2940	15	4.03	6.9	—	23.6	13.6 (J+)
RE21-07-75686	21-27540	0–0.5	SOIL	—	—	—	0.546 (U)	—	—	—	—	—	22.8	9.5 (J+)
RE21-07-75687	21-27540	2–3	SOIL	—	—	—	0.511 (U)	—	—	—	—	—	—	12 (J+)
RE21-07-75690	21-27542	0–0.5	SOIL	—	—	—	0.551 (U)	—	—	—	—	—	—	12.7 (J+)
RE21-07-75691	21-27542	2–3	QBT3	—	—	—	—	—	12	—	—	—	—	3.7 (J+)
RE21-07-75692	21-27543	0–0.5	SOIL	—	—	—	0.531 (U)	—	—	—	—	—	38	10.6 (J+)
RE21-07-75693	21-27543	2–3	QBT3	—	—	51.4	—	—	13.6	—	4.96	—	—	8.6 (J+)
RE21-07-75694	21-27544	2–3	QBT3	8930	2.97	104	—	3540	7.97	4.03	7.64	—	11.7	12.9 (J+)
RE21-07-75695	21-27544	4–5	QBT3	—	—	—	—	—	16.8	—	—	—	—	14.3 (J+)

Table 6.10-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium
Qbt2,3,4 BV[a]				**7340**	**2.79**	**46**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**14500**	**11.2**	**na**[b]
Soil BV[a]				**29200**	**8.17**	**295**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**21500**	**22.3**	**na**
Construction Worker SSL[c]				**40700**	**53**	**4350**	**277**	**na**	**465000**[d]	**36.6**[e]	**12400**	**217000**	**800**	**708**[e]
Industrial SSL[c]				**1130000**	**17.7**	**223000**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**795000**	**800**	**2300**[f]
Residential SSL[c]				**78000**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**54800**	**400**	**160**[f]
RE21-07-75696	21-27545	3–4	SOIL	—	—	—	0.991	9710 (J)	—	—	—	—	488 (J)	12.8 (J+)
RE21-07-75697	21-27545	5–6	QBT3	—	—	68.6 (J-)	—	2330 (J)	14.4	—	5.48	—	—	9.72 (J+)
RE21-07-75698	21-27546	1–2	SOIL	—	—	—	0.546 (U)	—	—	—	—	—	34.3 (J)	12.4 (J+)
RE21-07-75699	21-27546	4–5	SOIL	—	—	—	0.549 (U)	—	—	—	—	—	34.3 (J)	13.4 (J+)
RE21-07-75700	21-27547	0.5–1.5	SOIL	—	—	—	0.526 (U)	—	—	—	—	—	—	11.6 (J+)
RE21-07-75701	21-27547	2.5–3.5	SOIL	—	—	—	0.566 (U)	6370 (J)	—	—	—	—	—	11.9 (J+)

Table 6.10-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Potassium	Selenium	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**3500**	**0.3**	**2.4**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**3460**	**1.52**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**na**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**na**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**na**	**391**	**235**	**391**	**23500**
RE21-07-75339	21-27439	0–0.5	SOIL	—	—	—	—	—	0.00144 (J+)	—	1.55 (U)	—	—	—
RE21-07-75340	21-27439	3.5–4	SOIL	—	—	0.179	—	6.1 (J-)	0.00492 (J+)	—	—	—	—	50 (J)
RE21-07-75341	21-27439	5–5.5	SOIL	5470	—	—	—	2.12 (J-)	0.0057 (J+)	4300	8.22 (U)	—	50	61.6 (J)
RE21-07-75342	21-27440	3.5–4	SOIL	—	—	—	—	—	0.00199 (J+)	—	—	—	—	—
RE21-07-75343	21-27440	5–5.5	SOIL	—	—	—	—	—	0.000626 (J+)	—	1.56 (U)	—	—	—
RE21-07-75344	21-27441	3.5–4	SOIL	—	—	—	—	0.864 (J-)	0.00632 (J+)	—	1.58 (U)	—	—	—
RE21-07-75345	21-27441	5–5.5	SOIL	—	—	—	—	—	—	—	1.65 (U)	—	—	—
RE21-07-75346	21-27442	3.5–4	SOIL	—	—	0.628	—	—	0.00325 (J+)	—	—	—	—	—
RE21-07-75347	21-27442	5–5.5	SOIL	—	—	—	—	2.76 (J-)	0.00307 (J+)	—	—	—	—	—
RE21-07-75348	21-27443	3.5–4	SOIL	—	—	—	—	0.694 (J-)	0.00244 (J+)	—	—	—	—	—
RE21-07-75349	21-27443	5.5–6	SOIL	—	—	—	—	—	0.00273 (J+)	—	1.63 (U)	—	—	—
RE21-07-75616	21-27514	10–11	QBT3	—	—	—	—	—	—	—	1.19 (J)	—	—	—
RE21-07-75617	21-27514	15–16	QBT3	—	—	—	—	1.41	—	—	0.935 (J)	—	—	—
RE21-07-75618	21-27514	20–21	QBT3	—	—	—	—	3.8	—	—	0.953 (J)	—	—	—
RE21-07-75619	21-27515	10–11	QBT3	—	—	—	—	—	—	—	1.54 (U)	—	—	—
RE21-07-75620	21-27515	15–16	QBT3	—	—	—	—	2.2 (J-)	—	—	1.58 (U)	—	—	—
RE21-07-75621	21-27515	20–21	QBT3	—	—	—	—	—	—	—	1.59 (U)	—	—	—
RE21-07-75622	21-27516	2–3	SOIL	—	—	—	—	—	0.00131 (J)	—	—	—	—	—
RE21-07-75623	21-27516	4–5	QBT3	—	—	—	—	1.17 (J-)	—	—	1.57 (U)	—	—	—
RE21-07-75624	21-27516	6–7	QBT3	—	—	—	—	1.56 (J-)	—	—	1.58 (U)	—	—	—
RE21-07-75625	21-27517	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	75
RE21-07-75626	21-27517	2–2.5	SOIL	—	—	0.192	—	—	—	—	—	—	—	104
RE21-07-75627	21-27518	0–0.5	SOIL	—	—	—	—	1.58	—	—	—	—	—	—
RE21-07-75628	21-27518	2–2.5	SOIL	—	—	—	—	0.996 (J)	—	—	—	—	—	—
RE21-07-75629	21-27519	0–0.5	SOIL	—	—	—	—	1.13	—	—	—	—	—	—
RE21-07-75630	21-27519	2–2.5	SOIL	—	—	—	—	1.21	—	—	—	—	—	—
RE21-07-75632	21-27520	4–5	SOIL	—	—	—	—	1.58	—	—	—	—	—	53.5
RE21-07-75634	21-27521	4.5–5.5	SOIL	—	—	—	—	1.26 (J-)	—	—	1.79	—	—	384
RE21-07-75635	21-27522	5–6	SOIL	—	—	—	—	—	0.000609 (J)	—	1.74	—	—	949
RE21-07-75636	21-27522	7–8	QBT3	—	—	—	—	1 (J-)	—	—	1.13 (J)	—	—	97
RE21-07-75637	21-27523	3–4	SOIL	—	—	—	—	1.53	0.000948 (J)	—	1.53 (J)	—	—	59.2 (J)
RE21-07-75638	21-27523	5–6	SOIL	—	—	—	—	—	0.00119 (J)	—	—	—	—	—

Table 6.10-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Potassium	Selenium	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**3500**	**0.3**	**2.4**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**3460**	**1.52**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**na**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**na**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**na**	**391**	**235**	**391**	**23500**
RE21-07-75639	21-27524	2–3	SOIL	—	—	—	—	1.06	—	—	—	—	—	192
RE21-07-75640	21-27524	4–5	SOIL	—	—	—	—	1.15	—	—	—	—	—	—
RE21-07-75641	21-27525	5–6	QBT3	1720 (J+)	—	—	6.78	—	—	—	1.09 (J)	—	18.1	222
RE21-07-75642	21-27525	7–8	QBT3	—	—	—	—	1.1 (J-)	—	—	1.21 (J)	—	—	227
RE21-07-75643	21-27526	4–5	SOIL	—	—	—	—	—	—	—	—	—	—	56.3 (J)
RE21-07-75644	21-27526	6–7	QBT3	—	—	—	—	1.38	—	—	1.64 (U)	—	—	—
RE21-07-75663	21-27530	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	74.2 (J)
RE21-07-75664	21-27530	2–3	SOIL	—	—	—	—	1.19	—	—	—	—	—	115 (J)
RE21-07-75665	21-27530	5–6	SOIL	—	—	—	—	1.3	0.0012 (J)	—	—	—	—	65.7 (J)
RE21-07-75672	21-27533	0–0.5	QBT3	—	—	—	—	1.72	—	—	1 (J)	—	—	—
RE21-07-75673	21-27533	2–3	QBT3	—	—	—	—	—	—	—	0.764 (J)	—	—	—
RE21-07-75674	21-27534	0–0.5	SOIL	—	—	—	—	2.02	—	—	—	—	—	91.5
RE21-07-75675	21-27534	2–3	SOIL	—	—	—	—	1.25	0.000867 (J-)	—	1.58 (U)	—	—	—
RE21-07-75676	21-27535	0–0.5	SOIL	—	—	—	—	1.65	0.00154 (J-)	—	—	—	—	53.2
RE21-07-75677	21-27535	2–3	SOIL	—	—	—	—	1.26	—	—	—	—	—	—
RE21-07-75678	21-27536	0–0.5	SOIL	—	—	—	—	1.57	0.000823 (J-)	—	—	—	—	—
RE21-07-75679	21-27536	2–3	QBT3	—	—	—	—	—	—	—	0.669 (J)	—	—	—
RE21-07-75680	21-27537	0–0.5	SOIL	—	—	—	—	2.27	0.000628 (J-)	—	—	—	—	—
RE21-07-75681	21-27537	2–3	QBT3	—	—	—	—	1.12 (J)	—	—	1.7 (U)	—	—	—
RE21-07-75682	21-27538	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75683	21-27538	2–3	SOIL	—	—	—	—	—	0.00128 (J-)	—	1.59	—	—	—
RE21-07-75684	21-27539	2–3	SOIL	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75685	21-27539	5–6	QBT3	—	549	—	—	—	—	—	0.726 (J)	—	—	117
RE21-07-75686	21-27540	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	77.4
RE21-07-75687	21-27540	2–3	SOIL	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75690	21-27542	0–0.5	SOIL	—	—	—	—	2.21	—	—	—	—	—	—
RE21-07-75691	21-27542	2–3	QBT3	—	—	—	—	1.26	—	—	1.57 (U)	—	—	—
RE21-07-75692	21-27543	0–0.5	SOIL	—	—	—	—	—	—	—	—	2.03	—	—
RE21-07-75693	21-27543	2–3	QBT3	—	—	—	—	—	—	—	1.55 (U)	—	—	—
RE21-07-75694	21-27544	2–3	QBT3	1850 (J+)	—	—	—	—	0.00106 (J-)	—	0.962 (J)	—	19.3	—
RE21-07-75695	21-27544	4–5	QBT3	—	—	—	—	—	—	—	1.56 (U)	—	—	—
RE21-07-75696	21-27545	3–4	SOIL	—	—	—	—	1.51	—	—	1.67 (U)	—	—	552 (J)

Table 6.10-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Potassium	Selenium	Uranium	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**3500**	**0.3**	**2.4**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**3460**	**1.52**	**1.82**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**na**	**1550**	**929**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**na**	**5680**	**3410**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**na**	**391**	**235**	**391**	**23500**
RE21-07-75697	21-27545	5–6	QBT3	—	—	—	—	1.57	—	—	1.67 (U)	—	—	—
RE21-07-75698	21-27546	1–2	SOIL	—	—	—	—	1.31	—	—	—	—	—	84.9 (J)
RE21-07-75699	21-27546	4–5	SOIL	—	—	—	—	—	0.000731 (J)	—	—	—	—	92.4 (J)
RE21-07-75700	21-27547	0.5–1.5	SOIL	—	—	—	—	1.28	—	—	—	—	—	—
RE21-07-75701	21-27547	2.5–3.5	SOIL	—	—	—	—	1.43	—	—	1.59 (J)	—	—	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971) unless otherwise noted.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

Table 6.10-3
Organic Chemicals Detected at Consolidated Unit 21-024(l)-99

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Carbazole	Chloroform	Chrysene	Dibenzofuran	Dichlorobenzene[1,4-]
Construction Worker SSL[a]				**18600**	**6680**[b]	**221000**	**66800**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**4760**	**na**[c]	**154**	**20600**	**354**[d]	**831**
Industrial SSL[a]				**36700**	**18300**[b]	**868000**	**183000**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**1370**	**na**	**32.7**	**2340**	**1000**[e]	**177**
Residential SSL[a]				**3440**	**1720**[b]	**66600**	**17200**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**347**	**na**	**5.86**	**148**	**72**[e]	**31.7**
RE21-07-75339	21-27439	0–0.5	SOIL	—[f]	—	—	—	—	0.0429 (J)	0.0163 (J)	—	—	—	NA[g]	—	0.0187 (J)	—	—
RE21-07-75340	21-27439	3.5–4	SOIL	—	—	—	0.0172 (J)	—	0.0879	0.15	0.106	—	—	NA	—	0.122	—	—
RE21-07-75341	21-27439	5–5.5	SOIL	—	—	—	0.0142 (J)	—	0.0848 (J)	0.098 (J)	—	—	—	NA	—	0.0732	—	—
RE21-07-75342	21-27440	3.5–4	SOIL	—	—	—	0.00847 (J)	—	0.078	0.0681	—	0.0559	—	NA	0.000215 (J)	0.0874	—	0.000316 (J)
RE21-07-75343	21-27440	5–5.5	SOIL	—	—	—	—	—	—	—	—	—	—	NA	—	—	—	—
RE21-07-75344	21-27441	3.5–4	SOIL	—	—	0.00613	0.00868 (J)	0.17	0.148	0.158	0.118	0.117	—	NA	—	0.157	—	—
RE21-07-75346	21-27442	3.5–4	SOIL	0.204	—	0.00532 (J)	0.382	1.47	0.995	1.61	0.449	0.591	—	NA	—	1.48	0.0754 (J)	—
RE21-07-75347	21-27442	5–5.5	SOIL	—	—	—	—	—	—	—	—	—	—	NA	—	—	—	—
RE21-07-75348	21-27443	3.5–4	SOIL	—	—	0.00891	—	—	0.0514	0.0179 (J)	—	0.0403	—	NA	—	0.0371	—	—
RE21-07-75349	21-27443	5.5–6	SOIL	—	—	—	—	—	—	—	—	—	—	NA	—	—	—	—
RE21-07-75616	21-27514	10–11	QBT3	—	—	—	—	—	—	—	—	—	—	NA	—	0.0156 (J)	—	—
RE21-07-75617	21-27514	15–16	QBT3	0.0417	—	—	0.0687	0.219 (J)	0.223 (J)	0.307 (J)	0.228 (J)	0.111 (J)	—	NA	—	0.241 (J)	—	—
RE21-07-75618	21-27514	20–21	QBT3	0.0568	—	—	0.102	0.291 (J)	0.301 (J)	0.421 (J)	0.251 (J)	0.149 (J)	—	NA	—	0.319 (J)	—	—
MD21-09-8819	21-27514	25–26	QBT3	—	—	NA	—	0.11 (J)	0.085 (J)	0.11 (J)	—	—	—	—	NA	0.086 (J)	—	—
RE21-07-3963	21-27515	15–16	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75622	21-27516	2–3	SOIL	—	—	—	—	—	—	0.033 (J)	—	—	—	NA	—	0.0202 (J)	—	—
RE21-07-75624	21-27516	6–7	QBT3	—	—	—	—	—	—	—	—	—	—	NA	—	—	—	—
RE21-07-75625	21-27517	0–0.5	SOIL	—	—	NA	0.00773 (J)	0.0621	0.0518 (J)	0.121 (J)	0.0381 (J)	—	—	NA	NA	0.0684	—	—
RE21-07-75626	21-27517	2–2.5	SOIL	—	—	—	0.0149 (J)	0.0746 (J)	0.0627 (J)	0.163 (J)	—	—	—	NA	—	0.0831 (J)	—	—
RE21-07-75627	21-27518	0–0.5	SOIL	—	—	NA	—	0.0249 (J)	0.031 (J)	0.0631	0.0246 (J)	—	—	NA	NA	0.0278 (J)	—	—
RE21-07-75628	21-27518	2–2.5	SOIL	—	—	—	—	—	—	—	—	—	—	NA	—	—	—	—
RE21-07-75629	21-27519	0–0.5	SOIL	—	—	NA	—	—	—	—	—	—	0.0876 (J)	NA	NA	—	—	—
RE21-07-75630	21-27519	2–2.5	SOIL	—	—	—	0.0104 (J)	—	0.0373 (J)	0.0761	0.0173 (J)	—	—	NA	—	0.0496	—	—
RE21-07-75632	21-27520	4–5	SOIL	0.102	—	—	0.217	0.598	0.577	0.713	0.318	—	—	NA	—	0.529	—	—
RE21-07-75634	21-27521	4.5–5.5	SOIL	—	—	0.35	0.0195 (J)	0.0517	0.0498	0.0758	0.0264 (J)	—	—	NA	—	0.0581	—	—
RE21-07-75635	21-27522	5–6	SOIL	0.0367 (J)	—	—	0.0494	0.158	0.162 (J)	0.279 (J)	0.0947 (J)	—	—	NA	—	0.194	—	—
RE21-07-75636	21-27522	7–8	QBT3	—	—	—	0.00888 (J)	0.0412	0.0436	0.075	0.0245 (J)	—	—	NA	—	0.0553	—	—
RE21-07-75637	21-27523	3–4	SOIL	0.0535	—	—	0.0896	0.217	0.227	0.304	0.2 (J)	0.126	—	NA	—	0.227	—	—
RE21-07-75638	21-27523	5–6	SOIL	—	—	—	0.0201 (J)	—	0.0647 (J)	0.0868 (J)	0.145 (J)	0.0376 (J)	—	NA	—	0.0679 (J)	—	—

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Carbazole	Chloroform	Chrysene	Dibenzofuran	Dichlorobenzene[1,4-]
Construction Worker SSL[a]				**18600**	**6680[b]**	**221000**	**66800**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**4760**	**na[c]**	**154**	**20600**	**354[d]**	**831**
Industrial SSL[a]				**36700**	**18300[b]**	**868000**	**183000**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**1370**	**na**	**32.7**	**2340**	**1000[e]**	**177**
Residential SSL[a]				**3440**	**1720[b]**	**66600**	**17200**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**347**	**na**	**5.86**	**148**	**72[e]**	**31.7**
RE21-07-75639	21-27524	2–3	SOIL	0.0199 (J)	—	—	0.0342 (J)	0.106	0.168	0.228	0.0379 (J)	0.0721 (J)	—	NA	—	0.101	—	—
RE21-07-75640	21-27524	4–5	SOIL	0.0324 (J)	—	—	0.0551	0.163	0.217	0.337	0.0756	—	—	NA	—	0.152	—	—
RE21-07-75641	21-27525	5–6	QBT3	0.141	—	—	0.202	0.374	0.34 (J)	0.553 (J)	0.176 (J)	—	—	NA	—	0.382	—	—
RE21-07-75642	21-27525	7–8	QBT3	0.013 (J)	—	—	0.0175 (J)	—	0.0465	0.0692	0.029 (J)	—	—	NA	—	0.0582	—	—
RE21-07-75643	21-27526	4–5	SOIL	0.293	—	—	0.509	1.59	1.69	2.57	0.797 (J)	0.898	—	NA	—	1.78	0.108 (J)	—
RE21-07-75644	21-27526	6–7	QBT3	0.108	—	—	0.161	0.573	0.625	0.834	0.378 (J)	0.363	—	NA	—	0.651	—	—
RE21-07-75663	21-27530	0–0.5	SOIL	0.0377	—	NA	0.0712	0.236	0.257	0.315	0.257 (J)	0.142	—	NA	NA	0.242	—	—
RE21-07-75664	21-27530	2–3	SOIL	0.0124 (J)	—	—	0.0227 (J)	—	0.0492	0.0689	—	0.0245 (J)	—	NA	—	0.0466	—	—
RE21-07-75665	21-27530	5–6	SOIL	1.51	—	—	2.38	3.88	3.92	4.6	2.11 (J)	1.8	—	NA	—	3.76	0.694	—
MD21-09-8834	21-27530	10–11	QBT3	—	—	NA	—	0.16 (J)	0.13 (J)	0.18 (J)	—	0.081 (J)	—	—	NA	0.13 (J)	—	—
RE21-07-75672	21-27533	0–0.5	QBT3	—	—	NA	—	0.0242 (J)	—	0.0493	0.018 (J)	0.0189 (J)	—	NA	NA	0.0381	—	—
RE21-07-75674	21-27534	0–0.5	SOIL	0.143	—	NA	0.231	0.584	0.558	0.84	0.237 (J)	—	—	NA	NA	0.584	—	—
RE21-07-75675	21-27534	2–3	SOIL	—	—	—	0.00875 (J)	0.0427	0.0348 (J)	0.044	0.0249 (J)	0.0207 (J)	—	NA	—	0.0319 (J)	—	—
RE21-07-75676	21-27535	0–0.5	SOIL	0.0161 (J)	—	NA	0.0301 (J)	0.169	0.19	0.275	0.126 (J)	0.0947	—	NA	NA	0.223	—	—
RE21-07-75677	21-27535	2–3	SOIL	—	—	—	—	0.0146 (J)	—	0.0135 (J)	—	—	—	NA	—	0.014 (J)	—	—
RE21-07-75678	21-27536	0–0.5	SOIL	0.0429	—	NA	0.081	0.36	—	0.7	0.209	—	—	NA	NA	0.37	—	—
RE21-07-75680	21-27537	0–0.5	SOIL	0.0421	—	NA	0.0633	—	—	0.354	0.0894	—	—	NA	NA	0.174	—	—
RE21-07-75682	21-27538	0–0.5	SOIL	0.0186 (J)	—	NA	0.0568	0.267	0.0816	0.368	0.167 (J)	0.166	—	NA	NA	0.307	—	—
RE21-07-75683	21-27538	2–3	SOIL	—	—	—	—	—	—	—	—	—	—	NA	—	—	—	—
RE21-07-75684	21-27539	2–3	SOIL	—	—	—	—	—	0.0123 (J)	0.0165 (J)	—	—	—	NA	—	—	—	—
RE21-07-75686	21-27540	0–0.5	SOIL	0.0191 (J)	—	NA	0.0267 (J)	0.15	0.162	0.257	0.106 (J)	0.12	—	NA	NA	0.193	—	—
RE21-07-75687	21-27540	2–3	SOIL	—	—	—	—	0.0273 (J)	0.0257 (J)	0.0361	—	0.0124 (J)	—	NA	—	0.0248 (J)	—	—
RE21-07-75690	21-27542	0–0.5	SOIL	—	—	NA	—	0.0404	0.0355 (J)	0.0239 (J)	0.0227 (J)	0.0225 (J)	—	NA	NA	0.0454	—	—
RE21-07-75692	21-27543	0–0.5	SOIL	—	—	NA	0.00972 (J)	0.0555	0.0728	0.119	0.0438 (J)	—	—	NA	NA	0.0846	—	—
RE21-07-75693	21-27543	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	NA	—	—	—	—
RE21-07-75694	21-27544	2–3	QBT3	—	—	—	—	0.0247 (J)	0.0237 (J)	0.0273 (J)	0.0147 (J)	0.0136 (J)	—	NA	—	0.0231 (J)	—	—
RE21-07-75696	21-27545	3–4	SOIL	0.357	0.0122 (J)	—	0.764	1.87 (J)	—	2.67 (J)	0.952 (J)	0.962 (J)	—	NA	—	1.94 (J)	0.191 (J)	—
RE21-07-75697	21-27545	5–6	QBT3	—	—	—	0.0139 (J)	—	—	0.0644	—	0.0307 (J)	—	NA	—	0.0583	—	—
RE21-07-75698	21-27546	1–2	SOIL	0.368	—	—	0.871	1.86 (J)	1.74 (J)	2.75 (J)	1.11 (J)	1.02 (J)	—	NA	—	1.86 (J)	0.263 (J)	—
RE21-07-75699	21-27546	4–5	SOIL	0.0242 (J)	—	—	0.0356 (J)	0.134 (J)	—	0.226 (J)	0.192 (J)	0.0805 (J)	—	NA	—	0.166 (J)	—	—

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acenaphthylene	Acetone	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Carbazole	Chloroform	Chrysene	Dibenzofuran	Dichlorobenzene[1,4-]
Construction Worker SSL[a]				**18600**	**6680**[b]	**221000**	**66800**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**4760**	**na**[c]	**154**	**20600**	**354**[d]	**831**
Industrial SSL[a]				**36700**	**18300**[b]	**868000**	**183000**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**1370**	**na**	**32.7**	**2340**	**1000**[e]	**177**
Residential SSL[a]				**3440**	**1720**[b]	**66600**	**17200**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**347**	**na**	**5.86**	**148**	**72**[e]	**31.7**
RE21-07-75700	21-27547	0.5–1.5	SOIL	0.186	—	—	0.378	1.13	—	1.66	0.704 (J)	0.532	—	NA	—	1.22	0.117 (J)	—
RE21-07-75701	21-27547	2.5–3.5	SOIL	0.167	—	—	0.552	0.637	—	0.731	0.417 (J)	0.321	—	NA	—	0.607	0.18 (J)	—
MD21-09-8835	21-27547	7.5–8.5	SOIL	—	—	NA	0.13 (J)	0.37 (J)	0.29 (J)	0.49	0.18 (J)	0.18 (J)	—	0.12 (J)	NA	0.41	—	—
MD21-09-8836	21-605278	0–0.5	SOIL	—	—	NA	—	0.29 (J)	0.29 (J)	0.51 (J)	0.21 (J)	0.21 (J)	0.25 (J)	—	NA	0.28 (J)	—	—

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]
Construction Worker SSL[a]				**8910**	**8910**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[h]	**1120**	**1420**[d]	**158**	**na**
Industrial SSL[a]				**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[h]	**4700**	**3000**[e]	**241**	**na**
Residential SSL[a]				**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[h]	**409**	**230**[e]	**43**	**na**
RE21-07-75339	21-27439	0–0.5	SOIL	0.0414	—	NA	NA	NA	NA	NA	—	—	0.00411 (J)	—	—	NA
RE21-07-75340	21-27439	3.5–4	SOIL	0.225	—	NA	NA	NA	NA	NA	0.128	—	—	—	—	NA
RE21-07-75341	21-27439	5–5.5	SOIL	0.139	—	NA	NA	NA	NA	NA	0.124 (J)	—	—	—	—	NA
RE21-07-75342	21-27440	3.5–4	SOIL	0.108	—	NA	NA	NA	NA	NA	0.121	—	—	0.00778 (J)	—	NA
RE21-07-75343	21-27440	5–5.5	SOIL	—	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75344	21-27441	3.5–4	SOIL	0.273	—	NA	NA	NA	NA	NA	0.144	—	—	—	—	NA
RE21-07-75346	21-27442	3.5–4	SOIL	2.92	0.126	NA	NA	NA	NA	NA	0.472	—	—	0.0251 (J)	—	NA
RE21-07-75347	21-27442	5–5.5	SOIL	—	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75348	21-27443	3.5–4	SOIL	0.0583	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75349	21-27443	5.5–6	SOIL	—	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75616	21-27514	10–11	QBT3	0.0387	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75617	21-27514	15–16	QBT3	0.51	0.0306 (J)	NA	NA	NA	NA	NA	0.198 (J)	—	—	—	—	NA
RE21-07-75618	21-27514	20–21	QBT3	0.698	0.0499	NA	NA	NA	NA	NA	0.224 (J)	—	—	0.00913 (J)	0.028 (J)	NA
MD21-09-8819	21-27514	25–26	QBT3	0.24 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	—	—	NA
RE21-07-3963	21-27515	15–16	QBT3	NA	NA	5.38E-07 (J)	1.46E-06	6.34E-07 (J)	1.18E-06	3.75E-07	NA	NA	NA	NA	NA	5.33E-06 (J)
RE21-07-75622	21-27516	2–3	SOIL	0.0375	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75624	21-27516	6–7	QBT3	0.0115 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75625	21-27517	0–0.5	SOIL	0.126	—	NA	NA	NA	NA	NA	0.0277 (J)	NA	NA	—	—	NA
RE21-07-75626	21-27517	2–2.5	SOIL	0.144	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75627	21-27518	0–0.5	SOIL	0.0268 (J)	—	NA	NA	NA	NA	NA	0.0214 (J)	NA	NA	—	—	NA
RE21-07-75628	21-27518	2–2.5	SOIL	—	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75629	21-27519	0–0.5	SOIL	—	—	NA	NA	NA	NA	NA	—	NA	NA	—	—	NA
RE21-07-75630	21-27519	2–2.5	SOIL	0.107	—	NA	NA	NA	NA	NA	0.0142 (J)	—	—	—	—	NA
RE21-07-75632	21-27520	4–5	SOIL	1.37	0.0932	NA	NA	NA	NA	NA	0.339	—	—	0.0161 (J)	0.0397 (J)	NA
RE21-07-75634	21-27521	4.5–5.5	SOIL	0.118	—	NA	NA	NA	NA	NA	0.026 (J)	—	—	—	—	NA
RE21-07-75635	21-27522	5–6	SOIL	0.409	0.0262 (J)	NA	NA	NA	NA	NA	0.0873 (J)	—	—	—	0.0165 (J)	NA
RE21-07-75636	21-27522	7–8	QBT3	0.102	—	NA	NA	NA	NA	NA	0.022 (J)	0.000463 (J)	—	—	—	NA

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]
Construction Worker SSL[a]				**8910**	**8910**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[h]	**1120**	**1420**[d]	**158**	**na**
Industrial SSL[a]				**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[h]	**4700**	**3000**[e]	**241**	**na**
Residential SSL[a]				**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[h]	**409**	**230**[e]	**43**	**na**
RE21-07-75637	21-27523	3–4	SOIL	0.51	0.0463	NA	NA	NA	NA	NA	0.169 (J)	—	—	0.0107 (J)	0.0317 (J)	NA
RE21-07-75638	21-27523	5–6	SOIL	0.14	—	NA	NA	NA	NA	NA	0.12 (J)	—	—	—	—	NA
RE21-07-75639	21-27524	2–3	SOIL	0.232	0.0146 (J)	NA	NA	NA	NA	NA	0.087	—	—	—	—	NA
RE21-07-75640	21-27524	4–5	SOIL	0.322	0.024 (J)	NA	NA	NA	NA	NA	0.123	—	—	—	—	NA
RE21-07-75641	21-27525	5–6	QBT3	0.923	0.1	NA	NA	NA	NA	NA	0.168 (J)	0.000443 (J)	—	0.024 (J)	0.0853	NA
RE21-07-75642	21-27525	7–8	QBT3	0.107	—	NA	NA	NA	NA	NA	0.0252 (J)	—	—	—	—	NA
RE21-07-75643	21-27526	4–5	SOIL	4.22	0.238	NA	NA	NA	NA	NA	0.801 (J)	—	—	0.0383	0.093	NA
RE21-07-75644	21-27526	6–7	QBT3	1.42	0.0903	NA	NA	NA	NA	NA	0.347 (J)	—	—	0.0194 (J)	0.0537	NA
RE21-07-75663	21-27530	0–0.5	SOIL	0.489	0.0308 (J)	NA	NA	NA	NA	NA	0.229 (J)	NA	NA	—	—	NA
RE21-07-75664	21-27530	2–3	SOIL	0.119	0.0109 (J)	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75665	21-27530	5–6	SOIL	10.5	1.2	NA	NA	NA	NA	NA	2.03 (J)	—	—	0.321	1.22	NA
MD21-09-8834	21-27530	10–11	QBT3	0.3 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	—	—	NA
RE21-07-75672	21-27533	0–0.5	QBT3	0.0678	—	NA	NA	NA	NA	NA	0.0188 (J)	NA	NA	—	—	NA
RE21-07-75674	21-27534	0–0.5	SOIL	1.41	0.114	NA	NA	NA	NA	NA	0.24 (J)	NA	NA	—	—	NA
RE21-07-75675	21-27534	2–3	SOIL	0.0783	—	NA	NA	NA	NA	NA	0.0231 (J)	—	—	—	—	NA
RE21-07-75676	21-27535	0–0.5	SOIL	0.439	0.0114 (J)	NA	NA	NA	NA	NA	0.117 (J)	NA	NA	—	—	NA
RE21-07-75677	21-27535	2–3	SOIL	0.0234 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75678	21-27536	0–0.5	SOIL	0.803	0.0319 (J)	NA	NA	NA	NA	NA	0.226	NA	NA	—	—	NA
RE21-07-75680	21-27537	0–0.5	SOIL	0.427	0.0291 (J)	NA	NA	NA	NA	NA	0.132	NA	NA	—	—	NA
RE21-07-75682	21-27538	0–0.5	SOIL	0.681	0.0123 (J)	NA	NA	NA	NA	NA	0.167 (J)	NA	NA	—	—	NA
RE21-07-75683	21-27538	2–3	SOIL	—	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75684	21-27539	2–3	SOIL	0.0365 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75686	21-27540	0–0.5	SOIL	0.416	0.013 (J)	NA	NA	NA	NA	NA	0.103 (J)	NA	NA	—	—	NA
RE21-07-75687	21-27540	2–3	SOIL	0.0498	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75690	21-27542	0–0.5	SOIL	0.0748	—	NA	NA	NA	NA	NA	0.0208 (J)	NA	NA	—	—	NA
RE21-07-75692	21-27543	0–0.5	SOIL	0.156	—	NA	NA	NA	NA	NA	0.0392 (J)	NA	NA	—	—	NA
RE21-07-75693	21-27543	2–3	QBT3	0.0118 (J)	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Methylnaphthalene[2-]	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]
Construction Worker SSL[a]				**8910**	**8910**	**na**	**na**	**na**	**na**	**na**	**213**	**2810**[h]	**1120**	**1420**[d]	**158**	**na**
Industrial SSL[a]				**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**23.4**	**14500**[h]	**4700**	**3000**[e]	**241**	**na**
Residential SSL[a]				**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**1.48**	**2430**[h]	**409**	**230**[e]	**43**	**na**
RE21-07-75694	21-27544	2–3	QBT3	0.0504	—	NA	NA	NA	NA	NA	0.0123 (J)	—	—	—	—	NA
RE21-07-75696	21-27545	3–4	SOIL	4.6	0.355	NA	NA	NA	NA	NA	0.947 (J)	—	—	0.0745	0.173	NA
RE21-07-75697	21-27545	5–6	QBT3	0.11	—	NA	NA	NA	NA	NA	—	—	—	—	—	NA
RE21-07-75698	21-27546	1–2	SOIL	4.69	0.451	NA	NA	NA	NA	NA	1.07 (J)	—	—	0.116 (J)	0.355 (J)	NA
RE21-07-75699	21-27546	4–5	SOIL	0.354	0.0229 (J)	NA	NA	NA	NA	NA	0.157 (J)	—	—	—	—	NA
RE21-07-75700	21-27547	0.5–1.5	SOIL	2.67	0.174	NA	NA	NA	NA	NA	0.667 (J)	—	—	0.0534	0.16	NA
RE21-07-75701	21-27547	2.5–3.5	SOIL	1.78	0.288	NA	NA	NA	NA	NA	0.379 (J)	—	—	0.112	0.3	NA
MD21-09-8835	21-27547	7.5–8.5	SOIL	1.1	0.097 (J)	NA	NA	NA	NA	NA	0.16 (J)	NA	NA	—	—	NA
MD21-09-8836	21-605278	0–0.5	SOIL	0.71	—	NA	NA	NA	NA	NA	0.17 (J)	NA	NA	—	—	NA

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**7150**	**6680**	**0.0152**	**na**	**13400**	**743**[i]
Industrial SSL[a]				**na**	**20500**	**18300**	**0.00204**	**na**	**57700**	**3980**[i]
Residential SSL[a]				**na**	**1830**	**1720**	**0.00045**	**na**	**5270**	**814**[i]
RE21-07-75339	21-27439	0–0.5	SOIL	NA	0.0206 (J)	0.0293 (J)	NA	NA	—	—
RE21-07-75340	21-27439	3.5–4	SOIL	NA	0.0746	0.163	NA	NA	0.00092 (J)	—
RE21-07-75341	21-27439	5–5.5	SOIL	NA	0.0632	0.109	NA	NA	0.00515	—
RE21-07-75342	21-27440	3.5–4	SOIL	NA	0.0323 (J)	0.0813	NA	NA	0.0038	—
RE21-07-75343	21-27440	5–5.5	SOIL	NA	—	—	NA	NA	0.00163	—
RE21-07-75344	21-27441	3.5–4	SOIL	NA	0.0191 (J)	0.17	NA	NA	0.00268	—
RE21-07-75346	21-27442	3.5–4	SOIL	NA	1.54	2.44	NA	NA	0.00341	—
RE21-07-75347	21-27442	5–5.5	SOIL	NA	—	—	NA	NA	0.0028	—
RE21-07-75348	21-27443	3.5–4	SOIL	NA	0.0182 (J)	0.0429	NA	NA	0.00245	—
RE21-07-75349	21-27443	5.5–6	SOIL	NA	—	—	NA	NA	0.00149	—
RE21-07-75616	21-27514	10–11	QBT3	NA	0.0308 (J)	0.0377	NA	NA	—	—
RE21-07-75617	21-27514	15–16	QBT3	NA	0.332	0.471 (J)	NA	NA	—	—
RE21-07-75618	21-27514	20–21	QBT3	NA	0.519	0.659 (J)	NA	NA	—	—
MD21-09-8819	21-27514	25–26	QBT3	NA	0.16 (J)	0.16 (J)	NA	NA	NA	NA
RE21-07-3963	21-27515	15–16	QBT3	7.78E-07 (J)	NA	NA	1.89E-07 (J)	3.32E-07	NA	NA
RE21-07-75622	21-27516	2–3	SOIL	NA	0.0226 (J)	0.0346 (J)	NA	NA	—	—
RE21-07-75624	21-27516	6–7	QBT3	NA	—	—	NA	NA	—	—
RE21-07-75625	21-27517	0–0.5	SOIL	NA	—	0.105	NA	NA	NA	NA
RE21-07-75626	21-27517	2–2.5	SOIL	NA	—	0.179 (J)	NA	NA	0.00144	—
RE21-07-75627	21-27518	0–0.5	SOIL	NA	—	0.0246 (J)	NA	NA	NA	NA
RE21-07-75628	21-27518	2–2.5	SOIL	NA	—	—	NA	NA	0.00137	—
RE21-07-75629	21-27519	0–0.5	SOIL	NA	—	—	NA	NA	NA	NA
RE21-07-75630	21-27519	2–2.5	SOIL	NA	—	0.0798	NA	NA	—	—
RE21-07-75632	21-27520	4–5	SOIL	NA	0.908	1.03	NA	NA	—	—
RE21-07-75634	21-27521	4.5–5.5	SOIL	NA	0.0814	0.0815	NA	NA	—	—
RE21-07-75635	21-27522	5–6	SOIL	NA	0.309	0.337	NA	NA	0.000364 (J)	—
RE21-07-75636	21-27522	7–8	QBT3	NA	0.064	0.076	NA	NA	—	—

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**7150**	**6680**	**0.0152**	**na**	**13400**	**743**[i]
Industrial SSL[a]				**na**	**20500**	**18300**	**0.00204**	**na**	**57700**	**3980**[i]
Residential SSL[a]				**na**	**1830**	**1720**	**0.00045**	**na**	**5270**	**814**[i]
RE21-07-75637	21-27523	3–4	SOIL	NA	0.39	0.403	NA	NA	—	—
RE21-07-75638	21-27523	5–6	SOIL	NA	0.1	0.134 (J)	NA	NA	—	—
RE21-07-75639	21-27524	2–3	SOIL	NA	0.145	0.205	NA	NA	—	—
RE21-07-75640	21-27524	4–5	SOIL	NA	0.227	0.295	NA	NA	—	—
RE21-07-75641	21-27525	5–6	QBT3	NA	0.871	0.71	NA	NA	—	—
RE21-07-75642	21-27525	7–8	QBT3	NA	0.0846	0.0834	NA	NA	—	—
RE21-07-75643	21-27526	4–5	SOIL	NA	2.62	3.71	NA	NA	—	—
RE21-07-75644	21-27526	6–7	QBT3	NA	1	1.35	NA	NA	—	—
RE21-07-75663	21-27530	0–0.5	SOIL	NA	0.331	0.463	NA	NA	NA	NA
RE21-07-75664	21-27530	2–3	SOIL	NA	0.0971	0.0904	NA	NA	—	—
RE21-07-75665	21-27530	5–6	SOIL	NA	9.28	7.26	NA	NA	—	—
MD21-09-8834	21-27530	10–11	QBT3	NA	0.16 (J)	0.22 (J)	NA	NA	NA	NA
RE21-07-75672	21-27533	0–0.5	QBT3	NA	0.028 (J)	0.0601	NA	NA	NA	NA
RE21-07-75674	21-27534	0–0.5	SOIL	NA	0.972	1.21	NA	NA	NA	NA
RE21-07-75675	21-27534	2–3	SOIL	NA	0.0374	0.057	NA	NA	—	—
RE21-07-75676	21-27535	0–0.5	SOIL	NA	0.191	0.351	NA	NA	NA	NA
RE21-07-75677	21-27535	2–3	SOIL	NA	—	0.0162 (J)	NA	NA	—	—
RE21-07-75678	21-27536	0–0.5	SOIL	NA	0.415	0.673	NA	NA	NA	NA
RE21-07-75680	21-27537	0–0.5	SOIL	NA	0.27	0.318	NA	NA	NA	NA
RE21-07-75682	21-27538	0–0.5	SOIL	NA	0.293	0.603	NA	NA	NA	NA
RE21-07-75683	21-27538	2–3	SOIL	NA	—	—	NA	NA	0.000602 (J)	—
RE21-07-75684	21-27539	2–3	SOIL	NA	0.0346 (J)	0.0228 (J)	NA	NA	—	—
RE21-07-75686	21-27540	0–0.5	SOIL	NA	0.193	0.349	NA	NA	NA	NA
RE21-07-75687	21-27540	2–3	SOIL	NA	0.0218 (J)	0.0421	NA	NA	0.00178	0.000381 (J)
RE21-07-75690	21-27542	0–0.5	SOIL	NA	0.0237 (J)	0.0681	NA	NA	NA	NA
RE21-07-75692	21-27543	0–0.5	SOIL	NA	0.0742	0.136	NA	NA	NA	NA
RE21-07-75693	21-27543	2–3	QBT3	NA	—	—	NA	NA	0.000411 (J)	—

Table 6.10-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Phenanthrene	Pyrene	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**na**	**7150**	**6680**	**0.0152**	**na**	**13400**	**743**[i]
Industrial SSL[a]				**na**	**20500**	**18300**	**0.00204**	**na**	**57700**	**3980**[i]
Residential SSL[a]				**na**	**1830**	**1720**	**0.00045**	**na**	**5270**	**814**[i]
RE21-07-75694	21-27544	2–3	QBT3	NA	0.0253 (J)	0.0376	NA	NA	—	—
RE21-07-75696	21-27545	3–4	SOIL	NA	3.67	3.87 (J)	NA	NA	—	—
RE21-07-75697	21-27545	5–6	QBT3	NA	0.0735	0.098	NA	NA	—	—
RE21-07-75698	21-27546	1–2	SOIL	NA	4.19	4.66 (J)	NA	NA	—	—
RE21-07-75699	21-27546	4–5	SOIL	NA	0.268	0.374 (J)	NA	NA	—	—
RE21-07-75700	21-27547	0.5–1.5	SOIL	NA	1.85	2.75	NA	NA	—	—
RE21-07-75701	21-27547	2.5–3.5	SOIL	NA	1.89	1.36	NA	NA	—	—
MD21-09-8835	21-27547	7.5–8.5	SOIL	NA	0.81	0.63	NA	NA	NA	NA
MD21-09-8836	21-605278	0–0.5	SOIL	NA	0.36 (J)	0.62 (J)	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] na = Not available.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] — = Not detected.

[g] NA = Not analyzed.

[h] Isopropylbenzene used as a surrogate based on structural similarity.

[i] Xylenes used as a surrogate based on structural similarity.

Table 6.10-4
Radionuclides Detected or Detected above BVs/FVs at Consolidated Unit 21-024(I)-99

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**
RE21-07-75339	21-27439	0–0.5	SOIL	—[e]	—	—	0.214 (J-)	0.193801	—	—
RE21-07-75340	21-27439	3.5–4	SOIL	—	0.18	0.341 (J-)	0.439 (J-)	0.404098	—	—
RE21-07-75341	21-27439	5–5.5	SOIL	—	—	—	0.203 (J-)	0.84779	—	—
RE21-07-75342	21-27440	3.5–4	SOIL	—	—	—	0.049 (J-)	0.329753	—	—
RE21-07-75343	21-27440	5–5.5	SOIL	—	—	—	0.0967 (J-)	0.193216	—	—
RE21-07-75344	21-27441	3.5–4	SOIL	0.257	—	—	0.545 (J-)	0.19127	—	—
RE21-07-75345	21-27441	5–5.5	SOIL	—	—	—	—	0.298343	—	—
RE21-07-75346	21-27442	3.5–4	SOIL	—	—	—	0.0744 (J-)	0.679784	—	—
RE21-07-75347	21-27442	5–5.5	SOIL	—	—	—	—	0.291388	—	—
RE21-07-75348	21-27443	3.5–4	SOIL	—	—	—	0.0745 (J-)	0.353546	—	—
RE21-07-75349	21-27443	5.5–6	SOIL	—	—	0.0765 (J-)	0.0358 (J-)	0.615081	—	—
RE21-07-75616	21-27514	10–11	QBT3	—	—	—	0.139	0.146117	—	—
RE21-07-75617	21-27514	15–16	QBT3	—	—	—	1.17	0.123685	—	—
RE21-07-75618	21-27514	20–21	QBT3	0.0564	—	—	1.16	0.129763	—	—
MD21-09-8819	21-27514	25–26	QBT3	—	NA[f]	—	0.106	NA	NA	NA
RE21-07-75619	21-27515	10–11	QBT3	—	—	—	0.0472	0.051815	—	0.14
RE21-07-75620	21-27515	15–16	QBT3	—	—	—	0.0802	0.063777	—	—
RE21-07-75621	21-27515	20–21	QBT3	—	—	—	0.0356	0.146191	—	—
RE21-07-75622	21-27516	2–3	SOIL	0.217	—	0.0434	9.88	0.022133	—	—
RE21-07-75623	21-27516	4–5	QBT3	1.66	—	0.35	66	0.031319	—	—
RE21-07-75624	21-27516	6–7	QBT3	0.773	—	—	36.2	0.014476	—	—
RE21-07-75625	21-27517	0–0.5	SOIL	0.21	—	0.0528	0.924	—	2.61	—
RE21-07-75626	21-27517	2–2.5	SOIL	0.473	0.7	0.0775	1.94	0.025796	—	—
MD21-09-8824	21-27517	7–8	QBT3	—	—	—	0.137	NA	NA	NA
RE21-07-75627	21-27518	0–0.5	SOIL	0.0716	—	—	0.49	0.028763	—	—
RE21-07-75628	21-27518	2–2.5	SOIL	—	—	—	0.0695	0.026667	—	—
RE21-07-75629	21-27519	0–0.5	SOIL	—	—	—	0.174	0.062908	—	—
RE21-07-75630	21-27519	2–2.5	SOIL	—	—	—	0.179	0.060706	—	—
RE21-07-75632	21-27520	4–5	SOIL	—	—	—	0.174	0.121329	—	—
RE21-07-75634	21-27521	4.5–5.5	SOIL	—	—	—	0.064	0.091728	—	—

Table 6.10-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**
RE21-07-75635	21-27522	5–6	SOIL	—	—	—	0.515	—	—	—
RE21-07-75636	21-27522	7–8	QBT3	—	—	—	0.226	—	—	—
RE21-07-75637	21-27523	3–4	SOIL	—	—	—	0.218	0.045097	—	—
RE21-07-75638	21-27523	5–6	SOIL	—	—	—	0.189	0.130598	—	—
RE21-07-75639	21-27524	2–3	SOIL	—	—	—	0.871	0.043065	—	—
RE21-07-75640	21-27524	4–5	SOIL	—	—	—	0.331	—	—	—
RE21-07-75641	21-27525	5–6	QBT3	—	—	—	0.0889	0.105094	—	—
RE21-07-75642	21-27525	7–8	QBT3	—	—	—	0.09	0.153594	—	—
RE21-07-75643	21-27526	4–5	SOIL	3.44	—	—	103	0.091445	—	—
RE21-07-75644	21-27526	6–7	QBT3	0.0532	—	—	3.9	0.110011	—	—
RE21-07-75663	21-27530	0–0.5	SOIL	0.0611	—	—	0.494	—	—	—
RE21-07-75664	21-27530	2–3	SOIL	—	—	—	0.0813	—	—	—
RE21-07-75665	21-27530	5–6	SOIL	—	—	—	0.252	0.041611	—	—
RE21-07-75672	21-27533	0–0.5	QBT3	0.108	—	4.9	0.989	0.037559	—	0.11
RE21-07-75673	21-27533	2–3	QBT3	0.0536	—	0.104	0.351	0.010864	—	—
RE21-07-75675	21-27534	2–3	SOIL	—	—	—	0.157	0.034226	—	—
RE21-07-75676	21-27535	0–0.5	SOIL	0.0579	—	—	0.244	0.010183	—	—
RE21-07-75677	21-27535	2–3	SOIL	—	—	—	0.215	—	—	—
RE21-07-75678	21-27536	0–0.5	SOIL	0.0631	—	0.084	0.219	—	—	—
RE21-07-75679	21-27536	2–3	QBT3	—	—	—	0.034	—	—	—
RE21-07-75680	21-27537	0–0.5	SOIL	0.0471	—	0.135	0.156	—	—	—
RE21-07-75682	21-27538	0–0.5	SOIL	0.0636	—	0.0327	0.691	0.113016	—	—
RE21-07-75683	21-27538	2–3	SOIL	—	—	—	0.0233	0.045188	—	—
RE21-07-75684	21-27539	2–3	SOIL	0.0496	—	—	0.695	0.04014	—	—
RE21-07-75685	21-27539	5–6	QBT3	—	—	—	0.0358	0.020975	—	—
RE21-07-75686	21-27540	0–0.5	SOIL	0.22	—	—	0.994	—	—	—
RE21-07-75687	21-27540	2–3	SOIL	—	—	—	0.244	0.01327	—	—
RE21-07-75690	21-27542	0–0.5	SOIL	0.0398	—	—	0.209	—	3.72	0.28
RE21-07-75691	21-27542	2–3	QBT3	—	—	—	0.149	—	—	—
RE21-07-75692	21-27543	0–0.5	SOIL	0.22	—	0.109	2.16	—	—	—
RE21-07-75693	21-27543	2–3	QBT3	0.0381	—	—	0.296	—	—	—

Table 6.10-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**
RE21-07-75694	21-27544	2–3	QBT3	—	—	—	0.0664	0.046545	—	—
RE21-07-75695	21-27544	4–5	QBT3	—	—	—	—	0.022532	—	—
RE21-07-75696	21-27545	3–4	SOIL	0.0436	—	—	2.86	0.254764	—	—
RE21-07-75697	21-27545	5–6	QBT3	0.0505	—	—	0.296	2.06204	—	—
RE21-07-75698	21-27546	1–2	SOIL	—	—	—	0.389	0.026311	—	—
RE21-07-75699	21-27546	4–5	SOIL	—	—	—	0.268	0.063433	—	—
RE21-07-75700	21-27547	0.5–1.5	SOIL	—	—	—	0.178	0.031992	—	—
RE21-07-75701	21-27547	2.5–3.5	SOIL	—	—	—	—	0.10421	—	—
MD21-09-8820	21-605272	0–0.5	SOIL	0.375	—	0.099	6.23	NA	NA	NA
MD21-09-8821	21-605272	7–8	QBT3	—	—	—	0.327	NA	NA	NA
MD21-09-8822	21-605273	0–0.5	SOIL	0.0309	—	—	0.428	NA	NA	NA
MD21-09-8823	21-605273	7–8	QBT3	—	—	—	0.301	NA	NA	NA
MD21-09-8825	21-605274	0–0.5	SOIL	0.078	NA	0.034	0.906	NA	NA	NA
MD21-09-8826	21-605275	0–0.5	QBT3	0.053 (J+)	NA	0.034	0.27	NA	NA	NA
MD21-09-8830	21-605276	0–0.5	SOIL	NA	NA	0.06	0.251	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.11-1
Samples Collected and Analyses Requested at SWMU 21-024(n)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-3114	21-600667	0–0.5	ALLH	07-178	07-179	07-179	07-179	07-179	07-179	07-179	07-178	07-178	—*	—	07-177	—	—	07-178	07-178
RE21-07-3115	21-600667	2–3	QBT3	07-178	07-179	07-179	07-179	07-179	07-179	07-179	07-178	07-178	—	07-177	07-177	—	—	07-178	07-178
RE21-07-3116	21-600668	0–0.5	ALLH	07-178	07-179	07-179	07-179	07-179	07-179	07-179	07-178	07-178	—	—	07-177	—	—	07-178	07-178
RE21-07-3117	21-600668	2–3	ALLH	07-178	07-179	07-179	07-179	07-179	07-179	07-179	07-178	07-178	—	07-177	07-177	—	—	07-178	07-178
RE21-07-3118	21-600669	0–0.5	ALLH	07-178	07-179	07-179	07-179	07-179	07-179	07-179	07-178	07-178	—	—	07-177	—	—	07-178	07-178
RE21-07-3119	21-600669	2–3	QBT3	07-178	07-179	07-179	07-179	07-179	07-179	07-179	07-178	07-178	—	07-177	07-177	—	—	07-178	07-178
MD21-09-8765	21-600669	7–8	ALLH	—	—	—	—	—	09-2286	—	—	—	—	09-2286	—	—	—	—	—
RE21-07-3120	21-600670	0–0.5	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	—	07-180	—	—	07-181	07-181
RE21-07-3121	21-600670	2–3	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	07-180	07-180	—	—	07-181	07-181
RE21-07-3122	21-600671	0–0.5	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	—	07-180	—	—	07-181	07-181
RE21-07-3123	21-600671	2–3	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	07-180	07-180	—	—	07-181	07-181
RE21-07-3124	21-600672	0–0.5	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	—	07-180	—	—	07-181	07-181
RE21-07-3125	21-600672	2–3	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	07-180	07-180	—	—	07-181	07-181
RE21-07-3126	21-600673	0–0.5	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	—	07-180	—	—	07-181	07-181
RE21-07-3127	21-600673	2–3	QBT3	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	07-180	07-180	—	—	07-181	07-181
RE21-07-3128	21-600674	0–0.5	ALLH	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	—	07-180	—	—	07-181	07-181
RE21-07-3129	21-600674	2–3	QBT3	07-181	07-182	07-182	07-182	07-182	07-182	07-182	07-181	07-181	—	07-180	07-180	—	—	07-181	07-181
RE21-07-3130	21-600675	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3131	21-600675	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3132	21-600676	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3133	21-600676	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3188	21-600676	2–3	QBT3	—	—	—	—	—	—	—	—	—	07-247	—	—	07-248	07-247	—	—
RE21-07-3134	21-600677	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	—	—	—	07-184	07-184
RE21-07-3135	21-600677	2–3	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3136	21-600678	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3137	21-600678	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3138	21-600679	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3139	21-600679	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3140	21-600680	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3141	21-600680	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3142	21-600681	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3143	21-600681	2–3	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3144	21-600682	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3145	21-600682	2–3	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
MD21-09-8759	21-600682	7–8	QBT3	—	—	—	—	—	—	—	09-2317	—	—	—	—	—	—	—	—

Table 6.11-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-3146	21-600683	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3147	21-600683	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3148	21-600684	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3149	21-600684	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
MD21-09-8763	21-600684	7–8	QBT3	—	—	—	—	—	—	—	09-2286	—	—	—	09-2286	—	—	—	—
RE21-07-3150	21-600685	0–0.5	ALLH	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	—	07-183	—	—	07-184	07-184
RE21-07-3151	21-600685	2–3	QBT3	07-184	07-185	07-185	07-185	07-185	07-185	07-185	07-184	07-184	—	07-183	07-183	—	—	07-184	07-184
RE21-07-3152	21-600686	0–0.5	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	—	07-189	—	—	07-190	07-190
RE21-07-3153	21-600686	2–3	QBT3	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	07-189	07-189	—	—	07-190	07-190
RE21-07-3154	21-600687	0–0.5	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	—	07-189	—	—	07-190	07-190
RE21-07-3155	21-600687	2–3	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	07-189	07-189	—	—	07-190	07-190
RE21-07-3156	21-600688	0–0.5	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	—	07-189	—	—	07-190	07-190
RE21-07-3157	21-600688	2–3	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	07-189	07-189	—	—	07-190	07-190
RE21-07-3158	21-600689	0–0.5	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	—	07-189	—	—	07-190	07-190
RE21-07-3159	21-600689	2–3	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	07-189	07-189	—	—	07-190	07-190
MD21-09-8769	21-600689	7–8	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-2286	—	—	—	—
RE21-07-3160	21-600690	0–0.5	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	—	07-189	—	—	07-190	07-190
RE21-07-3161	21-600690	2–3	QBT3	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	07-189	07-189	—	—	07-190	07-190
RE21-07-3162	21-600691	0–0.5	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	—	07-189	—	—	07-190	07-190
RE21-07-3163	21-600691	2–3	QBT3	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	07-189	07-189	—	—	07-190	07-190
RE21-07-3164	21-600692	0–0.5	ALLH	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	—	07-189	—	—	07-190	07-190
RE21-07-3165	21-600692	2–3	QBT3	07-190	07-191	07-191	07-191	07-191	07-191	07-191	07-190	07-190	—	07-189	07-189	—	—	07-190	07-190
RE21-07-3169	21-600694	0–0.5	ALLH	07-221	07-222	07-222	07-222	07-222	07-222	07-222	07-221	07-221	—	—	07-220	—	—	07-221	07-221
RE21-07-3170	21-600694	2–3	ALLH	07-221	07-222	07-222	07-222	07-222	07-222	07-222	07-221	07-221	—	07-220	07-220	—	—	07-221	07-221
RE21-07-3171	21-600694	5–6	QBT3	07-221	07-222	07-222	07-222	07-222	07-222	07-222	07-221	07-221	—	07-220	07-220	—	—	07-221	07-221
RE21-07-3172	21-600695	0–0.5	ALLH	07-221	07-222	07-222	07-222	07-222	07-222	07-222	07-221	07-221	—	—	07-220	—	—	07-221	07-221
RE21-07-3173	21-600695	2–3	ALLH	07-221	07-222	07-222	07-222	07-222	07-222	07-222	07-221	07-221	—	07-220	07-220	—	—	07-221	07-221
RE21-07-3174	21-600695	5–6	QBT3	07-221	07-222	07-222	07-222	07-222	07-222	07-222	07-221	07-221	—	07-220	07-220	—	—	07-221	07-221
MD21-09-8760	21-600695	7–8	QBT3	—	—	—	—	—	—	09-2286	09-2286	—	—	—	—	—	—	—	—
RE21-07-3265	21-600710	0–0.5	ALLH	07-193	07-194	07-194	07-194	07-194	07-194	07-194	07-193	07-193	—	—	07-192	—	—	07-193	07-193
RE21-07-3266	21-600710	2–3	QBT3	07-193	07-194	07-194	07-194	07-194	07-194	07-194	07-193	07-193	—	07-192	07-192	—	—	07-193	07-193
RE21-07-3267	21-600711	0–0.5	ALLH	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	—	07-207	—	—	07-208	07-208
RE21-07-3268	21-600711	2–3	ALLH	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	07-207	07-207	—	—	07-208	07-208
RE21-07-3269	21-600712	0–0.5	ALLH	07-196	07-197	07-197	07-197	07-197	07-197	07-197	07-196	07-196	—	—	07-195	—	—	07-196	07-196
RE21-07-3270	21-600712	2–3	ALLH	07-196	07-197	07-197	07-197	07-197	07-197	07-197	07-196	07-196	—	07-195	07-195	—	—	07-196	07-196

Table 6.11-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-3271	21-600713	0–0.5	ALLH	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	—	07-207	—	—	07-208	07-208
RE21-07-3272	21-600713	2–3	QBT3	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	07-207	07-207	—	—	07-208	07-208
RE21-07-3273	21-600714	0–0.5	ALLH	07-196	07-197	07-197	07-197	07-197	07-197	07-197	07-196	07-196	—	—	07-195	—	—	07-196	07-196
RE21-07-3274	21-600714	2–3	QBT3	07-196	07-197	07-197	07-197	07-197	07-197	07-197	07-196	07-196	—	07-195	07-195	—	—	07-196	07-196
RE21-07-3275	21-600715	0–0.5	ALLH	07-196	07-197	07-197	07-197	07-197	07-197	07-197	07-196	07-196	—	—	07-195	—	—	07-196	07-196
RE21-07-3276	21-600715	2–3	QBT3	07-196	07-197	07-197	07-197	07-197	07-197	07-197	07-196	07-196	—	07-195	07-195	—	—	07-196	07-196
RE21-07-3277	21-600716	0–0.5	ALLH	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	—	07-207	—	—	07-208	07-208
RE21-07-3278	21-600716	2–3	QBT3	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	07-207	07-207	—	—	07-208	07-208
RE21-07-3279	21-600717	0–0.5	ALLH	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	—	07-207	—	—	07-208	07-208
RE21-07-3280	21-600717	2–3	QBT3	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	07-207	07-207	—	—	07-208	07-208
RE21-07-3281	21-600718	0–0.5	ALLH	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	—	07-207	—	—	07-208	07-208
RE21-07-3282	21-600718	2–3	QBT3	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	07-207	07-207	—	—	07-208	07-208
RE21-07-3283	21-600719	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3284	21-600719	2–3	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3285	21-600720	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3286	21-600720	2–3	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3287	21-600721	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3288	21-600721	2–3	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3289	21-600722	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3290	21-600722	2–3	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3291	21-600723	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3292	21-600723	2–3	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3293	21-600724	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3294	21-600724	2–3	QBT3	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3295	21-600725	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3296	21-600725	2–3	QBT3	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3297	21-600726	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3298	21-600726	2–3	QBT3	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3317	21-600735	0–0.5	ALLH	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	—	07-207	—	—	07-208	07-208
RE21-07-3318	21-600735	2–3	QBT3	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	07-207	07-207	—	—	07-208	07-208
RE21-07-3319	21-600735	5–6	QBT3	07-208	07-209	07-209	07-209	07-209	07-209	07-209	07-208	07-208	—	07-207	07-207	—	—	07-208	07-208
MD21-09-8768	21-600735	7–8	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-2317	—	—	—	—
RE21-07-3320	21-600736	0–0.5	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	—	07-212	—	—	07-213	07-213
RE21-07-3321	21-600736	2–3	ALLH	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213
RE21-07-3322	21-600736	5–6	QBT3	07-213	07-214	07-214	07-214	07-214	07-214	07-214	07-213	07-213	—	07-212	07-212	—	—	07-213	07-213

Table 6.11-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosive	Total Cyanide	pH
RE21-07-3323	21-600737	0–0.5	ALLH	07-218	07-219	07-219	07-219	07-219	07-219	07-219	07-218	07-218	—	—	07-217	—	—	07-218	07-218
RE21-07-3324	21-600737	2–3	QBT3	07-218	07-219	07-219	07-219	07-219	07-219	07-219	07-218	07-218	—	07-217	07-217	—	—	07-218	07-218
RE21-07-3325	21-600737	5–6	QBT3	07-218	07-219	07-219	07-219	07-219	07-219	07-219	07-218	07-218	—	07-217	07-217	—	—	07-218	07-218
RE21-07-6248	21-601304	2.5–3.5	ALLH	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6249	21-601304	4.5–5.5	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6250	21-601305	3–4	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6251	21-601305	5–6	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
MD21-09-8766	21-601305	10–11	QBT3	—	—	—	—	—	—	—	09-2282	—	—	—	—	—	—	—	—
RE21-07-6252	21-601306	1–2	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6253	21-601306	3–4	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6254	21-601307	3.5–4.5	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6255	21-601307	5.5–6.5	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6256	21-601308	3–4	ALLH	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	—	08-491	08-491	—	—	08-491	08-491
RE21-07-6257	21-601308	5–6	QBT3	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	—	08-491	08-491	—	—	08-491	08-491
RE21-07-6258	21-601309	3.5–4.5	QBT3	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	—	08-491	08-491	—	—	08-491	08-491
RE21-07-6259	21-601309	5.5–6.5	QBT3	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	08-491	—	08-491	08-491	—	—	08-491	08-491
RE21-07-6260	21-601310	6–7	QBT3	08-544	08-545	08-545	08-545	08-545	08-545	08-545	08-544	08-544	—	08-543	08-543	—	—	08-544	08-544
RE21-07-6261	21-601310	8–9	QBT3	08-544	08-545	08-545	08-545	08-545	08-545	08-545	08-544	08-544	—	08-543	08-543	—	—	08-544	08-544
RE21-07-6262	21-601311	6–7	QBT3	08-544	08-545	08-545	08-545	08-545	08-545	08-545	08-544	08-544	—	08-543	08-543	—	—	08-544	08-544
RE21-07-6263	21-601311	8–9	QBT3	08-544	08-545	08-545	08-545	08-545	08-545	08-545	08-544	08-544	—	08-543	08-543	—	—	08-544	08-544
RE21-07-6264	21-601312	4–5	QBT3	08-544	08-545	08-545	08-545	08-545	08-545	08-545	08-544	08-544	—	08-543	08-543	—	—	08-544	08-544
RE21-07-6265	21-601312	6–7	QBT3	08-544	08-545	08-545	08-545	08-545	08-545	08-545	08-544	08-544	—	08-543	08-543	—	—	08-544	08-544
MD21-09-8771	21-601312	11–12	QBT3	—	—	—	—	—	—	—	09-2317	—	—	—	—	—	—	—	—
RE21-07-6270	21-601315	3–4	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6271	21-601315	8–9	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
RE21-07-6272	21-601315	13–14	QBT3	08-482	08-483	08-483	08-483	08-483	08-483	08-483	08-482	08-482	—	08-481	08-481	—	—	08-482	08-482
MD21-09-8758	21-605251	0–0.5	ALLH	—	—	—	—	09-2286	09-2286	—	—	—	—	—	—	—	—	—	—
MD21-09-8761	21-605252	0–0.5	ALLH	—	—	—	—	09-2317	—	09-2317	09-2317	—	—	—	—	—	—	—	—
MD21-09-8762	21-605252	4–5	QBT3	—	—	—	—	09-2317	—	09-2317	09-2317	—	—	—	—	—	—	—	—
MD21-09-8764	21-605253	0–0.5	ALLH	—	—	—	—	—	09-2317	—	—	—	—	—	—	—	—	—	—
MD21-09-8767	21-605254	0–0.5	ALLH	—	—	—	—	—	—	—	09-2286	—	—	—	—	—	—	—	—
MD21-09-8770	21-605255	7–8	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-2286	—	—	—	—
MD21-09-12458	21-608021	0–0.5	ALLH	—	—	—	—	—	09-3253	—	—	—	—	—	—	—	—	—	—
MD21-10-4657	21-609833	0–0.5	ALLH	—	—	—	—	—	10-744	—	—	—	—	—	—	—	—	—	—
MD21-11-24246	21-614573	0–0.5	ALLH	—	—	—	—	—	11-3068	11-3068	—	—	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.11-2
Inorganic Chemicals above BVs at SWMU 21-024(n)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Iron	Lead
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**14500**	**11.2**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**21500**	**22.3**
Construction Worker SSL[b]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na**[c]	**465000**[d]	**36.6**[e]	**12400**	**186**	**217000**	**800**
Industrial SSL[b]				**1130000**	**454**	**18**	**223000**	**2260**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**681**	**795000**	**800**
Residential SSL[b]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**46.9**	**54800**	**400**
RE21-07-3114	21-600667	0–0.5	SOIL	—[g]	—	—	—	—	0.535 (U)	—	—	—	—	0.61 (J)	—	—
RE21-07-3115	21-600667	2–3	QBT3	—	—	—	—	—	—	—	10	—	—	—	—	—
RE21-07-3116	21-600668	0–0.5	SOIL	—	—	—	—	—	0.554 (U)	—	—	—	—	—	—	—
RE21-07-3117	21-600668	2–3	SOIL	—	—	—	—	—	0.525 (U)	—	—	—	—	—	—	—
RE21-07-3118	21-600669	0–0.5	SOIL	—	—	—	—	—	0.567 (U)	7210	—	—	—	—	—	—
RE21-07-3119	21-600669	2–3	QBT3	—	—	3.5	99	—	—	2630	48.1	3.2	10.9	—	—	12.4
RE21-07-3120	21-600670	0–0.5	SOIL	—	—	—	—	—	0.529 (U)	—	—	—	—	—	—	—
RE21-07-3121	21-600670	2–3	SOIL	—	—	—	—	—	0.581 (U)	—	106	—	15.1	—	—	—
RE21-07-3122	21-600671	0–0.5	SOIL	—	—	—	—	—	0.599 (U)	—	23.7	—	—	—	—	—
RE21-07-3123	21-600671	2–3	SOIL	—	—	—	—	—	0.533 (U)	—	45.4	—	—	—	—	—
RE21-07-3124	21-600672	0–0.5	SOIL	—	—	—	—	—	0.59 (U)	—	—	—	—	—	—	—
RE21-07-3125	21-600672	2–3	SOIL	—	—	—	—	—	0.544 (U)	—	—	—	—	—	—	—
RE21-07-3126	21-600673	0–0.5	SOIL	—	—	—	—	—	0.577 (U)	—	—	—	—	—	—	—
RE21-07-3127	21-600673	2–3	QBT3	—	—	—	64.5	—	—	2410	21.9	—	6.87	—	—	—
RE21-07-3128	21-600674	0–0.5	SOIL	—	—	—	—	—	0.57 (U)	—	—	—	—	—	—	—
RE21-07-3129	21-600674	2–3	QBT3	—	—	—	—	—	—	—	16.6	—	—	—	—	—
RE21-07-3130	21-600675	0–0.5	SOIL	—	—	—	—	—	0.541 (U)	—	—	—	—	—	—	—
RE21-07-3131	21-600675	2–3	QBT3	—	—	—	—	—	—	—	24.9	—	5.39	—	—	—
RE21-07-3132	21-600676	0–0.5	SOIL	—	—	—	—	—	0.557 (U)	—	—	—	—	—	—	—
RE21-07-3133	21-600676	2–3	QBT3	—	—	—	—	—	—	—	26.1	—	17.3	—	—	12.7
RE21-07-3134	21-600677	0–0.5	SOIL	—	—	—	—	—	0.536 (U)	—	—	—	18	—	—	—
RE21-07-3135	21-600677	2–3	SOIL	—	—	—	—	—	0.539 (U)	—	21.5	—	—	—	—	—
RE21-07-3136	21-600678	0–0.5	SOIL	—	—	—	—	—	0.541 (U)	—	—	—	—	—	—	—
RE21-07-3137	21-600678	2–3	QBT3	—	—	2.9	113	—	—	—	26.4	—	18.5	—	—	17.5
RE21-07-3138	21-600679	0–0.5	SOIL	—	—	—	—	—	0.531 (U)	—	—	—	—	—	—	—
RE21-07-3139	21-600679	2–3	QBT3	—	—	4.7	71.9	—	—	—	149	—	26.9	—	—	16.3
RE21-07-3140	21-600680	0–0.5	SOIL	—	—	—	—	—	0.5 (U)	8860	—	—	—	—	—	—
RE21-07-3141	21-600680	2–3	QBT3	—	—	3.8	110	—	—	—	14	4.4	15.5	—	—	17.4
RE21-07-3142	21-600681	0–0.5	SOIL	—	—	—	—	—	0.493 (U)	—	—	—	—	—	—	—
RE21-07-3143	21-600681	2–3	SOIL	—	—	—	—	—	0.587 (U)	—	28.5	—	—	—	—	—
RE21-07-3144	21-600682	0–0.5	SOIL	—	—	11	—	—	1.12	—	289	—	438	—	—	369

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Iron	Lead
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**14500**	**11.2**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**21500**	**22.3**
Construction Worker SSL[b]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na**[c]	**465000**[d]	**36.6**[e]	**12400**	**186**	**217000**	**800**
Industrial SSL[b]				**1130000**	**454**	**18**	**223000**	**2260**	**897**	**na**	**1700000**[d]	**350**[f]	**45400**	**681**	**795000**	**800**
Residential SSL[b]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000**[d]	**23**[f]	**3130**	**46.9**	**54800**	**400**
RE21-07-3145	21-600682	2–3	SOIL	—	—	—	—	—	—	—	341	—	93.9	—	—	41.3
MD21-09-8759	21-600682	7–8	QBT3	NA[h]	NA	NA	NA	NA	NA	NA	62 (J-)	NA	NA	NA	NA	NA
RE21-07-3146	21-600683	0–0.5	SOIL	—	—	—	—	—	0.545 (U)	—	19.7	—	22.2	—	—	23.8
RE21-07-3147	21-600683	2–3	QBT3	—	—	4.1	57.5	—	—	—	22.5	—	11.2	—	—	—
RE21-07-3148	21-600684	0–0.5	SOIL	—	—	—	—	—	0.541 (U)	—	—	—	—	—	—	—
RE21-07-3149	21-600684	2–3	QBT3	—	—	—	—	—	—	—	20.8	—	43.8	—	—	54.5
RE21-07-3150	21-600685	0–0.5	SOIL	—	—	—	—	—	0.552 (U)	—	—	15	—	—	—	—
RE21-07-3151	21-600685	2–3	QBT3	—	—	—	—	—	—	—	11.7	—	—	—	—	—
RE21-07-3152	21-600686	0–0.5	SOIL	—	—	—	—	—	0.54 (U)	—	—	—	—	—	—	—
RE21-07-3153	21-600686	2–3	QBT3	9660	—	3.5	94.2	—	—	—	12.3	—	6.54	—	—	—
RE21-07-3154	21-600687	0–0.5	SOIL	—	—	—	—	—	0.504 (U)	—	—	—	—	—	—	—
RE21-07-3155	21-600687	2–3	SOIL	—	—	—	—	—	0.54 (U)	—	—	—	—	—	—	—
RE21-07-3156	21-600688	0–0.5	SOIL	—	—	—	—	—	0.521 (U)	—	—	—	15.8	—	—	—
RE21-07-3157	21-600688	2–3	SOIL	—	—	—	—	—	0.54 (U)	—	—	—	—	—	—	—
RE21-07-3158	21-600689	0–0.5	SOIL	—	—	—	—	—	0.538 (U)	—	—	—	—	—	—	—
RE21-07-3159	21-600689	2–3	SOIL	—	—	—	—	—	0.542 (U)	—	21	—	—	—	—	—
RE21-07-3160	21-600690	0–0.5	SOIL	—	—	—	—	—	0.53 (U)	—	—	—	—	—	—	—
RE21-07-3161	21-600690	2–3	QBT3	—	—	3.3	—	—	—	—	10.9	—	—	—	—	—
RE21-07-3162	21-600691	0–0.5	SOIL	—	—	—	—	—	0.525 (U)	—	—	—	22.4	—	—	—
RE21-07-3163	21-600691	2–3	QBT3	7470	—	3.5	73.4	—	—	—	12.6	—	11.7	—	—	—
RE21-07-3164	21-600692	0–0.5	SOIL	—	—	—	—	—	—	—	21	—	—	—	—	—
RE21-07-3165	21-600692	2–3	QBT3	—	—	3.5	57.7	—	—	—	25.2	—	—	—	—	—
RE21-07-3169	21-600694	0–0.5	SOIL	—	—	—	—	—	0.524 (U)	—	25.1	—	21.7	—	—	—
RE21-07-3170	21-600694	2–3	SOIL	—	—	17	—	—	—	—	27.2	—	43.9	—	—	—
RE21-07-3171	21-600694	5–6	QBT3	—	—	3	46.8 (J)	—	—	—	28.7	—	16.8	—	—	12.7 (J)
RE21-07-3172	21-600695	0–0.5	SOIL	—	—	—	—	—	0.551 (U)	—	—	—	17.4	—	—	—
RE21-07-3173	21-600695	2–3	SOIL	—	—	—	—	—	0.538 (U)	—	43.6	—	—	—	—	—
RE21-07-3174	21-600695	5–6	QBT3	7600 (J+)	—	3.3	80.5 (J)	1.48	—	2460	55	—	10.4	—	—	—
MD21-09-8760	21-600695	7–8	QBT3	NA	NA	NA	NA	NA	NA	NA	24 (J-)	NA	NA	NA	NA	NA
RE21-07-3265	21-600710	0–0.5	SOIL	—	—	—	—	—	0.512 (U)	—	—	—	—	—	—	—
RE21-07-3266	21-600710	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-3267	21-600711	0–0.5	SOIL	—	—	—	—	—	0.541 (U)	—	—	—	—	—	—	—

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Iron	Lead
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**14500**	**11.2**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**21500**	**22.3**
Construction Worker SSL[b]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na[c]**	**465000[d]**	**36.6[e]**	**12400**	**186**	**217000**	**800**
Industrial SSL[b]				**1130000**	**454**	**18**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**681**	**795000**	**800**
Residential SSL[b]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**46.9**	**54800**	**400**
RE21-07-3268	21-600711	2–3	SOIL	—	—	—	—	—	0.556 (U)	—	—	—	—	—	—	—
RE21-07-3269	21-600712	0–0.5	SOIL	—	—	—	—	—	0.58 (U)	—	—	—	—	—	—	43.9
RE21-07-3270	21-600712	2–3	SOIL	—	—	—	—	—	0.553 (U)	—	—	—	—	—	—	—
RE21-07-3271	21-600713	0–0.5	SOIL	—	—	—	—	—	0.52 (U)	—	—	—	—	—	—	—
RE21-07-3272	21-600713	2–3	QBT3	—	—	—	—	—	—	—	13.8	—	—	—	—	16
RE21-07-3273	21-600714	0–0.5	SOIL	—	—	—	—	—	0.547 (U)	—	—	—	—	—	—	26.1
RE21-07-3274	21-600714	2–3	QBT3	—	—	—	69.6	—	—	—	9.49	—	—	—	—	—
RE21-07-3275	21-600715	0–0.5	SOIL	—	—	—	—	—	0.561 (U)	—	—	—	—	—	—	37.4
RE21-07-3276	21-600715	2–3	QBT3	—	—	—	—	—	—	—	8.33	—	—	—	—	—
RE21-07-3277	21-600716	0–0.5	SOIL	—	—	—	—	—	0.533 (U)	—	—	—	—	—	—	—
RE21-07-3278	21-600716	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-3279	21-600717	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-3280	21-600717	2–3	QBT3	—	—	—	—	—	—	—	10.1	—	—	—	—	—
RE21-07-3281	21-600718	0–0.5	SOIL	—	—	—	—	—	0.572 (U)	—	—	—	—	—	21700	—
RE21-07-3282	21-600718	2–3	QBT3	—	—	—	—	—	—	—	7.28	—	—	—	—	—
RE21-07-3283	21-600719	0–0.5	SOIL	—	—	—	—	—	3.9	6190 (J)	48.9 (J)	—	156	—	—	42.8
RE21-07-3284	21-600719	2–3	SOIL	—	—	—	—	—	0.525 (U)	—	23.8 (J)	—	23.7	—	—	—
RE21-07-3285	21-600720	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	21.4	0.663	—	—
RE21-07-3286	21-600720	2–3	SOIL	—	—	—	—	—	0.547 (U)	—	—	—	—	—	—	—
RE21-07-3287	21-600721	0–0.5	SOIL	—	—	—	—	—	0.59 (U)	—	—	—	—	—	—	26.5
RE21-07-3288	21-600721	2–3	SOIL	—	—	—	—	—	0.562 (U)	—	—	—	—	—	—	—
RE21-07-3289	21-600722	0–0.5	SOIL	—	—	—	—	—	0.715	—	79.7 (J)	—	84.9	—	—	31.9
RE21-07-3290	21-600722	2–3	SOIL	—	—	—	—	—	0.546 (U)	—	30.7 (J)	—	18.8	—	—	—
RE21-07-3291	21-600723	0–0.5	SOIL	—	—	—	—	—	0.511 (U)	—	—	—	—	—	—	—
RE21-07-3292	21-600723	2–3	SOIL	—	—	—	—	—	0.524 (U)	—	—	—	—	—	—	—
RE21-07-3293	21-600724	0–0.5	SOIL	—	—	—	—	—	0.522 (U)	—	—	—	—	—	—	—
RE21-07-3294	21-600724	2–3	QBT3	—	—	—	—	—	—	—	7.91 (J)	—	—	—	—	—
RE21-07-3295	21-600725	0–0.5	SOIL	—	—	—	—	—	0.566 (U)	—	—	—	—	—	—	—
RE21-07-3296	21-600725	2–3	QBT3	—	—	4	80.4 (J)	—	—	2250 (J)	22.8 (J)	—	5.96	—	—	—
RE21-07-3297	21-600726	0–0.5	SOIL	—	—	—	—	—	0.492 (U)	—	—	—	—	—	—	—
RE21-07-3298	21-600726	2–3	QBT3	—	—	—	83.3 (J)	—	—	3010 (J)	16.5 (J)	—	—	—	—	11.7
RE21-07-3317	21-600735	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	25.9

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Beryllium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Iron	Lead
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.8**	**46**	**1.21**	**1.63**	**2200**	**7.14**	**3.1**	**4.66**	**0.5**	**14500**	**11.2**
Soil BV[a]				**29200**	**0.83**	**8.2**	**295**	**1.83**	**0.4**	**6120**	**19.3**	**8.6**	**14.7**	**0.5**	**21500**	**22.3**
Construction Worker SSL[b]				**40700**	**124**	**53**	**4350**	**144**	**277**	**na[c]**	**465000[d]**	**36.6[e]**	**12400**	**186**	**217000**	**800**
Industrial SSL[b]				**1130000**	**454**	**18**	**223000**	**2260**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**681**	**795000**	**800**
Residential SSL[b]				**78000**	**31.3**	**3.9**	**15600**	**156**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**46.9**	**54800**	**400**
RE21-07-3318	21-600735	2–3	QBT3	11000 (J+)	—	4.2	104	—	—	—	19.1	5.7	6.25	—	14900	20.6
RE21-07-3319	21-600735	5–6	QBT3	—	—	—	62.2	—	—	—	22.4	—	—	—	—	—
RE21-07-3320	21-600736	0–0.5	SOIL	—	26.1 (J-)	—	—	—	2.29	—	62.8 (J)	—	123	—	—	77.5
RE21-07-3321	21-600736	2–3	SOIL	—	—	—	—	—	0.528 (U)	—	46.1 (J)	—	55.4	—	—	28.2
RE21-07-3322	21-600736	5–6	QBT3	—	—	3.1	—	—	—	—	25.1 (J)	—	24	—	—	23.3
RE21-07-3323	21-600737	0–0.5	SOIL	—	—	—	—	—	0.555 (U)	—	—	—	—	—	—	—
RE21-07-3324	21-600737	2–3	QBT3	—	—	—	—	—	—	—	—	—	8.67	—	—	—
RE21-07-3325	21-600737	5–6	QBT3	—	—	—	—	—	—	—	8.27	—	—	—	—	—
RE21-07-6248	21-601304	2.5–3.5	SOIL	—	—	—	—	—	0.604 (U)	—	—	—	—	—	—	—
RE21-07-6249	21-601304	4.5–5.5	QBT3	—	—	—	—	—	—	—	—	—	5.8	—	—	—
RE21-07-6250	21-601305	3–4	QBT3	—	—	—	—	—	—	—	—	—	5.59	—	—	—
RE21-07-6251	21-601305	5–6	QBT3	—	—	—	—	—	—	—	7.35	—	—	—	—	—
RE21-07-6252	21-601306	1–2	QBT3	—	—	—	47	—	—	—	7.51	—	6	—	—	—
RE21-07-6253	21-601306	3–4	QBT3	—	—	—	—	—	—	—	11.5	—	5.07	—	—	—
RE21-07-6254	21-601307	3.5–4.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-6255	21-601307	5.5–6.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-6256	21-601308	3–4	SOIL	—	—	—	—	—	—	—	—	—	18.2	—	—	—
RE21-07-6257	21-601308	5–6	QBT3	—	—	—	—	—	—	—	8.82	—	6.64	—	—	—
RE21-07-6258	21-601309	3.5–4.5	QBT3	—	—	—	63.5	—	—	2730	16.5	—	—	—	—	—
RE21-07-6259	21-601309	5.5–6.5	QBT3	—	—	—	—	—	—	—	9.64	—	—	—	—	—
RE21-07-6260	21-601310	6–7	QBT3	—	—	—	—	—	—	—	7.44	—	—	2.52	—	—
RE21-07-6261	21-601310	8–9	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-6262	21-601311	6–7	QBT3	—	—	—	—	—	—	—	7.84	—	—	—	—	—
RE21-07-6263	21-601311	8–9	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-6264	21-601312	4–5	QBT3	—	—	—	—	—	—	—	10	—	6.42	—	—	34.7
RE21-07-6265	21-601312	6–7	QBT3	—	—	—	—	—	—	—	11.6	—	—	—	—	129
RE21-07-6270	21-601315	3–4	QBT3	—	—	—	—	—	—	—	9.84	—	—	—	—	—
RE21-07-6271	21-601315	8–9	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-6272	21-601315	13–14	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-8761	21-605252	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	220 (J-)	NA	180	NA	NA	34

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**0.3**	**1**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**391**	**23500**
RE21-07-3114	21-600667	0–0.5	SOIL	—	—	—	—	—	0.000582 (J-)	—	—	—	—
RE21-07-3115	21-600667	2–3	QBT3	—	—	—	—	—	—	0.872 (J)	—	—	—
RE21-07-3116	21-600668	0–0.5	SOIL	—	—	—	—	1.5 (J-)	—	—	—	—	—
RE21-07-3117	21-600668	2–3	SOIL	—	—	—	—	1.42 (J-)	0.000856 (J-)	—	—	—	—
RE21-07-3118	21-600669	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	52.3
RE21-07-3119	21-600669	2–3	QBT3	—	—	—	8.72	—	0.000975 (J-)	1.49 (J)	—	—	—
RE21-07-3120	21-600670	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—
RE21-07-3121	21-600670	2–3	SOIL	—	—	—	—	—	—	1.74 (U)	—	—	—
RE21-07-3122	21-600671	0–0.5	SOIL	—	—	—	—	1.5 (J-)	0.000635 (J-)	—	—	—	—
RE21-07-3123	21-600671	2–3	SOIL	—	—	—	—	—	—	1.6 (U)	—	—	—
RE21-07-3124	21-600672	0–0.5	SOIL	—	—	—	—	1.38 (J-)	—	1.77 (U)	—	—	—
RE21-07-3125	21-600672	2–3	SOIL	—	—	—	—	—	—	—	—	—	—
RE21-07-3126	21-600673	0–0.5	SOIL	—	—	—	—	—	—	1.73 (U)	—	—	—
RE21-07-3127	21-600673	2–3	QBT3	—	—	—	7.14	—	—	1.04 (J)	—	—	—
RE21-07-3128	21-600674	0–0.5	SOIL	—	—	—	—	2.25 (J-)	—	—	—	—	—
RE21-07-3129	21-600674	2–3	QBT3	—	—	—	—	—	—	0.659 (J)	—	—	—
RE21-07-3130	21-600675	0–0.5	SOIL	—	—	—	—	—	—	1.62 (U)	—	—	—
RE21-07-3131	21-600675	2–3	QBT3	—	—	—	—	—	—	1.58 (U)	—	—	—
RE21-07-3132	21-600676	0–0.5	SOIL	—	—	—	—	2.93	—	1.67 (U)	—	—	—
RE21-07-3133	21-600676	2–3	QBT3	—	—	—	—	—	0.000712 (J)	1.54 (U)	—	—	—
RE21-07-3134	21-600677	0–0.5	SOIL	—	—	—	—	9.68 (J-)	—	—	—	—	—
RE21-07-3135	21-600677	2–3	SOIL	—	—	—	—	20.7	0.001 (J)	1.62 (U)	—	—	—
RE21-07-3136	21-600678	0–0.5	SOIL	—	—	—	—	2.61	—	1.62 (U)	—	—	—
RE21-07-3137	21-600678	2–3	QBT3	—	—	—	—	2.11 (J-)	—	1.64 (U)	—	—	—
RE21-07-3138	21-600679	0–0.5	SOIL	—	—	—	—	2.47	—	1.59 (U)	—	—	—
RE21-07-3139	21-600679	2–3	QBT3	—	—	—	—	1.12 (J-)	—	1.61 (U)	—	22.7	140
RE21-07-3140	21-600680	0–0.5	SOIL	—	—	—	—	1.01 (J-)	—	—	—	—	—
RE21-07-3141	21-600680	2–3	QBT3	—	—	—	6.61	3.37	0.000704 (J)	1.63 (U)	—	19.9	—
RE21-07-3142	21-600681	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—
RE21-07-3143	21-600681	2–3	SOIL	—	—	—	—	1.5	—	1.76 (U)	—	—	—
RE21-07-3144	21-600682	0–0.5	SOIL	—	—	0.19	—	1.63 (J-)	—	1.82 (U)	—	—	387

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**0.3**	**1**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**391**	**23500**
RE21-07-3145	21-600682	2–3	SOIL	—	—	—	—	—	—	1.58 (U)	—	—	119
MD21-09-8759	21-600682	7–8	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3146	21-600683	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	69.3
RE21-07-3147	21-600683	2–3	QBT3	—	—	—	—	1.42	—	1.58 (U)	—	—	—
RE21-07-3148	21-600684	0–0.5	SOIL	—	—	—	—	2.33 (J-)	—	—	—	—	104
RE21-07-3149	21-600684	2–3	QBT3	—	—	—	—	—	—	1.58 (U)	—	—	69.8
RE21-07-3150	21-600685	0–0.5	SOIL	—	1280 (J-)	—	—	—	—	—	—	—	—
RE21-07-3151	21-600685	2–3	QBT3	—	—	—	—	—	—	1.7 (U)	—	—	—
RE21-07-3152	21-600686	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	53.5
RE21-07-3153	21-600686	2–3	QBT3	—	—	—	—	—	—	1.64 (U)	—	17.5	—
RE21-07-3154	21-600687	0–0.5	SOIL	—	—	—	—	—	0.00085 (J)	—	—	—	—
RE21-07-3155	21-600687	2–3	SOIL	—	—	—	—	1.03 (J-)	—	1.62 (U)	—	—	—
RE21-07-3156	21-600688	0–0.5	SOIL	—	—	—	—	1.02 (J-)	—	1.56 (U)	—	—	—
RE21-07-3157	21-600688	2–3	SOIL	—	—	—	—	1.65 (J-)	—	1.62 (U)	—	—	—
RE21-07-3158	21-600689	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	109
RE21-07-3159	21-600689	2–3	SOIL	—	—	—	—	—	—	1.63 (U)	—	—	60.4
RE21-07-3160	21-600690	0–0.5	SOIL	—	—	—	—	1.07 (J-)	0.000941 (J)	1.59 (U)	—	—	—
RE21-07-3161	21-600690	2–3	QBT3	—	—	—	—	—	0.000739 (J)	1.62 (U)	—	—	—
RE21-07-3162	21-600691	0–0.5	SOIL	—	—	—	—	—	—	1.57 (U)	—	—	67.9
RE21-07-3163	21-600691	2–3	QBT3	—	—	—	—	1.12	0.00106 (J)	1.7 (U)	—	—	—
RE21-07-3164	21-600692	0–0.5	SOIL	—	—	—	—	—	—	1.62 (U)	—	—	253
RE21-07-3165	21-600692	2–3	QBT3	—	—	—	—	1.09 (J-)	—	1.64 (U)	—	—	—
RE21-07-3169	21-600694	0–0.5	SOIL	—	—	—	—	3.8	—	1.57 (U)	—	—	63.3 (J-)
RE21-07-3170	21-600694	2–3	SOIL	—	—	—	—	1.46	—	1.66 (U)	—	—	157 (J-)
RE21-07-3171	21-600694	5–6	QBT3	—	—	—	—	—	—	1.58 (U)	—	—	86.7 (J-)
RE21-07-3172	21-600695	0–0.5	SOIL	—	—	—	—	1.55	—	1.65 (U)	—	—	93.2 (J-)
RE21-07-3173	21-600695	2–3	SOIL	—	—	—	—	—	—	—	—	—	101 (J-)
RE21-07-3174	21-600695	5–6	QBT3	—	—	—	7.06	—	—	1.7 (U)	—	—	—
MD21-09-8760	21-600695	7–8	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3265	21-600710	0–0.5	SOIL	—	—	—	—	0.904 (J-)	—	1.53 (U)	—	—	—
RE21-07-3266	21-600710	2–3	QBT3	—	—	—	—	—	—	1.06 (J)	—	—	—

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**0.3**	**1**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**391**	**23500**
RE21-07-3267	21-600711	0–0.5	SOIL	—	—	—	—	1.38 (J-)	—	—	—	—	101
RE21-07-3268	21-600711	2–3	SOIL	—	—	—	—	—	—	1.67 (U)	—	—	—
RE21-07-3269	21-600712	0–0.5	SOIL	—	—	—	—	1.13 (J-)	—	1.53 (J)	—	—	115
RE21-07-3270	21-600712	2–3	SOIL	—	—	—	—	0.921 (J-)	—	—	—	—	—
RE21-07-3271	21-600713	0–0.5	SOIL	—	—	—	—	—	0.000526 (J)	1.56 (U)	—	—	61.8
RE21-07-3272	21-600713	2–3	QBT3	—	655	—	—	—	0.0012 (J)	1.64 (U)	—	—	—
RE21-07-3273	21-600714	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	139
RE21-07-3274	21-600714	2–3	QBT3	—	—	—	—	—	—	1.02 (J)	—	—	—
RE21-07-3275	21-600715	0–0.5	SOIL	—	—	—	—	—	—	1.68	—	—	113
RE21-07-3276	21-600715	2–3	QBT3	—	—	—	—	—	—	1.03 (J)	—	—	—
RE21-07-3277	21-600716	0–0.5	SOIL	—	—	—	—	1.43 (J-)	—	—	—	—	—
RE21-07-3278	21-600716	2–3	QBT3	—	—	—	—	—	—	0.652 (J)	—	—	—
RE21-07-3279	21-600717	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	170
RE21-07-3280	21-600717	2–3	QBT3	—	—	—	—	—	—	1.61 (U)	—	—	—
RE21-07-3281	21-600718	0–0.5	SOIL	—	—	—	—	1.38 (J-)	—	—	—	—	82.3
RE21-07-3282	21-600718	2–3	QBT3	—	—	—	—	—	—	1.6 (U)	—	—	—
RE21-07-3283	21-600719	0–0.5	SOIL	—	—	0.15	—	3.93 (J-)	—	—	1.17	—	915 (J)
RE21-07-3284	21-600719	2–3	SOIL	—	—	0.12	—	1.46 (J-)	—	—	—	—	102 (J)
RE21-07-3285	21-600720	0–0.5	SOIL	—	—	—	—	2.17 (J-)	—	—	—	—	138 (J)
RE21-07-3286	21-600720	2–3	SOIL	—	—	—	—	—	—	—	—	—	—
RE21-07-3287	21-600721	0–0.5	SOIL	—	—	—	—	1.27 (J-)	—	—	—	—	73.7 (J)
RE21-07-3288	21-600721	2–3	SOIL	—	—	—	—	—	—	—	—	—	—
RE21-07-3289	21-600722	0–0.5	SOIL	—	—	—	—	3.98 (J-)	—	—	—	—	213 (J)
RE21-07-3290	21-600722	2–3	SOIL	—	—	—	—	—	—	—	—	—	61.2 (J)
RE21-07-3291	21-600723	0–0.5	SOIL	—	—	—	—	1.22 (J-)	—	1.53 (U)	—	—	—
RE21-07-3292	21-600723	2–3	SOIL	—	—	—	—	1.06 (J-)	—	—	—	—	—
RE21-07-3293	21-600724	0–0.5	SOIL	—	—	—	—	3.12 (J-)	0.000546 (J)	—	—	—	—
RE21-07-3294	21-600724	2–3	QBT3	—	—	—	—	—	—	1.64 (U)	—	—	—
RE21-07-3295	21-600725	0–0.5	SOIL	—	—	—	—	4.45 (J-)	—	1.7 (U)	—	—	64.9 (J)
RE21-07-3296	21-600725	2–3	QBT3	—	—	—	—	—	—	0.838 (J)	—	—	—
RE21-07-3297	21-600726	0–0.5	SOIL	—	—	—	—	1.53 (J-)	—	—	—	—	—

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**0.3**	**1**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**391**	**23500**
RE21-07-3298	21-600726	2–3	QBT3	—	—	—	—	—	—	0.899 (J)	—	—	—
RE21-07-3317	21-600735	0–0.5	SOIL	—	—	—	—	—	—	1.59 (U)	—	—	130
RE21-07-3318	21-600735	2–3	QBT3	1830	—	—	8.49	—	—	1.13 (J)	—	21.5	91.3
RE21-07-3319	21-600735	5–6	QBT3	—	—	—	—	—	0.000558 (J)	1.6 (U)	—	—	65.1
RE21-07-3320	21-600736	0–0.5	SOIL	—	—	0.21	17 (J-)	1.46 (J-)	—	—	—	—	570 (J)
RE21-07-3321	21-600736	2–3	SOIL	—	—	—	—	—	—	1.58 (U)	—	—	110 (J)
RE21-07-3322	21-600736	5–6	QBT3	—	—	—	—	—	—	1.73 (U)	—	—	92.5 (J)
RE21-07-3323	21-600737	0–0.5	SOIL	—	—	—	—	1.72	—	1.67 (U)	—	—	139 (J-)
RE21-07-3324	21-600737	2–3	QBT3	—	—	—	—	—	—	1.63 (U)	—	—	74.2 (J-)
RE21-07-3325	21-600737	5–6	QBT3	—	—	—	—	—	—	1.64 (U)	—	—	—
RE21-07-6248	21-601304	2.5–3.5	SOIL	—	—	—	—	0.864 (J-)	—	1.81 (U)	—	—	112
RE21-07-6249	21-601304	4.5–5.5	QBT3	—	—	—	—	0.741 (J-)	—	0.624 (J)	—	—	—
RE21-07-6250	21-601305	3–4	QBT3	—	—	—	—	0.725 (J-)	—	0.68 (J)	—	—	91.6
RE21-07-6251	21-601305	5–6	QBT3	—	—	—	—	—	—	0.953 (J)	—	—	152
RE21-07-6252	21-601306	1–2	QBT3	—	—	—	—	—	—	1.28 (J)	—	—	—
RE21-07-6253	21-601306	3–4	QBT3	—	—	—	—	—	—	0.853 (J)	—	—	—
RE21-07-6254	21-601307	3.5–4.5	QBT3	—	—	—	—	0.658 (J-)	—	0.785 (J)	—	—	119
RE21-07-6255	21-601307	5.5–6.5	QBT3	—	—	—	—	—	—	1.72 (U)	—	—	90.8
RE21-07-6256	21-601308	3–4	SOIL	—	—	—	—	—	—	2.06	—	—	99.4
RE21-07-6257	21-601308	5–6	QBT3	—	—	—	—	—	—	1.95	—	—	—
RE21-07-6258	21-601309	3.5–4.5	QBT3	—	—	—	—	1.53	—	2.83	—	—	—
RE21-07-6259	21-601309	5.5–6.5	QBT3	—	—	—	—	1.23	—	1.86	—	—	—
RE21-07-6260	21-601310	6–7	QBT3	—	—	—	—	—	—	1.81 (U)	—	—	—
RE21-07-6261	21-601310	8–9	QBT3	—	—	—	—	—	—	1.78 (U)	—	—	—
RE21-07-6262	21-601311	6–7	QBT3	—	—	—	—	—	—	1.78 (U)	—	—	—
RE21-07-6263	21-601311	8–9	QBT3	—	—	—	—	—	—	0.79 (J)	—	—	—
RE21-07-6264	21-601312	4–5	QBT3	—	—	—	—	—	—	0.679 (J)	—	—	—
RE21-07-6265	21-601312	6–7	QBT3	—	—	—	—	—	—	1.67 (U)	—	—	—
RE21-07-6270	21-601315	3–4	QBT3	—	—	—	—	—	—	1.79 (U)	—	—	—
RE21-07-6271	21-601315	8–9	QBT3	—	—	—	—	—	—	1.78 (U)	—	—	—

Table 6.11-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Magnesium	Manganese	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Vanadium	Zinc
Qbt2,3,4 BV[a]				**1690**	**482**	**0.1**	**6.58**	**na**	**na**	**0.3**	**1**	**17**	**63.5**
Soil BV[a]				**4610**	**671**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**39.6**	**48.8**
Construction Worker SSL[c]				**na**	**440**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**1550**	**92900**
Industrial SSL[c]				**na**	**26700**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**5680**	**341000**
Residential SSL[c]				**na**	**1860**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**391**	**23500**
RE21-07-6272	21-601315	13–14	QBT3	—	—	—	—	—	—	1.69 (U)	—	—	—
MD21-09-8761	21-605252	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	280

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] SSLs from NMED (2012, 209971) unless otherwise noted.

[c] na = Not available.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

[h] NA = Not analyzed.

Table 6.11-3
Organic Chemicals Detected at SWMU 21-024(n)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Chloroform	Chrysene	Di-n-butylphthalate
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**4760**	**53800[c]**	**154**	**20600**	**23800**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**1370**	**12000[d]**	**32.7**	**2340**	**68400**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**347**	**2800[d]**	**5.86**	**148**	**6110**
RE21-07-3116	21-600668	0–0.5	SOIL	—[e]	NA[f]	0.00992 (J)	NA	—	—	—	—	—	—	—	NA	0.0251 (J)	—
RE21-07-3117	21-600668	2–3	SOIL	—	—	0.011 (J)	NA	—	—	—	—	—	—	—	—	0.0172 (J)	—
RE21-07-3118	21-600669	0–0.5	SOIL	—	NA	—	NA	—	0.0242 (J)	0.0427	—	—	—	—	NA	0.0251 (J)	—
RE21-07-3119	21-600669	2–3	QBT3	—	0.00418 (J)	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3120	21-600670	0–0.5	SOIL	—	NA	—	NA	—	—	—	—	—	—	—	NA	—	—
RE21-07-3121	21-600670	2–3	SOIL	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3122	21-600671	0–0.5	SOIL	0.0186 (J)	NA	0.0322 (J)	NA	—	0.0475	0.059	—	0.0257 (J)	—	—	NA	0.0505	—
RE21-07-3123	21-600671	2–3	SOIL	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3124	21-600672	0–0.5	SOIL	—	NA	0.00958 (J)	NA	—	0.0398 (J)	0.0526	—	0.0197 (J)	—	—	NA	0.0311 (J)	—
RE21-07-3125	21-600672	2–3	SOIL	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3126	21-600673	0–0.5	SOIL	—	NA	—	NA	0.0265 (J)	—	0.0418 (J)	—	—	—	—	NA	0.0249 (J)	—
RE21-07-3127	21-600673	2–3	QBT3	—	0.00512 (J)	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3128	21-600674	0–0.5	SOIL	—	NA	—	NA	—	0.0184 (J)	0.0305 (J)	—	—	—	—	NA	0.0196 (J)	—
RE21-07-3129	21-600674	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3131	21-600675	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3132	21-600676	0–0.5	SOIL	—	NA	0.0143 (J)	NA	—	0.0504	0.0841	—	—	—	—	NA	0.0494	—
RE21-07-3133	21-600676	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	0.00052 (J)	—	—
RE21-07-3188	21-600676	2–3	QBT3	NA	NA	NA	0.0065	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3135	21-600677	2–3	SOIL	—	0.00332 (J)	—	NA	—	—	0.0291 (J)	—	0.0161 (J)	—	—	—	0.027 (J)	—
RE21-07-3137	21-600678	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3138	21-600679	0–0.5	SOIL	—	NA	—	NA	—	—	0.0118 (J)	—	—	—	—	NA	—	—
RE21-07-3139	21-600679	2–3	QBT3	—	—	0.00905 (J)	NA	—	—	0.0337 (J)	—	—	—	—	0.000276 (J)	0.0209 (J)	—
RE21-07-3141	21-600680	2–3	QBT3	—	—	—	NA	—	0.018 (J)	0.0313 (J)	—	—	—	—	—	0.0187 (J)	—
RE21-07-3143	21-600681	2–3	SOIL	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3144	21-600682	0–0.5	SOIL	—	NA	0.0334 (J)	NA	0.4	0.54 (J)	0.955 (J)	0.353 (J)	—	0.177 (J)	—	NA	0.562	—
RE21-07-3145	21-600682	2–3	SOIL	—	—	0.00765 (J)	NA	0.0416	0.0435 (J)	0.0946 (J)	0.042 (J)	—	—	—	—	0.0496	—
RE21-07-3146	21-600683	0–0.5	SOIL	—	NA	0.0117 (J)	NA	0.0624	0.138	0.169	0.033 (J)	0.0676 (J)	—	—	NA	0.0778	—
RE21-07-3147	21-600683	2–3	QBT3	—	—	—	NA	—	0.0201 (J)	0.0332 (J)	—	—	—	—	—	0.0226 (J)	—
RE21-07-3148	21-600684	0–0.5	SOIL	—	NA	—	NA	0.064	0.146	0.216	0.0354 (J)	—	—	—	NA	0.0804	—

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Chloroform	Chrysene	Di-n-butylphthalate
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**4760**	**53800[c]**	**154**	**20600**	**23800**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**1370**	**12000[d]**	**32.7**	**2340**	**68400**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**347**	**2800[d]**	**5.86**	**148**	**6110**
RE21-07-3149	21-600684	2–3	QBT3	—	—	0.0222 (J)	NA	0.16	0.163	0.256	0.117 (J)	—	—	—	—	0.19	—
RE21-07-3150	21-600685	0–0.5	SOIL	—	NA	—	NA	—	—	—	—	—	—	—	NA	—	—
RE21-07-3153	21-600686	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3154	21-600687	0–0.5	SOIL	—	NA	—	NA	—	—	0.0112 (J)	—	—	—	—	NA	—	—
RE21-07-3158	21-600689	0–0.5	SOIL	—	NA	—	NA	—	0.0177 (J)	0.0315 (J)	0.0166 (J)	—	—	—	NA	—	—
RE21-07-3159	21-600689	2–3	SOIL	—	—	0.0101 (J)	NA	—	0.0456	0.0809	0.0527	—	—	—	—	0.0329 (J)	—
RE21-07-3162	21-600691	0–0.5	SOIL	—	NA	0.0154 (J)	NA	0.0171 (J)	0.0166 (J)	0.0207 (J)	0.0113 (J)	0.0145 (J)	—	—	NA	0.0198 (J)	—
RE21-07-3163	21-600691	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3164	21-600692	0–0.5	SOIL	—	NA	0.0247 (J)	NA	0.0199 (J)	0.0184 (J)	0.0323 (J)	0.016 (J)	—	—	—	NA	0.0208 (J)	—
RE21-07-3165	21-600692	2–3	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3169	21-600694	0–0.5	SOIL	—	NA	—	NA	—	0.116 (J)	0.161 (J)	—	—	—	—	NA	0.0482	—
RE21-07-3170	21-600694	2–3	SOIL	—	—	0.0134 (J)	NA	0.12	0.214 (J)	0.339 (J)	0.0819 (J)	—	0.122 (J)	—	—	0.154	—
RE21-07-3171	21-600694	5–6	QBT3	—	—	—	NA	0.0479	0.119	0.169	—	—	—	—	—	0.0612	—
RE21-07-3172	21-600695	0–0.5	SOIL	—	NA	—	NA	—	—	—	—	—	—	—	NA	—	—
RE21-07-3173	21-600695	2–3	SOIL	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3174	21-600695	5–6	QBT3	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3265	21-600710	0–0.5	SOIL	—	NA	0.00776 (J)	NA	—	—	0.0109 (J)	—	—	—	—	NA	—	—
RE21-07-3267	21-600711	0–0.5	SOIL	—	NA	—	NA	—	—	0.0851	—	—	—	—	NA	0.0426	—
RE21-07-3269	21-600712	0–0.5	SOIL	—	NA	0.00892 (J)	NA	—	0.0805 (J)	0.172 (J)	0.0535 (J)	—	—	—	NA	0.107	—
RE21-07-3270	21-600712	2–3	SOIL	—	—	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3271	21-600713	0–0.5	SOIL	—	NA	—	NA	0.0296 (J)	—	0.0748	—	—	—	—	NA	0.0382	0.0513 (J)
RE21-07-3273	21-600714	0–0.5	SOIL	—	NA	0.0115 (J)	NA	0.0743	0.117 (J)	0.306 (J)	0.133 (J)	—	—	—	NA	0.172	—
RE21-07-3274	21-600714	2–3	QBT3	—	—	—	NA	—	—	0.0132 (J)	—	—	—	—	—	—	—
RE21-07-3275	21-600715	0–0.5	SOIL	—	NA	—	NA	0.0575	0.0731 (J)	0.166 (J)	0.0504 (J)	—	—	—	NA	0.1	—
RE21-07-3277	21-600716	0–0.5	SOIL	—	NA	—	NA	—	—	0.0507 (J)	—	—	—	—	NA	0.0315 (J)	—
RE21-07-3278	21-600716	2–3	QBT3	—	—	—	NA	0.0803	0.0819 (J)	0.127 (J)	0.0599 (J)	—	—	—	—	0.0889	—
RE21-07-3279	21-600717	0–0.5	SOIL	—	NA	—	NA	0.0264 (J)	—	0.0601	—	—	—	—	NA	0.0333 (J)	—
RE21-07-3281	21-600718	0–0.5	SOIL	—	NA	—	NA	—	—	0.0186 (J)	—	—	—	—	NA	0.0152 (J)	—
RE21-07-3283	21-600719	0–0.5	SOIL	—	NA	—	NA	0.753 (J)	—	1.28 (J)	—	—	—	—	NA	0.824 (J)	—
RE21-07-3284	21-600719	2–3	SOIL	0.0448 (J+)	—	0.155 (J+)	NA	1.04 (J+)	—	2.45 (J)	0.761 (J)	—	0.699	0.759 (J)	—	1.52 (J+)	0.27 (J+)

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Chloroform	Chrysene	Di-n-butylphthalate
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**4760**	**53800[c]**	**154**	**20600**	**23800**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**1370**	**12000[d]**	**32.7**	**2340**	**68400**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**347**	**2800[d]**	**5.86**	**148**	**6110**
													(J+)				
RE21-07-3285	21-600720	0–0.5	SOIL	—	NA	0.0288 (J)	NA	0.278 (J)	—	0.681 (J)	0.271 (J)	—	0.267 (J)	—	NA	0.444 (J)	—
RE21-07-3287	21-600721	0–0.5	SOIL	—	NA	—	NA	0.0493	—	0.0759	0.0378 (J)	0.0261 (J)	—	—	NA	0.0586	—
RE21-07-3289	21-600722	0–0.5	SOIL	0.0186 (J)	NA	0.0592	NA	0.558	—	0.962 (J)	0.349 (J)	0.401 (J)	0.409	—	NA	0.698	0.0799 (J)
RE21-07-3290	21-600722	2–3	SOIL	—	—	0.0194 (J)	NA	0.148	—	0.32	0.0892	—	—	—	—	0.194	—
RE21-07-3291	21-600723	0–0.5	SOIL	—	NA	—	NA	0.0561	—	0.117	0.0538 (J)	—	—	—	NA	0.0642	—
RE21-07-3292	21-600723	2–3	SOIL	—	—	—	NA	—	—	0.0216 (J)	—	—	—	—	—	—	—
RE21-07-3293	21-600724	0–0.5	SOIL	—	NA	—	NA	0.0291 (J)	—	0.06	—	—	—	—	NA	0.036	—
RE21-07-3295	21-600725	0–0.5	SOIL	—	NA	—	NA	0.0304 (J)	—	0.0401	—	—	—	—	NA	0.0327 (J)	—
RE21-07-3317	21-600735	0–0.5	SOIL	—	NA	—	NA	—	0.0933	0.229	0.102	—	—	—	NA	0.0962	—
RE21-07-3319	21-600735	5–6	QBT3	—	—	0.0102 (J)	NA	0.0599	—	0.108	0.0449	—	—	—	—	0.0801	—
RE21-07-3320	21-600736	0–0.5	SOIL	—	NA	—	NA	0.625	—	1.09	0.474 (J)	0.452	—	—	NA	0.995	—
RE21-07-3321	21-600736	2–3	SOIL	—	—	0.153 (J)	NA	1.12	—	1.87 (J)	1.2 (J)	0.771 (J)	1.12	—	0.000253 (J)	1.62	—
RE21-07-3322	21-600736	5–6	QBT3	0.115	—	0.365	NA	1.01	—	1.6	0.426	—	0.147 (J)	0.182 (J)	—	1.1	—
RE21-07-3323	21-600737	0–0.5	SOIL	—	NA	—	NA	—	—	—	—	—	—	—	NA	—	—
RE21-07-6256	21-601308	3–4	SOIL	—	—	0.0248 (J)	NA	—	0.21	0.343	0.0973	—	—	—	—	0.203	—
RE21-07-6257	21-601308	5–6	QBT3	—	—	—	NA	—	0.0685	0.112	0.0398	—	—	—	—	0.0742	—
RE21-07-6258	21-601309	3.5–4.5	QBT3	—	0.0113 (J)	—	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-6259	21-601309	5.5–6.5	QBT3	—	0.0231 (J)	—	NA	—	—	—	—	—	—	—	—	—	—

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Ethylbenzene	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorobenzene	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	**Hexachlorodibenzofuran[1,2,3,4,7,8-]**
Construction Worker SSL[a]				**1830**	**8910**	**8910**	**na**[g]	**na**	**na**	**na**	**na**	**103**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**378**	**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**12**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**68.4**	**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**3.04**	**na**	**na**	**na**	**na**	**na**
RE21-07-3116	21-600668	0–0.5	SOIL	NA	0.0572	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3117	21-600668	2–3	SOIL	—	0.0462	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3118	21-600669	0–0.5	SOIL	NA	0.0487	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3119	21-600669	2–3	QBT3	0.00027 (J)	0.0331 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3120	21-600670	0–0.5	SOIL	NA	0.0185 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3121	21-600670	2–3	SOIL	—	0.0209 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3122	21-600671	0–0.5	SOIL	NA	0.132	0.0162 (J)	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3123	21-600671	2–3	SOIL	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3124	21-600672	0–0.5	SOIL	NA	0.0796	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3125	21-600672	2–3	SOIL	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3126	21-600673	0–0.5	SOIL	NA	0.049	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3127	21-600673	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3128	21-600674	0–0.5	SOIL	NA	0.0404	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3129	21-600674	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3131	21-600675	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3132	21-600676	0–0.5	SOIL	NA	0.0936	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3133	21-600676	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3188	21-600676	2–3	QBT3	NA	NA	NA	0.000249	0.000421	3.10E-05	2.42E-06 (J)	0.000112	NA	1.21E-06 (J)	8.25E-06	1.78E-06 (J)	3.41E-05	1.06E-06 (J)
RE21-07-3135	21-600677	2–3	SOIL	—	0.0455	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3137	21-600678	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3138	21-600679	0–0.5	SOIL	NA	0.0141 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3139	21-600679	2–3	QBT3	—	0.037 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3141	21-600680	2–3	QBT3	—	0.0283 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3143	21-600681	2–3	SOIL	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3144	21-600682	0–0.5	SOIL	NA	0.588	—	NA	NA	NA	NA	NA	0.0962 (J)	NA	NA	NA	NA	NA
RE21-07-3145	21-600682	2–3	SOIL	—	0.0725	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3146	21-600683	0–0.5	SOIL	NA	0.119	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Ethylbenzene	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorobenzene	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	**Hexachlorodibenzofuran[1,2,3,4,7,8-]**
Construction Worker SSL[a]				**1830**	**8910**	**8910**	**na**[g]	**na**	**na**	**na**	**na**	**103**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**378**	**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**12**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**68.4**	**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**3.04**	**na**	**na**	**na**	**na**	**na**
RE21-07-3147	21-600683	2–3	QBT3	—	0.0457	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3148	21-600684	0–0.5	SOIL	NA	0.0987	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3149	21-600684	2–3	QBT3	—	0.287	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3150	21-600685	0–0.5	SOIL	NA	0.0118 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3153	21-600686	2–3	QBT3	—	0.0117 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3154	21-600687	0–0.5	SOIL	NA	0.0146 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3158	21-600689	0–0.5	SOIL	NA	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3159	21-600689	2–3	SOIL	—	0.0266 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3162	21-600691	0–0.5	SOIL	NA	0.0353 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3163	21-600691	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3164	21-600692	0–0.5	SOIL	NA	0.0402	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3165	21-600692	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3169	21-600694	0–0.5	SOIL	NA	0.0579	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3170	21-600694	2–3	SOIL	—	0.199	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3171	21-600694	5–6	QBT3	—	0.0867	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3172	21-600695	0–0.5	SOIL	NA	0.0171 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3173	21-600695	2–3	SOIL	—	0.0125 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3174	21-600695	5–6	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3265	21-600710	0–0.5	SOIL	NA	0.0167 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3267	21-600711	0–0.5	SOIL	NA	0.0426	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3269	21-600712	0–0.5	SOIL	NA	0.154	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3270	21-600712	2–3	SOIL	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3271	21-600713	0–0.5	SOIL	NA	0.0512	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3273	21-600714	0–0.5	SOIL	NA	0.124	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3274	21-600714	2–3	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3275	21-600715	0–0.5	SOIL	NA	0.134	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3277	21-600716	0–0.5	SOIL	NA	0.0391	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Ethylbenzene	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorobenzene	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	**Hexachlorodibenzofuran[1,2,3,4,7,8-]**
Construction Worker SSL[a]				**1830**	**8910**	**8910**	**na**[g]	**na**	**na**	**na**	**na**	**103**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**378**	**24400**	**24400**	**na**	**na**	**na**	**na**	**na**	**12**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**68.4**	**2290**	**2290**	**na**	**na**	**na**	**na**	**na**	**3.04**	**na**	**na**	**na**	**na**	**na**
RE21-07-3278	21-600716	2–3	QBT3	—	0.117	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3279	21-600717	0–0.5	SOIL	NA	0.0389	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3281	21-600718	0–0.5	SOIL	NA	0.0185 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3283	21-600719	0–0.5	SOIL	NA	1.08	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3284	21-600719	2–3	SOIL	—	2.04 (J+)	0.0506 (J+)	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3285	21-600720	0–0.5	SOIL	NA	0.502	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3287	21-600721	0–0.5	SOIL	NA	0.0906	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3289	21-600722	0–0.5	SOIL	NA	1.03	0.0177 (J)	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3290	21-600722	2–3	SOIL	—	0.303	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3291	21-600723	0–0.5	SOIL	NA	0.0917	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3292	21-600723	2–3	SOIL	—	0.0169 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3293	21-600724	0–0.5	SOIL	NA	0.0554	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3295	21-600725	0–0.5	SOIL	NA	0.0497	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3317	21-600735	0–0.5	SOIL	NA	0.0825	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3319	21-600735	5–6	QBT3	—	0.0976	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3320	21-600736	0–0.5	SOIL	NA	1.09	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3321	21-600736	2–3	SOIL	—	1.76	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3322	21-600736	5–6	QBT3	—	2.32	0.112	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-3323	21-600737	0–0.5	SOIL	NA	0.0146 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-6256	21-601308	3–4	SOIL	—	0.275	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-6257	21-601308	5–6	QBT3	—	0.0904	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-6258	21-601309	3.5–4.5	QBT3	—	0.0125 (J)	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA
RE21-07-6259	21-601309	5.5–6.5	QBT3	—	—	—	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)
Construction Worker SSL[a]				**na**	**na**	**na**	**213**	**2810**[h]	**1120**	**158**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**23.4**	**14500**[h]	**4700**	**241**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**na**	**na**	**na**	**1.48**	**2430**[h]	**409**	**43**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-07-3116	21-600668	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3117	21-600668	2–3	SOIL	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3118	21-600669	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3119	21-600669	2–3	QBT3	NA	NA	NA	—	0.00805	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3120	21-600670	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3121	21-600670	2–3	SOIL	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3122	21-600671	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3123	21-600671	2–3	SOIL	NA	NA	NA	—	0.000526 (J)	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3124	21-600672	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3125	21-600672	2–3	SOIL	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3126	21-600673	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3127	21-600673	2–3	QBT3	NA	NA	NA	—	0.00261	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3128	21-600674	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3129	21-600674	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3131	21-600675	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3132	21-600676	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3133	21-600676	2–3	QBT3	NA	NA	NA	—	0.00469	0.00232 (J)	—	NA	NA	NA	NA	NA	NA
RE21-07-3188	21-600676	2–3	QBT3	7.42E-07 (J)	1.39E-06 (J)	4.10E-05	NA	NA	NA	NA	0.00254	9.04E-05	1.33E-06	1.68E-07 (J)	2.87E-07 (J)	5.06E-06
RE21-07-3135	21-600677	2–3	SOIL	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3137	21-600678	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3138	21-600679	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3139	21-600679	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3141	21-600680	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3143	21-600681	2–3	SOIL	NA	NA	NA	—	0.000604 (J)	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3144	21-600682	0–0.5	SOIL	NA	NA	NA	0.25 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3145	21-600682	2–3	SOIL	NA	NA	NA	0.0329 (J)	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3146	21-600683	0–0.5	SOIL	NA	NA	NA	0.082	NA	NA	—	NA	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)
Construction Worker SSL[a]				**na**	**na**	**na**	**213**	**2810**[h]	**1120**	**158**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**23.4**	**14500**[h]	**4700**	**241**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**na**	**na**	**na**	**1.48**	**2430**[h]	**409**	**43**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-07-3147	21-600683	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3148	21-600684	0–0.5	SOIL	NA	NA	NA	0.0811	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3149	21-600684	2–3	QBT3	NA	NA	NA	0.0763 (J)	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3150	21-600685	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3153	21-600686	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3154	21-600687	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3158	21-600689	0–0.5	SOIL	NA	NA	NA	0.014 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3159	21-600689	2–3	SOIL	NA	NA	NA	0.0427	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3162	21-600691	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3163	21-600691	2–3	QBT3	NA	NA	NA	—	0.0127	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3164	21-600692	0–0.5	SOIL	NA	NA	NA	0.0144 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3165	21-600692	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3169	21-600694	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3170	21-600694	2–3	SOIL	NA	NA	NA	0.116 (J)	0.000283 (J)	—	0.0145 (J)	NA	NA	NA	NA	NA	NA
RE21-07-3171	21-600694	5–6	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3172	21-600695	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3173	21-600695	2–3	SOIL	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3174	21-600695	5–6	QBT3	NA	NA	NA	—	0.000355 (J)	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3265	21-600710	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3267	21-600711	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3269	21-600712	0–0.5	SOIL	NA	NA	NA	0.0457 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3270	21-600712	2–3	SOIL	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3271	21-600713	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3273	21-600714	0–0.5	SOIL	NA	NA	NA	0.109 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3274	21-600714	2–3	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3275	21-600715	0–0.5	SOIL	NA	NA	NA	0.044 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3277	21-600716	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Isopropyltoluene[4-]	Methylene Chloride	Naphthalene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)
Construction Worker SSL[a]				**na**	**na**	**na**	**213**	**2810**[h]	**1120**	**158**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**23.4**	**14500**[h]	**4700**	**241**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**na**	**na**	**na**	**1.48**	**2430**[h]	**409**	**43**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-07-3278	21-600716	2–3	QBT3	NA	NA	NA	0.0484 (J)	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3279	21-600717	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3281	21-600718	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3283	21-600719	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3284	21-600719	2–3	SOIL	NA	NA	NA	0.808 (J)	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3285	21-600720	0–0.5	SOIL	NA	NA	NA	0.29 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3287	21-600721	0–0.5	SOIL	NA	NA	NA	0.0357 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3289	21-600722	0–0.5	SOIL	NA	NA	NA	0.336 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3290	21-600722	2–3	SOIL	NA	NA	NA	0.0866	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3291	21-600723	0–0.5	SOIL	NA	NA	NA	0.0489 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3292	21-600723	2–3	SOIL	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3293	21-600724	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3295	21-600725	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3317	21-600735	0–0.5	SOIL	NA	NA	NA	0.0749	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3319	21-600735	5–6	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3320	21-600736	0–0.5	SOIL	NA	NA	NA	0.45 (J)	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-3321	21-600736	2–3	SOIL	NA	NA	NA	0.854 (J)	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3322	21-600736	5–6	QBT3	NA	NA	NA	0.445	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-3323	21-600737	0–0.5	SOIL	NA	NA	NA	—	NA	NA	—	NA	NA	NA	NA	NA	NA
RE21-07-6256	21-601308	3–4	SOIL	NA	NA	NA	0.0926	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-6257	21-601308	5–6	QBT3	NA	NA	NA	0.0343 (J)	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-6258	21-601309	3.5–4.5	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA
RE21-07-6259	21-601309	5.5–6.5	QBT3	NA	NA	NA	—	—	—	—	NA	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Phenanthrene	Pyrene	Styrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trimethylbenzene[1,2,4-]	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**7150**	**6680**	**9990**	**0.000284**	**na**	**0.0152**	**na**	**13400**	**64700**	**245**[c]	**823**	**743**[i]
Industrial SSL[a]				**20500**	**18300**	**50000**	**0.000204**	**na**	**0.00204**	**na**	**57700**	**347000**	**240**[d]	**4410**	**3980**[i]
Residential SSL[a]				**1830**	**1720**	**7280**	**0.000045**	**na**	**0.00045**	**na**	**5270**	**72100**	**58**[d]	**898**	**814**[i]
RE21-07-3116	21-600668	0–0.5	SOIL	0.0413	0.0655	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3117	21-600668	2–3	SOIL	0.039	0.0422	—	NA	NA	NA	NA	0.000573 (J)	—	—	—	—
RE21-07-3118	21-600669	0–0.5	SOIL	0.0296 (J)	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3119	21-600669	2–3	QBT3	0.0222 (J)	0.0358 (J)	—	NA	NA	NA	NA	0.00647	—	—	0.000318 (J)	0.000822 (J)
RE21-07-3120	21-600670	0–0.5	SOIL	0.014 (J)	0.0147 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3121	21-600670	2–3	SOIL	0.0139 (J)	0.0173 (J)	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3122	21-600671	0–0.5	SOIL	0.114	0.11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3123	21-600671	2–3	SOIL	—	—	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3124	21-600672	0–0.5	SOIL	0.0426	0.0738	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3125	21-600672	2–3	SOIL	—	—	—	NA	NA	NA	NA	0.00143	—	—	—	—
RE21-07-3126	21-600673	0–0.5	SOIL	0.0279 (J)	0.0491	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3127	21-600673	2–3	QBT3	—	—	—	NA	NA	NA	NA	0.00207	—	—	—	—
RE21-07-3128	21-600674	0–0.5	SOIL	0.0184 (J)	0.0408	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3129	21-600674	2–3	QBT3	—	—	—	NA	NA	NA	NA	0.000371 (J)	—	—	—	—
RE21-07-3131	21-600675	2–3	QBT3	—	—	—	NA	NA	NA	NA	0.000468 (J)	—	—	—	—
RE21-07-3132	21-600676	0–0.5	SOIL	0.0542	0.121	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3133	21-600676	2–3	QBT3	—	—	—	NA	NA	NA	NA	0.00425	—	—	—	—
RE21-07-3188	21-600676	2–3	QBT3	NA	NA	NA	3.17E-07 (J)	1.20E-06	2.08E-07 (J)	1.14E-06	NA	NA	NA	NA	NA
RE21-07-3135	21-600677	2–3	SOIL	0.0264 (J)	0.0565	—	NA	NA	NA	NA	0.000735 (J)	—	—	—	—
RE21-07-3137	21-600678	2–3	QBT3	—	0.0115 (J)	—	NA	NA	NA	NA	0.000524 (J)	—	—	—	—
RE21-07-3138	21-600679	0–0.5	SOIL	—	0.0137 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3139	21-600679	2–3	QBT3	0.0316 (J)	0.055	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3141	21-600680	2–3	QBT3	0.0138 (J)	0.0368	—	NA	NA	NA	NA	0.00208	—	—	—	—
RE21-07-3143	21-600681	2–3	SOIL	—	—	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3144	21-600682	0–0.5	SOIL	0.235	0.942	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3145	21-600682	2–3	SOIL	0.0331 (J)	0.0855	—	NA	NA	NA	NA	0.000802 (J)	—	—	—	—
RE21-07-3146	21-600683	0–0.5	SOIL	0.0507	0.145	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3147	21-600683	2–3	QBT3	0.0263 (J)	0.0492	—	NA	NA	NA	NA	0.00158	—	—	—	—
RE21-07-3148	21-600684	0–0.5	SOIL	0.0395	0.136	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Phenanthrene	Pyrene	Styrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trimethylbenzene[1,2,4-]	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**7150**	**6680**	**9990**	**0.000284**	**na**	**0.0152**	**na**	**13400**	**64700**	**245**[c]	**823**	**743**[i]
Industrial SSL[a]				**20500**	**18300**	**50000**	**0.000204**	**na**	**0.00204**	**na**	**57700**	**347000**	**240**[d]	**4410**	**3980**[i]
Residential SSL[a]				**1830**	**1720**	**7280**	**0.000045**	**na**	**0.00045**	**na**	**5270**	**72100**	**58**[d]	**898**	**814**[i]
RE21-07-3149	21-600684	2–3	QBT3	0.133	0.315	—	NA	NA	NA	NA	0.000545 (J)	—	—	—	—
RE21-07-3150	21-600685	0–0.5	SOIL	—	0.0143 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3153	21-600686	2–3	QBT3	—	0.0191 (J)	—	NA	NA	NA	NA	0.000364 (J)	—	—	—	—
RE21-07-3154	21-600687	0–0.5	SOIL	—	0.0124 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3158	21-600689	0–0.5	SOIL	—	0.0113 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3159	21-600689	2–3	SOIL	—	0.0304 (J)	—	NA	NA	NA	NA	0.00054 (J)	—	—	—	—
RE21-07-3162	21-600691	0–0.5	SOIL	—	0.0332 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3163	21-600691	2–3	QBT3	—	—	—	NA	NA	NA	NA	0.000753 (J)	—	—	—	—
RE21-07-3164	21-600692	0–0.5	SOIL	—	0.0356 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3165	21-600692	2–3	QBT3	—	—	—	NA	NA	NA	NA	0.00045 (J)	—	—	—	—
RE21-07-3169	21-600694	0–0.5	SOIL	0.021 (J)	0.0836	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3170	21-600694	2–3	SOIL	0.0765	0.258	—	NA	NA	NA	NA	—	0.00207 (J)	—	—	—
RE21-07-3171	21-600694	5–6	QBT3	0.0287 (J)	0.0895	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3172	21-600695	0–0.5	SOIL	0.0113 (J)	0.0228 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3173	21-600695	2–3	SOIL	—	0.0124 (J)	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3174	21-600695	5–6	QBT3	—	—	—	NA	NA	NA	NA	0.00672	—	0.000262 (J)	0.00085 (J)	0.000882 (J)
RE21-07-3265	21-600710	0–0.5	SOIL	—	0.0133 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3267	21-600711	0–0.5	SOIL	0.0129 (J)	0.0467	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3269	21-600712	0–0.5	SOIL	0.0725	0.148	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3270	21-600712	2–3	SOIL	—	—	—	NA	NA	NA	NA	0.00102 (J)	—	—	—	—
RE21-07-3271	21-600713	0–0.5	SOIL	0.0171 (J)	0.0565	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3273	21-600714	0–0.5	SOIL	0.0456	0.142	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3274	21-600714	2–3	QBT3	—	—	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3275	21-600715	0–0.5	SOIL	0.0456	0.122	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3277	21-600716	0–0.5	SOIL	0.014 (J)	0.0499	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3278	21-600716	2–3	QBT3	0.0382	0.163	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3279	21-600717	0–0.5	SOIL	0.0126 (J)	0.0444	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3281	21-600718	0–0.5	SOIL	—	0.0202 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3283	21-600719	0–0.5	SOIL	0.539 (J)	1.82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.11-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Phenanthrene	Pyrene	Styrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trimethylbenzene[1,2,4-]	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**7150**	**6680**	**9990**	**0.000284**	**na**	**0.0152**	**na**	**13400**	**64700**	**245**[c]	**823**	**743**[i]
Industrial SSL[a]				**20500**	**18300**	**50000**	**0.000204**	**na**	**0.00204**	**na**	**57700**	**347000**	**240**[d]	**4410**	**3980**[i]
Residential SSL[a]				**1830**	**1720**	**7280**	**0.000045**	**na**	**0.00045**	**na**	**5270**	**72100**	**58**[d]	**898**	**814**[i]
RE21-07-3284	21-600719	2–3	SOIL	0.958 (J+)	3.44 (J+)	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3285	21-600720	0–0.5	SOIL	0.229	0.77 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3287	21-600721	0–0.5	SOIL	0.0324 (J)	0.0949	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3289	21-600722	0–0.5	SOIL	0.412	1.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3290	21-600722	2–3	SOIL	0.117	0.3	—	NA	NA	NA	NA	—	—	—	—	0.00034 (J)
RE21-07-3291	21-600723	0–0.5	SOIL	0.0315 (J)	0.118	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3292	21-600723	2–3	SOIL	—	0.0219 (J)	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3293	21-600724	0–0.5	SOIL	0.0219 (J)	0.0609	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3295	21-600725	0–0.5	SOIL	0.0284 (J)	0.0782	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3317	21-600735	0–0.5	SOIL	0.0289 (J)	0.0868	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3319	21-600735	5–6	QBT3	0.0601	0.113	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-3320	21-600736	0–0.5	SOIL	0.497	1.43	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3321	21-600736	2–3	SOIL	0.995	3.56	0.000566 (J)	NA	NA	NA	NA	0.000404 (J)	—	—	—	0.000621 (J)
RE21-07-3322	21-600736	5–6	QBT3	1.64	2.91	—	NA	NA	NA	NA	—	—	—	—	0.000419 (J)
RE21-07-3323	21-600737	0–0.5	SOIL	—	0.0193 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-6256	21-601308	3–4	SOIL	0.107	0.327	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-6257	21-601308	5–6	QBT3	0.0348 (J)	0.101	—	NA	NA	NA	NA	0.000418 (J)	—	—	—	—
RE21-07-6258	21-601309	3.5–4.5	QBT3	—	—	—	NA	NA	NA	NA	—	—	—	—	—
RE21-07-6259	21-601309	5.5–6.5	QBT3	—	—	—	NA	NA	NA	NA	—	—	—	—	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] — = Not detected.

[f] NA = Not analyzed.

[g] na = Not available.

[h] Isopropylbenzene used as a surrogate based on structural similarity.

[i] Xylenes used as a surrogate based on structural similarity.

Table 6.11-4
Radionuclides Detected or Detected above BVs/FVs at SWMU 21-024(n)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-3114	21-600667	0–0.5	SOIL	0.038	—[e]	—	0.448	0.0801601	—	—	—
RE21-07-3115	21-600667	2–3	QBT3	—	—	—	0.022	0.069015	—	—	—
RE21-07-3116	21-600668	0–0.5	SOIL	—	—	—	0.258	0.0561515	—	—	—
RE21-07-3117	21-600668	2–3	SOIL	—	1.08	—	0.227	0.112684	—	—	—
RE21-07-3118	21-600669	0–0.5	SOIL	0.03	—	—	0.138	0.0832576	—	—	—
RE21-07-3119	21-600669	2–3	QBT3	0.038	0.177	—	2.5	0.0755629	6.54	0.76	—
MD21-09-8765	21-600669	7–8	SOIL	NA[f]	NA	—	0.042	NA	NA	NA	NA
RE21-07-3120	21-600670	0–0.5	SOIL	—	—	—	0.076	0.0493892	—	—	—
RE21-07-3121	21-600670	2–3	SOIL	0.051	—	—	0.311	0.129112	8.53	0.463	—
RE21-07-3122	21-600671	0–0.5	SOIL	0.051	—	—	0.557	0.0951509	3.59	0.228	—
RE21-07-3123	21-600671	2–3	SOIL	—	—	—	0.039	—	3.71	0.223	—
RE21-07-3124	21-600672	0–0.5	SOIL	0.045	—	—	0.21	0.116675	—	—	—
RE21-07-3125	21-600672	2–3	SOIL	—	—	—	0.031	0.0564608	3.32	0.217	—
RE21-07-3126	21-600673	0–0.5	SOIL	0.082	—	—	0.852	0.070569	—	—	—
RE21-07-3127	21-600673	2–3	QBT3	—	—	—	0.073	0.043772	2.88	0.18	—
RE21-07-3128	21-600674	0–0.5	SOIL	0.119	—	—	1.66	—	—	—	—
RE21-07-3129	21-600674	2–3	QBT3	—	—	—	0.084	0.0815647	—	—	—
RE21-07-3130	21-600675	0–0.5	SOIL	—	—	—	0.055	0.0322979	—	—	—
RE21-07-3131	21-600675	2–3	QBT3	—	—	—	0.086	0.0293287	2.2	0.133	—
RE21-07-3132	21-600676	0–0.5	SOIL	0.103	—	—	0.657	0.0965531	—	—	—
RE21-07-3133	21-600676	2–3	QBT3	—	—	—	0.183	0.144569	2.41	0.145	—
RE21-07-3134	21-600677	0–0.5	SOIL	0.03	—	—	0.296	0.0584805	—	—	—
RE21-07-3135	21-600677	2–3	SOIL	—	—	—	0.41	0.200209	—	—	—
RE21-07-3136	21-600678	0–0.5	SOIL	—	—	—	0.151	0.0668541	—	—	—
RE21-07-3137	21-600678	2–3	QBT3	—	—	—	0.337	0.513873	—	0.144	—
RE21-07-3138	21-600679	0–0.5	SOIL	—	—	—	0.503	0.0715224	—	—	—
RE21-07-3139	21-600679	2–3	QBT3	—	—	—	0.248	0.336264	—	—	—
RE21-07-3140	21-600680	0–0.5	SOIL	—	—	—	0.057	0.0327438	—	—	—

Table 6.11-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-3141	21-600680	2–3	QBT3	—	0.105	—	0.853	0.140089	—	0.096	—
RE21-07-3142	21-600681	0–0.5	SOIL	—	—	—	0.171	0.009338	—	—	—
RE21-07-3143	21-600681	2–3	SOIL	—	0.07	—	0.243	0.10434	—	—	—
RE21-07-3144	21-600682	0–0.5	SOIL	0.182	—	0.031	0.728	0.140544	8.95	0.563	—
RE21-07-3145	21-600682	2–3	SOIL	0.048	0.218	—	0.387	0.0999759	—	—	—
RE21-07-3146	21-600683	0–0.5	SOIL	0.108	—	0.023	2.57	0.0920214	3.45	—	—
RE21-07-3147	21-600683	2–3	QBT3	—	0.104	—	0.312	0.0726998	2.42	0.122	—
RE21-07-3148	21-600684	0–0.5	SOIL	0.055	—	—	0.173	0.104942	—	—	—
RE21-07-3149	21-600684	2–3	QBT3	—	—	—	0.131	0.0770033	—	0.092	—
RE21-07-3150	21-600685	0–0.5	SOIL	—	—	—	0.096	0.0654186	—	—	—
RE21-07-3151	21-600685	2–3	QBT3	—	—	—	—	0.244473	—	—	—
RE21-07-3152	21-600686	0–0.5	SOIL	—	—	—	0.085	0.109314	—	—	—
RE21-07-3153	21-600686	2–3	QBT3	—	—	—	—	0.194208	—	—	—
RE21-07-3154	21-600687	0–0.5	SOIL	—	—	—	0.066	0.0637279	—	—	—
RE21-07-3155	21-600687	2–3	SOIL	—	—	—	0.021	0.291399	—	—	—
RE21-07-3156	21-600688	0–0.5	SOIL	—	—	—	0.112	0.0330124	2.91	—	—
RE21-07-3157	21-600688	2–3	SOIL	—	—	—	—	0.484324	—	—	—
RE21-07-3158	21-600689	0–0.5	SOIL	—	—	—	0.08	0.0476394	3.08	—	—
RE21-07-3159	21-600689	2–3	SOIL	—	—	—	0.086	0.142681	2.93	—	—
RE21-07-3160	21-600690	0–0.5	SOIL	—	—	—	0.136	0.0565108	—	—	—
RE21-07-3161	21-600690	2–3	QBT3	—	—	—	—	0.165152	—	—	—
RE21-07-3162	21-600691	0–0.5	SOIL	0.115	—	—	0.299	0.0661324	—	—	—
RE21-07-3163	21-600691	2–3	QBT3	—	—	—	—	0.146356	—	—	—
RE21-07-3164	21-600692	0–0.5	SOIL	0.043	—	—	0.283	0.0785201	3.9	0.217	—
RE21-07-3165	21-600692	2–3	QBT3	—	—	—	0.037	0.0442391	5.27	0.414	—
RE21-07-3169	21-600694	0–0.5	SOIL	0.043	—	—	0.284	0.0516531	—	—	—
RE21-07-3170	21-600694	2–3	SOIL	0.035	—	—	0.46	0.0828341	2.89	—	—
RE21-07-3171	21-600694	5–6	QBT3	—	—	—	0.133	0.0881992	—	—	—
RE21-07-3172	21-600695	0–0.5	SOIL	—	—	—	0.108	0.0406944	—	—	—
RE21-07-3173	21-600695	2–3	SOIL	0.027	—	—	0.174	0.0481422	7.81	0.377	—

Table 6.11-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-3174	21-600695	5–6	QBT3	—	—	—	—	0.0849729	13	0.965	—
MD21-09-8760	21-600695	7–8	QBT3	NA	NA	NA	NA	NA	2.83	—	—
RE21-07-3265	21-600710	0–0.5	SOIL	—	—	—	0.128	0.016124	—	—	—
RE21-07-3266	21-600710	2–3	QBT3	—	—	—	0.018	0.0220536	—	—	—
RE21-07-3267	21-600711	0–0.5	SOIL	0.075	—	—	0.411	0.0442647	—	—	—
RE21-07-3268	21-600711	2–3	SOIL	—	—	—	0.052	0.259919	—	—	—
RE21-07-3269	21-600712	0–0.5	SOIL	0.075	—	—	0.871	0.0906316	—	—	—
RE21-07-3270	21-600712	2–3	SOIL	—	—	—	0.072	0.103562	—	—	—
RE21-07-3271	21-600713	0–0.5	SOIL	0.085	—	—	0.576	0.0309078	—	—	—
RE21-07-3272	21-600713	2–3	QBT3	—	—	—	0.046	0.251049	—	—	—
RE21-07-3273	21-600714	0–0.5	SOIL	0.119	—	—	2.41	0.114024	—	—	—
RE21-07-3274	21-600714	2–3	QBT3	—	—	—	0.132	0.162932	—	—	—
RE21-07-3275	21-600715	0–0.5	SOIL	0.096	—	—	1.57	0.0771185	—	—	—
RE21-07-3276	21-600715	2–3	QBT3	—	—	—	—	0.136962	—	—	—
RE21-07-3277	21-600716	0–0.5	SOIL	0.05	—	—	0.148	0.0258925	—	—	—
RE21-07-3278	21-600716	2–3	QBT3	—	—	—	0.076	0.044326	—	—	—
RE21-07-3279	21-600717	0–0.5	SOIL	0.111	—	—	0.786	0.0319643	—	—	—
RE21-07-3280	21-600717	2–3	QBT3	—	—	—	—	0.0550871	—	—	—
RE21-07-3281	21-600718	0–0.5	SOIL	—	—	—	0.12	0.0429365	—	—	—
RE21-07-3282	21-600718	2–3	QBT3	—	—	—	—	0.243689	—	—	—
RE21-07-3283	21-600719	0–0.5	SOIL	0.055	—	—	0.113	0.669124	—	—	—
RE21-07-3284	21-600719	2–3	SOIL	—	—	—	0.05	0.125745	—	—	—
RE21-07-3285	21-600720	0–0.5	SOIL	0.035	—	—	0.144	0.508864	—	—	—
RE21-07-3286	21-600720	2–3	SOIL	—	—	—	—	0.432242	—	—	—
RE21-07-3287	21-600721	0–0.5	SOIL	0.138	—	—	2.73	0.13528	—	—	—
RE21-07-3288	21-600721	2–3	SOIL	—	—	—	—	0.314227	—	—	—
RE21-07-3289	21-600722	0–0.5	SOIL	0.038	—	—	0.136	0.401895	—	—	—
RE21-07-3290	21-600722	2–3	SOIL	—	—	—	—	1.33756	—	—	—
RE21-07-3291	21-600723	0–0.5	SOIL	0.056	—	—	0.166	0.223565	—	—	—
RE21-07-3292	21-600723	2–3	SOIL	—	—	—	0.09	0.228055	—	—	—

Table 6.11-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-3293	21-600724	0–0.5	SOIL	0.087	—	—	0.448	0.183428	—	—	—
RE21-07-3294	21-600724	2–3	QBT3	—	—	—	—	0.104298	—	—	—
RE21-07-3295	21-600725	0–0.5	SOIL	0.05	—	—	0.283	0.0593118	—	—	—
RE21-07-3296	21-600725	2–3	QBT3	—	—	—	—	0.24973	—	—	—
RE21-07-3297	21-600726	0–0.5	SOIL	0.044	—	—	—	0.079279	—	—	—
RE21-07-3298	21-600726	2–3	QBT3	—	—	—	—	0.175504	—	—	—
RE21-07-3317	21-600735	0–0.5	SOIL	0.268	—	—	0.497	0.0249121	—	—	—
RE21-07-3318	21-600735	2–3	QBT3	—	—	—	0.131	0.188837	—	—	—
RE21-07-3319	21-600735	5–6	QBT3	—	—	—	0.113	0.151341	—	—	—
RE21-07-3320	21-600736	0–0.5	SOIL	0.054	—	0.027	0.122	5.64444	—	—	—
RE21-07-3321	21-600736	2–3	SOIL	—	0.16	—	0.258	0.559615	—	—	—
RE21-07-3322	21-600736	5–6	QBT3	—	—	—	0.048	3.10059	—	—	—
RE21-07-3323	21-600737	0–0.5	SOIL	—	—	—	0.246	0.0853636	—	—	—
RE21-07-3324	21-600737	2–3	QBT3	—	—	—	0.037	0.132351	—	—	—
RE21-07-3325	21-600737	5–6	QBT3	—	—	—	—	0.170393	—	—	—
RE21-07-6248	21-601304	2.5–3.5	SOIL	—	—	—	—	0.404677	—	—	—
RE21-07-6249	21-601304	4.5–5.5	QBT3	—	—	—	—	0.201557	—	—	—
RE21-07-6250	21-601305	3–4	QBT3	—	—	—	—	0.712924	—	—	—
RE21-07-6251	21-601305	5–6	QBT3	—	—	—	—	1.087	—	—	—
RE21-07-6252	21-601306	1–2	QBT3	—	—	—	—	0.144881	—	—	—
RE21-07-6253	21-601306	3–4	QBT3	—	—	—	—	0.0614681	—	—	—
RE21-07-6254	21-601307	3.5–4.5	QBT3	—	—	—	—	0.158483	—	—	—
RE21-07-6255	21-601307	5.5–6.5	QBT3	—	—	—	—	0.179083	—	0.105	—
RE21-07-6256	21-601308	3–4	SOIL	—	—	—	0.049	18.6782	—	—	—
RE21-07-6257	21-601308	5–6	QBT3	—	—	—	—	12.3545	—	—	—
RE21-07-6258	21-601309	3.5–4.5	QBT3	—	—	—	0.107	0.351628	—	—	—
RE21-07-6259	21-601309	5.5–6.5	QBT3	—	—	—	—	0.348889	—	—	—
RE21-07-6260	21-601310	6–7	QBT3	—	—	—	—	2.29613	—	—	—
RE21-07-6261	21-601310	8–9	QBT3	—	—	—	—	2.98182	—	—	—
RE21-07-6262	21-601311	6–7	QBT3	—	—	—	—	0.516893	—	0.093	—

Table 6.11-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**	**1.65**	**0.023**	**0.054**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-6263	21-601311	8–9	QBT3	—	—	—	—	0.486708	—	—	—
RE21-07-6264	21-601312	4–5	QBT3	—	—	—	—	0.683499	—	—	—
RE21-07-6265	21-601312	6–7	QBT3	—	—	—	—	0.685145	—	0.092	—
RE21-07-6270	21-601315	3–4	QBT3	—	—	—	—	0.874938	—	0.11	—
RE21-07-6271	21-601315	8–9	QBT3	—	—	—	—	0.791876	—	—	—
RE21-07-6272	21-601315	13–14	QBT3	—	—	—	—	0.967107	—	—	—
MD21-09-8758	21-605251	0–0.5	SOIL	—	NA	—	0.377	NA	NA	NA	NA
MD21-09-8761	21-605252	0–0.5	SOIL	0.151	NA	NA	NA	NA	5.54	0.219	2.58
MD21-09-8764	21-605253	0–0.5	SOIL	NA	NA	0.038	3.13	NA	NA	NA	NA
MD21-09-12458	21-608021	0–0.5	SOIL	NA	NA	0.03	3.33	NA	NA	NA	NA
MD21-10-4657	21-609833	0–0.5	SOIL	NA	NA	0.035	4.58	NA	NA	NA	NA
MD21-11-24246	21-614573	0–0.5	SOIL	NA	NA	—	0.838	NA	5.43	0.252	—

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.12-1
Samples Collected and Analyses Requested at Consolidated Unit 21-026(a)-99

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-75726	21-27550	0–0.5	ALLH	7009S	7010S	7010S	7010S	7010S	7010S	7010S	7009S	7009S	—*	—	7008S	—	—	7009S	7009S
RE21-07-75727	21-27550	4.33–5.33	QBT3	7009S	7010S	7010S	7010S	7010S	7010S	7010S	7009S	7009S	—	7008S	7008S	—	—	7009S	7009S
RE21-07-75728	21-27550	6.33–7.33	QBT3	7009S	7010S	7010S	7010S	7010S	7010S	7010S	7009S	7009S	—	7008S	7008S	—	—	7009S	7009S
RE21-07-75729	21-27550	9.33–10.33	QBT3	7009S	7010S	7010S	7010S	7010S	7010S	7010S	7009S	7009S	—	7008S	7008S	—	—	7009S	7009S
MD21-09-8736	21-27550	14.3–15.3	QBT3	—	—	—	—	—	—	—	—	—	—	—	09-2035	—	—	—	—
RE21-07-75730	21-27551	10–11	QBT3	7026S	7027S	7027S	7027S	7027S	7027S	7027S	7026S	7026S	—	7025S	7025S	—	—	7026S	7026S
RE21-07-75731	21-27551	15–16	QBT3	7026S	7027S	7027S	7027S	7027S	7027S	7027S	7026S	7026S	—	7025S	7025S	—	—	7026S	7026S
RE21-07-75732	21-27551	20–21	QBT3	7026S	7027S	7027S	7027S	7027S	7027S	7027S	7026S	7026S	—	7025S	7025S	—	—	7026S	7026S
RE21-07-75734	21-27552	0–0.5	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	—	6988S	—	—	6989S	6989S
RE21-07-75735	21-27552	2–3	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S
RE21-07-75736	21-27552	5–6	QBT3	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S
RE21-07-75737	21-27553	0–0.5	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	—	6988S	—	—	6989S	6989S
RE21-07-75738	21-27553	2–3	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S
RE21-07-75739	21-27553	5–6	QBT3	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S
MD21-09-8729	21-27553	10–11	QBT3	—	—	—	—	—	—	—	09-2184	—	—	—	—	—	—	—	—
RE21-07-75752	21-27554	0–0.5	ALLH	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	—	6991S	—	—	6992S	6992S
RE21-07-75753	21-27554	2.5–3.5	QBT3	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	6991S	6991S	—	—	6992S	6992S
RE21-07-75754	21-27554	4.5–5.5	QBT3	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	6991S	6991S	—	—	6992S	6992S
RE21-07-75743	21-27555	0–0.5	ALLH	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	—	6649S	—	—	6650S	6650S
RE21-07-75744	21-27555	2–2.5	QBT3	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	6649S	6649S	—	—	6650S	6650S
RE21-07-75745	21-27556	0–0.5	ALLH	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	—	6649S	—	—	6650S	6650S
RE21-07-75746	21-27556	2–2.5	QBT3	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	6649S	6649S	—	—	6650S	6650S
RE21-07-75747	21-27557	0–0.5	ALLH	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	—	6649S	—	—	6650S	6650S
RE21-07-75748	21-27557	2–2.5	QBT3	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	6649S	6649S	—	—	6650S	6650S
RE21-07-75749	21-27558	0–0.5	ALLH	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	—	6649S	—	—	6650S	6650S
RE21-07-75750	21-27558	2–2.5	QBT3	6650S	6651S	6651S	6651S	6651S	6651S	6651S	6650S	6650S	—	6649S	6649S	—	—	6650S	6650S
RE21-07-583	21-27558	2–3	QBT3	—	—	—	—	—	—	—	—	—	07-291	—	—	07-292	07-291	—	—
RE21-07-75755	21-27559	0–0.5	ALLH	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	—	6991S	—	—	6992S	6992S
RE21-07-75756	21-27559	2.5–3.5	QBT3	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	6991S	6991S	—	—	6992S	6992S
RE21-07-75757	21-27559	4.5–5.5	QBT3	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	6991S	6991S	—	—	6992S	6992S
RE21-07-75765	21-27560	0–0.5	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	—	6988S	—	—	6989S	6989S
RE21-07-75766	21-27560	2–3	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S
MD21-09-8727	21-27560	7–8	QBT3	—	—	—	—	—	09-2184	—	—	—	—	—	—	—	—	—	—
RE21-07-75767	21-27561	0–0.5	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	—	6988S	—	—	6989S	6989S
RE21-07-75768	21-27561	2–3	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S

Table 6.12-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-8728	21-27561	7–8	ALLH	—	09-2184	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75769	21-27562	0–0.5	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	—	6988S	—	—	6989S	6989S
RE21-07-75770	21-27562	2–3	QBT3	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S
RE21-07-75771	21-27563	0–0.5	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	—	6988S	—	—	6989S	6989S
RE21-07-75772	21-27563	2–3	ALLH	6989S	6990S	6990S	6990S	6990S	6990S	6990S	6989S	6989S	—	6988S	6988S	—	—	6989S	6989S
RE21-07-75773	21-27564	9.5–10.5	QBT3	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	6991S	6991S	—	—	6992S	6992S
RE21-07-75774	21-27564	11.5–12.5	QBT3	6992S	6993S	6993S	6993S	6993S	6993S	6993S	6992S	6992S	—	6991S	6991S	—	—	6992S	6992S
RE21-07-75775	21-27565	12–13	QBT3	7003S	7004S	7004S	7004S	7004S	7004S	7004S	7003S	7003S	—	7002S	7002S	—	—	7003S	7003S
RE21-07-75776	21-27565	14–15	QBT3	7003S	7004S	7004S	7004S	7004S	7004S	7004S	7003S	7003S	—	7002S	7002S	—	—	7003S	7003S
RE21-07-75777	21-27566	12–13	QBT3	7003S	7004S	7004S	7004S	7004S	7004S	7004S	7003S	7003S	—	7002S	7002S	—	—	7003S	7003S
RE21-07-75778	21-27566	14–15	QBT3	7003S	7004S	7004S	7004S	7004S	7004S	7004S	7003S	7003S	—	7002S	7002S	—	—	7003S	7003S
RE21-07-75781	21-27568	10–11	QBT3	7026S	7027S	7027S	7027S	7027S	7027S	7027S	7026S	7026S	—	7025S	7025S	—	—	7026S	7026S
RE21-07-75782	21-27568	12–13	QBT3	7026S	7027S	7027S	7027S	7027S	7027S	7027S	7026S	7026S	—	7025S	7025S	—	—	7026S	7026S
RE21-07-75804	21-27570	0–0.5	ALLH	7006S	7007S	7007S	7007S	7007S	7007S	7007S	7006S	7006S	—	—	7005S	—	—	7006S	7006S
RE21-07-75805	21-27570	3.5–4.5	QBT3	7006S	7007S	7007S	7007S	7007S	7007S	7007S	7006S	7006S	—	7005S	7005S	—	—	7006S	7006S
RE21-07-75806	21-27570	5.5–6.5	QBT3	7006S	7007S	7007S	7007S	7007S	7007S	7007S	7006S	7006S	—	7005S	7005S	—	—	7006S	7006S
RE21-07-75807	21-27571	0–0.5	ALLH	7006S	7007S	7007S	7007S	7007S	7007S	7007S	7006S	7006S	—	—	7005S	—	—	7006S	7006S
RE21-07-75808	21-27571	3.5–4.5	QBT3	7006S	7007S	7007S	7007S	7007S	7007S	7007S	7006S	7006S	—	7005S	7005S	—	—	7006S	7006S
RE21-07-75809	21-27571	5.5–6.5	QBT3	7006S	7007S	7007S	7007S	7007S	7007S	7007S	7006S	7006S	—	7005S	7005S	—	—	7006S	7006S
MD21-09-8735	21-27571	10.5–11.5	ALLH	—	—	—	—	—	—	—	09-2184	—	—	—	—	—	—	—	—
RE21-07-75810	21-27572	0–0.5	QBT3	7020S	7021S	7021S	7021S	7021S	7021S	7021S	7020S	7020S	—	—	7019S	—	—	7020S	—
RE21-07-75811	21-27572	2–3	QBT3	7020S	7021S	7021S	7021S	7021S	7021S	7021S	7020S	7020S	—	7019S	7019S	—	—	7020S	—
RE21-07-75812	21-27572	5–6	QBT3	7020S	7021S	7021S	7021S	7021S	7021S	7021S	7020S	7020S	—	7019S	7019S	—	—	7020S	—
RE21-07-75813	21-27573	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75814	21-27573	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S
RE21-07-75815	21-27574	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75816	21-27574	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S
RE21-07-75817	21-27575	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75818	21-27575	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S
MD21-09-8726	21-27575	4–5	QBT3	—	—	—	—	09-2240	09-2240	—	09-2240	—	—	—	—	—	—	—	—
RE21-07-75819	21-27576	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75820	21-27576	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S
RE21-07-75821	21-27577	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75822	21-27577	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S
RE21-07-75823	21-27578	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75824	21-27578	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S

Table 6.12-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-75825	21-27579	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75826	21-27579	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S
RE21-07-75827	21-27580	0–0.5	ALLH	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	—	7013S	—	—	7014S	7014S
RE21-07-75828	21-27580	2–3	QBT3	7014S	7015S	7015S	7015S	7015S	7015S	7015S	7014S	7014S	—	7013S	7013S	—	—	7014S	7014S
RE21-07-75829	21-27581	10–11	QBT3	7029S	7030S	7030S	7030S	7030S	7030S	7030S	7029S	7029S	—	7028S	7028S	—	—	7029S	7029S
RE21-07-75830	21-27581	12–13	QBT3	7029S	7030S	7030S	7030S	7030S	7030S	7030S	7029S	7029S	—	7028S	7028S	—	—	7029S	7029S
MD21-09-8730	21-605238	5–6	QBT3	—	—	—	—	—	—	—	09-2184	—	—	—	—	—	—	—	—
MD21-09-8731	21-605238	10–11	QBT3	—	—	—	—	—	—	—	09-2209	—	—	—	—	—	—	—	—
MD21-09-12422	21-605238	19–20	QBT3	—	—	—	—	—	—	—	09-3031	—	—	—	—	—	—	—	—
MD21-09-8732	21-605239	2–3	QBT3	—	09-2240	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-8733	21-605239	7–8	QBT3	—	09-2240	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-8734	21-605240	0–0.5	ALLH	—	—	—	—	—	—	09-2240	09-2240	—	—	—	09-2240	—	—	09-2240	—
MD21-11-24247	21-614574	9–10	QBT3	—	—	—	—	—	—	—	11-3380	—	—	—	—	—	—	—	—

*— = Analyses not requested.

Table 6.12-2
Inorganic Chemicals above BVs at Consolidated Unit 21-026(a)-99

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Cyanide (Total)	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Zinc
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.79**	**46**	**1.63**	**2200**	**7.14**	**4.66**	**0.5**	**11.2**	**1690**	**0.1**	**6.58**	**na**[b]	**na**	**0.3**	**1**	**2.4**	**63.5**
Soil BV[a]				**29200**	**0.83**	**8.17**	**295**	**0.4**	**6120**	**19.3**	**14.7**	**0.5**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**48.8**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**277**	**na**	**465000**[d]	**12400**	**186**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**92900**
Industrial SSL[c]				**1130000**	**454**	**17.7**	**223000**	**897**	**na**	**1700000**[d]	**45400**	**681**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**341000**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**3130**	**46.9**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**23500**
RE21-07-75726	21-27550	0–0.5	SOIL	—[e]	—	—	—	—	—	—	—	—	—	—	—	—	2.54	—	—	—	—	—
RE21-07-75727	21-27550	4.33–5.33	QBT3	—	—	—	—	—	5690	8 (J)	—	—	—	—	—	—	—	—	1.51 (U)	—	—	—
RE21-07-75728	21-27550	6.33–7.33	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.52 (U)	—	—	—
RE21-07-75729	21-27550	9.33–10.33	QBT3	—	—	—	—	—	2530	—	9.29	—	—	—	0.16	—	—	—	1.51 (U)	—	—	—
RE21-07-75730	21-27551	10–11	QBT3	—	—	—	—	—	8970 (J)	—	—	—	—	—	—	—	—	0.000788 (J)	1.53 (U)	—	—	—
RE21-07-75731	21-27551	15–16	QBT3	—	—	—	—	—	5990 (J)	—	—	—	—	—	—	—	—	0.000607 (J)	0.675 (J)	—	—	—
RE21-07-75732	21-27551	20–21	QBT3	—	—	—	—	—	8490 (J)	—	—	—	—	—	—	—	—	0.000956 (J)	1.52 (U)	—	—	—
RE21-07-75734	21-27552	0–0.5	SOIL	—	—	—	—	0.516 (U)	—	—	—	—	—	—	—	—	—	—	1.55 (U)	—	—	—
RE21-07-75735	21-27552	2–3	SOIL	—	—	—	—	0.524 (U)	—	—	—	—	—	—	—	—	—	—	1.57 (U)	—	—	—
RE21-07-75736	21-27552	5–6	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.000627 (J)	0.674 (J)	—	—	—
RE21-07-75737	21-27553	0–0.5	SOIL	—	—	—	—	—	13900	—	—	—	—	—	—	—	1.25	—	1.57 (U)	—	—	—
RE21-07-75738	21-27553	2–3	SOIL	—	—	—	—	—	7170	—	—	—	—	—	—	—	—	0.00134 (J)	1.68 (U)	—	—	—
RE21-07-75739	21-27553	5–6	QBT3	—	—	3.11	102 (J+)	—	37000	8.44	5.08	—	—	2970	—	6.86	—	0.00094 (J-)	1.64 (U)	—	—	—
MD21-09-8729	21-27553	10–11	QBT3	NA[f]	NA	NA	NA	NA	2700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75752	21-27554	0–0.5	SOIL	—	—	—	—	0.48 (U)	—	—	—	—	—	—	—	—	1.43	—	—	—	—	—
RE21-07-75753	21-27554	2.5–3.5	QBT3	—	—	—	—	—	4970 (J+)	13	—	—	—	—	—	—	—	—	1.51 (U)	—	—	—
RE21-07-75754	21-27554	4.5–5.5	QBT3	—	—	—	—	—	3120 (J+)	13.2	—	—	—	—	—	—	—	0.00154 (J+)	1.57 (U)	—	—	—
RE21-07-75743	21-27555	0–0.5	SOIL	—	—	—	—	0.523 (U)	—	—	—	—	—	—	—	—	1.88	0.000991 (J)	—	—	—	—
RE21-07-75744	21-27555	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.000675 (J)	1.57 (U)	—	—	—
RE21-07-75745	21-27556	0–0.5	SOIL	—	—	—	—	0.567 (U)	—	—	—	—	—	—	—	—	1.53	—	—	—	—	—
RE21-07-75746	21-27556	2–2.5	QBT3	—	—	—	—	—	—	10.6	—	—	—	—	—	—	—	—	0.66 (J)	—	—	—
RE21-07-75747	21-27557	0–0.5	SOIL	—	—	—	—	0.632 (U)	—	—	—	—	—	—	—	—	1.4	—	1.9 (U)	—	—	—
RE21-07-75748	21-27557	2–2.5	QBT3	13200	—	2.95	48.1	—	—	10.7	4.69	—	—	1900 (J+)	—	—	—	—	0.868 (J)	—	—	—
RE21-07-75749	21-27558	0–0.5	SOIL	—	—	—	—	0.542 (U)	—	—	—	—	—	—	—	—	—	—	1.62 (U)	—	—	—
RE21-07-75750	21-27558	2–2.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.69 (U)	—	—	—
RE21-07-75755	21-27559	0–0.5	SOIL	—	—	—	—	0.483 (U)	—	—	—	—	—	—	—	—	1.08	—	—	—	—	—

Table 6.12-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Cyanide (Total)	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Zinc
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.79**	**46**	**1.63**	**2200**	**7.14**	**4.66**	**0.5**	**11.2**	**1690**	**0.1**	**6.58**	**na**	**na**	**0.3**	**1**	**2.4**	**63.5**
Soil BV[a]				**29200**	**0.83**	**8.17**	**295**	**0.4**	**6120**	**19.3**	**14.7**	**0.5**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**48.8**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**277**	**na**	**465000**[d]	**12400**	**186**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**92900**
Industrial SSL[c]				**1130000**	**454**	**17.7**	**223000**	**897**	**na**	**1700000**[d]	**45400**	**681**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**341000**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**3130**	**46.9**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**23500**
RE21-07-75756	21-27559	2.5–3.5	QBT3	—	—	—	—	—	—	11.3	—	—	—	—	—	—	—	—	1.64 (U)	—	—	—
RE21-07-75757	21-27559	4.5–5.5	QBT3	—	—	—	—	—	3120 (J+)	11.9	—	—	—	—	—	—	—	—	1.6 (U)	—	—	—
RE21-07-75765	21-27560	0–0.5	SOIL	—	—	—	—	0.552 (U)	—	—	—	—	—	—	—	—	1.37	—	1.65 (U)	—	—	—
RE21-07-75766	21-27560	2–3	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.71 (U)	—	—	—
RE21-07-75767	21-27561	0–0.5	SOIL	—	—	—	—	0.532 (U)	—	—	—	—	—	—	—	—	—	—	1.6 (U)	—	—	—
RE21-07-75768	21-27561	2–3	SOIL	—	—	—	—	0.566 (U)	—	—	—	—	—	—	—	—	1.4	—	1.7 (U)	—	—	—
RE21-07-75769	21-27562	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	2.62	—	1.56 (U)	—	—	—
RE21-07-75770	21-27562	2–3	QBT3	—	—	—	—	—	—	17.1	—	—	—	—	—	—	1.85	0.000929 (J-)	0.845 (J)	—	—	—
RE21-07-75771	21-27563	0–0.5	SOIL	—	—	—	—	0.546 (U)	—	—	—	—	—	—	—	—	1.54	—	1.64 (U)	—	—	—
RE21-07-75772	21-27563	2–3	SOIL	—	—	—	—	0.511 (U)	—	—	—	—	—	—	—	—	—	—	1.53 (U)	—	—	—
RE21-07-75773	21-27564	9.5–10.5	QBT3	—	—	—	—	—	8450 (J+)	—	—	—	267 (J)	—	—	—	—	0.00471 (J+)	0.659 (J)	—	—	—
RE21-07-75774	21-27564	11.5–12.5	QBT3	—	—	—	—	—	—	—	—	—	82.8 (J)	—	—	—	—	0.00132 (J-)	1.51 (U)	—	—	—
RE21-07-75775	21-27565	12–13	QBT3	—	—	—	—	—	4150 (J)	—	—	—	—	—	—	—	—	—	1.45 (U)	—	—	—
RE21-07-75776	21-27565	14–15	QBT3	—	—	—	59.1	—	19200 (J)	—	—	—	17.6	—	—	—	—	—	1.6 (U)	—	—	—
RE21-07-75777	21-27566	12–13	QBT3	—	—	—	—	—	4410 (J)	—	—	—	—	—	—	—	1.22	0.00414 (J-)	1.46 (U)	—	—	—
RE21-07-75778	21-27566	14–15	QBT3	—	—	—	—	—	3390 (J)	—	—	—	—	—	—	—	1.23	0.00268 (J-)	1.53 (U)	—	—	—
RE21-07-75781	21-27568	10–11	QBT3	—	—	—	46.2	—	8320 (J)	—	—	—	—	—	—	—	—	0.000811 (J)	0.646 (J)	—	—	—
RE21-07-75782	21-27568	12–13	QBT3	—	—	—	—	—	11100 (J)	—	—	—	—	—	—	—	2.21	0.00352	1.6 (U)	—	—	—
RE21-07-75804	21-27570	0–0.5	SOIL	—	—	—	—	0.412 (J)	10500 (J)	—	31.1	—	—	—	0.84	—	2.21	—	—	—	—	109 (J-)
RE21-07-75805	21-27570	3.5–4.5	QBT3	—	—	—	—	—	7940 (J)	—	7.72	—	96.6	—	—	—	—	—	1.63 (U)	—	—	—
RE21-07-75806	21-27570	5.5–6.5	QBT3	—	—	—	—	—	—	—	—	—	26.4	—	—	—	—	0.000823 (J)	1.54 (U)	—	—	—
RE21-07-75807	21-27571	0–0.5	SOIL	—	—	—	—	—	11000 (J)	—	—	—	—	—	0.17	—	2.41	—	1.54 (U)	—	—	—
RE21-07-75808	21-27571	3.5–4.5	QBT3	—	—	—	—	—	42800 (J)	9.23	8.14	—	35.8	—	—	—	—	—	1.55 (U)	—	—	—
RE21-07-75809	21-27571	5.5–6.5	QBT3	—	—	3.06	—	—	6280 (J)	23.9	—	—	103	—	—	—	—	—	1.58 (U)	—	—	65 (J-)
RE21-07-75810	21-27572	0–0.5	QBT3	—	—	—	—	—	—	—	—	0.54 (U)	—	—	—	—	—	—	0.54 (U)	—	—	—
RE21-07-75811	21-27572	2–3	QBT3	—	—	—	—	—	—	—	—	0.54 (U)	—	—	—	—	—	—	—	—	—	—
RE21-07-75812	21-27572	5–6	QBT3	—	—	—	—	—	—	—	—	0.51 (U)	—	—	—	—	—	—	0.32 (J)	—	—	—
RE21-07-75813	21-27573	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	2 (J)	—	—	—	—	—
RE21-07-75814	21-27573	2–3	QBT3	—	—	—	—	—	—	8.6	—	—	—	—	—	—	—	—	0.38 (J)	—	—	—
RE21-07-75815	21-27574	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8 (J)	—	—	—	—	—
RE21-07-75816	21-27574	2–3	QBT3	—	—	—	—	—	—	10	—	—	—	—	—	—	—	—	0.33 (J)	—	—	—

Table 6.12-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Copper	Cyanide (Total)	Lead	Magnesium	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Silver	Uranium	Zinc
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.79**	**46**	**1.63**	**2200**	**7.14**	**4.66**	**0.5**	**11.2**	**1690**	**0.1**	**6.58**	**na**	**na**	**0.3**	**1**	**2.4**	**63.5**
Soil BV[a]				**29200**	**0.83**	**8.17**	**295**	**0.4**	**6120**	**19.3**	**14.7**	**0.5**	**22.3**	**4610**	**0.1**	**15.4**	**na**	**na**	**1.52**	**1**	**1.82**	**48.8**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**277**	**na**	**465000**[d]	**12400**	**186**	**800**	**na**	**92.9**	**6190**	**496000**	**217**	**1550**	**1550**	**929**	**92900**
Industrial SSL[c]				**1130000**	**454**	**17.7**	**223000**	**897**	**na**	**1700000**[d]	**45400**	**681**	**800**	**na**	**341**	**22500**	**1820000**	**795**	**5680**	**5680**	**3410**	**341000**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000**[d]	**3130**	**46.9**	**400**	**na**	**23.5**	**1560**	**125000**	**54.8**	**391**	**391**	**235**	**23500**
RE21-07-75817	21-27575	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	0.69 (J)	—	—	—	—	—
RE21-07-75818	21-27575	2–3	QBT3	—	—	—	—	—	—	—	9.5	—	—	—	0.22	—	—	—	—	2.6	—	—
RE21-07-75819	21-27576	0–0.5	SOIL	—	1.5 (J-)	11.9	708	12.1	—	252	556	1.9 (J)	249	—	12.5	62.6	9.8 (J)	—	1.9	40.3	12.9	1640
RE21-07-75820	21-27576	2–3	QBT3	—	—	—	90.5	—	—	33.2	49.8	—	23.5	—	0.82	12.1	0.98 (J)	—	—	3.1	—	202
RE21-07-75821	21-27577	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	2.6 (J)	—	—	—	—	—
RE21-07-75822	21-27577	2–3	QBT3	—	—	—	—	—	—	—	—	0.52 (U)	—	—	—	—	—	—	—	—	—	—
RE21-07-75823	21-27578	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	0.12	—	4.9 (J)	—	—	1.2	—	—
RE21-07-75824	21-27578	2–3	QBT3	—	—	—	—	—	—	—	—	0.55 (U)	—	—	—	—	—	—	0.34 (J)	—	—	—
RE21-07-75825	21-27579	0–0.5	SOIL	—	0.94 (J-)	—	392	4.4	—	124	292	2.7 (J)	118	—	14.7	36.6	5.8 (J)	—	1.6	42.2	19.2	568
RE21-07-75826	21-27579	2–3	QBT3	—	—	—	—	—	—	12.8	29.3	0.54 (U)	12.7	—	0.88	7	—	—	—	2	2.5	73.7
RE21-07-75827	21-27580	0–0.5	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	2.6 (J)	—	—	—	—	—
RE21-07-75828	21-27580	2–3	QBT3	—	—	—	—	—	—	10.8	—	0.54 (U)	—	—	—	—	—	—	—	—	—	—
RE21-07-75829	21-27581	10–11	QBT3	—	—	—	61.3	—	13900 (J)	—	—	—	—	—	—	—	—	—	0.833 (J)	—	—	—
RE21-07-75830	21-27581	12–13	QBT3	—	—	—	—	—	11700 (J)	—	—	—	—	—	—	—	—	0.000551 (J)	1.03 (J)	—	—	—
MD21-09-8731	21-605238	10–11	QBT3	NA	NA	NA	NA	NA	5800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-8734	21-605240	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	0.58 (U)	NA	NA	NA	NA	NA	NA	NA	1.4 (J)	—	NA
MD21-11-24247	21-614574	9–10	QBT3	—	1 (U)	—	—	—	—	—	—	NA	—	—	—	—	NA	NA	0.962 (U)	2.5 (U)	NA	—

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971).

[d] SSL for trivalent chromium.

[e] — = Not detected or not detected above BV.

[f] NA = Not analyzed.

Table 6.12-3
Organic Chemicals Detected at Consolidated Unit 21-026(a)-99

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	Bis(2-ethylhexyl)phthalate	Butylbenzylphthalate	Chloroform	Chrysene	Di-n-butylphthalate	Di-n-octylphthalate	Dibenz(a,h)anthracene	Dibenzofuran
Construction Worker SSL[a]				**18600**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680[b]**	**2060**	**1080000[c]**	**4760**	**53800[c]**	**154**	**20600**	**23800**	**3100[c]**	**21.3**	**354[c]**
Industrial SSL[a]				**36700**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**234**	**3300000[d]**	**1370**	**12000[d]**	**32.7**	**2340**	**68400**	**8200[d]**	**2.34**	**1000[d]**
Residential SSL[a]				**3440**	**17200**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720[b]**	**14.8**	**250000[d]**	**347**	**2800[d]**	**5.86**	**148**	**6110**	**620[d]**	**0.148**	**72[d]**
RE21-07-75726	21-27550	0–0.5	SOIL	—[e]	—	NA[f]	NA	—	—	0.0153 (J)	—	—	—	—	—	NA	—	—	—	—	—
RE21-07-75727	21-27550	4.33–5.33	QBT3	—	—	NA	NA	0.0291 (J)	0.0184 (J)	0.0297 (J)	—	—	—	—	—	—	0.0248 (J)	—	—	—	—
RE21-07-75728	21-27550	6.33–7.33	QBT3	—	—	NA	NA	0.0142 (J)	—	0.0124 (J)	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75729	21-27550	9.33–10.33	QBT3	—	—	NA	NA	0.124	0.0893	0.153	0.0371 (J)	0.0564	—	0.0839 (J)	—	—	0.121	—	—	—	—
RE21-07-75731	21-27551	15–16	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75732	21-27551	20–21	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75735	21-27552	2–3	SOIL	0.281	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75738	21-27553	2–3	SOIL	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75743	21-27555	0–0.5	SOIL	—	—	NA	NA	—	—	—	—	—	0.501 (J)	—	—	NA	—	—	—	—	—
RE21-07-75745	21-27556	0–0.5	SOIL	—	—	NA	NA	—	—	—	—	—	0.44 (J)	—	—	NA	—	—	—	—	—
RE21-07-75747	21-27557	0–0.5	SOIL	—	—	NA	NA	—	—	—	—	—	0.481 (J)	—	—	NA	—	—	—	—	—
RE21-07-75750	21-27558	2–2.5	QBT3	—	—	NA	NA	—	—	—	—	—	0.392 (J)	—	—	—	—	—	—	—	—
RE21-07-583	21-27558	2–3	QBT3	NA	NA	0.0044	0.0031 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-75771	21-27563	0–0.5	SOIL	—	—	NA	NA	—	—	0.0123 (J)	—	—	—	—	—	NA	—	—	—	—	—
RE21-07-75776	21-27565	14–15	QBT3	—	—	NA	NA	—	—	0.0108 (J)	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75781	21-27568	10–11	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75782	21-27568	12–13	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-75804	21-27570	0–0.5	SOIL	—	—	NA	NA	—	0.0837	0.162	0.0429	0.0718	—	0.16 (J)	—	NA	0.104	—	—	—	—
RE21-07-75805	21-27570	3.5–4.5	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	0.000254 (J)	—	—	—	—	—
RE21-07-75807	21-27571	0–0.5	SOIL	—	—	NA	NA	—	—	0.0553	—	—	—	0.0937 (J)	—	NA	0.0387	0.0621 (J)	—	—	—
RE21-07-75808	21-27571	3.5–4.5	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	0.000219 (J)	—	—	—	—	—
RE21-07-75813	21-27573	0–0.5	SOIL	—	—	NA	NA	0.081 (J)	0.06 (J)	0.062 (J)	—	0.07 (J)	—	—	—	NA	0.082 (J)	—	—	—	—
RE21-07-75817	21-27575	0–0.5	SOIL	—	—	NA	NA	—	—	—	—	—	—	—	—	NA	—	0.04 (J)	—	—	—
RE21-07-75818	21-27575	2–3	QBT3	—	—	NA	NA	—	—	—	—	—	—	0.12 (J)	0.069 (J)	—	—	—	—	—	—
RE21-07-75819	21-27576	0–0.5	SOIL	0.15 (J)	0.55 (J)	NA	NA	5.5	4.3 (J)	5.7 (J)	2.1 (J)	4.6 (J)	—	4.2	0.84	NA	6	0.31 (J)	0.1 (J)	0.83 (J)	—
RE21-07-75820	21-27576	2–3	QBT3	—	0.04 (J)	NA	NA	0.47	0.36 (J)	0.44	0.16 (J)	0.36 (J)	—	0.24 (J)	0.071 (J)	—	0.51	—	—	—	—
RE21-07-75825	21-27579	0–0.5	SOIL	0.24 (J)	0.65	NA	NA	5.9	4.4 (J)	6 (J)	2.1 (J)	4.2 (J)	—	2.7	1.2	NA	6	0.85	—	0.84 (J)	0.055 (J)
RE21-07-75826	21-27579	2–3	QBT3	—	0.073 (J)	NA	NA	0.28 (J)	0.22 (J)	0.2 (J)	0.089 (J)	0.28 (J)	—	0.14 (J)	0.14 (J)	—	0.3 (J)	0.069 (J)	—	—	—
RE21-07-75829	21-27581	10–11	QBT3	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MD21-09-8734	21-605240	0–0.5	SOIL	—	—	NA	NA	—	—	—	—	—	—	0.078 (J)	—	NA	—	—	—	—	—

Table 6.12-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dichlorobenzene[1,4-]	Dimethylphenol[2,4-]	Ethylbenzene	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Phenanthrene	Pyrene	Toluene	Trimethylbenzene[1,2,4-]	Xylene (Total)	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**831**	**4760**	**1830**	**8910**	**8910**	**na**[g]	**na**	**na**	**213**	**na**	**7150**	**6680**	**13400**	**245**[c]	**743**	**743**[h]
Industrial SSL[a]				**177**	**13700**	**378**	**24400**	**24400**	**na**	**na**	**na**	**23.4**	**na**	**20500**	**18300**	**57700**	**240**[d]	**3980**	**3980**[h]
Residential SSL[a]				**31.7**	**1220**	**68.4**	**2290**	**2290**	**na**	**na**	**na**	**1.48**	**na**	**1830**	**1720**	**5270**	**58**[d]	**814**	**814**[h]
RE21-07-75726	21-27550	0–0.5	SOIL	—	—	NA	—	—	NA	NA	NA	—	NA	—	—	NA	NA	NA	NA
RE21-07-75727	21-27550	4.33–5.33	QBT3	—	—	—	0.0287 (J)	—	NA	NA	NA	—	NA	—	0.024 (J)	—	—	NA	—
RE21-07-75728	21-27550	6.33–7.33	QBT3	—	—	—	0.0109 (J)	—	NA	NA	NA	—	NA	—	—	—	—	NA	0.000283 (J)
RE21-07-75729	21-27550	9.33–10.33	QBT3	—	—	—	0.143	—	NA	NA	NA	—	NA	0.0219 (J)	0.124	—	—	NA	0.000279 (J)
RE21-07-75731	21-27551	15–16	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	0.000311 (J)	—	NA	0.000292 (J)
RE21-07-75732	21-27551	20–21	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	0.00042 (J)	—	NA	0.000357 (J)
RE21-07-75735	21-27552	2–3	SOIL	—	—	—	—	—	NA	NA	NA	—	NA	—	—	—	—	NA	—
RE21-07-75738	21-27553	2–3	SOIL	—	—	—	—	—	NA	NA	NA	—	NA	—	—	—	0.000413 (J)	NA	—
RE21-07-75743	21-27555	0–0.5	SOIL	—	—	NA	—	—	NA	NA	NA	—	NA	—	—	NA	NA	NA	NA
RE21-07-75745	21-27556	0–0.5	SOIL	—	—	NA	—	—	NA	NA	NA	—	NA	—	—	NA	NA	NA	NA
RE21-07-75747	21-27557	0–0.5	SOIL	—	—	NA	—	—	NA	NA	NA	—	NA	—	—	NA	NA	NA	NA
RE21-07-75750	21-27558	2–2.5	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	—	—	NA	—
RE21-07-583	21-27558	2–3	QBT3	NA	NA	NA	NA	NA	1.58E-06 (J)	3.06E-06	4.78E-07	NA	9.95E-06	NA	NA	NA	NA	NA	NA
RE21-07-75771	21-27563	0–0.5	SOIL	—	—	NA	0.0137 (J)	—	NA	NA	NA	—	NA	—	0.0114 (J)	NA	NA	NA	NA
RE21-07-75776	21-27565	14–15	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	—	—	NA	—
RE21-07-75781	21-27568	10–11	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	0.000471 (J)	—	NA	—
RE21-07-75782	21-27568	12–13	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	0.00369	—	NA	—
RE21-07-75804	21-27570	0–0.5	SOIL	—	—	NA	0.079	—	NA	NA	NA	0.0393	NA	—	0.0849	NA	NA	NA	NA
RE21-07-75805	21-27570	3.5–4.5	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	—	—	NA	—
RE21-07-75807	21-27571	0–0.5	SOIL	—	—	NA	0.0346	—	NA	NA	NA	—	NA	—	0.0405	NA	NA	NA	NA
RE21-07-75808	21-27571	3.5–4.5	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	—	—	NA	—
RE21-07-75813	21-27573	0–0.5	SOIL	—	—	NA	0.089 (J)	—	NA	NA	NA	—	NA	—	0.089 (J)	NA	NA	NA	NA
RE21-07-75817	21-27575	0–0.5	SOIL	—	—	NA	—	—	NA	NA	NA	—	NA	—	—	NA	NA	NA	NA
RE21-07-75818	21-27575	2–3	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	—	—	—	NA
RE21-07-75819	21-27576	0–0.5	SOIL	—	—	NA	6	0.12 (J)	NA	NA	NA	2.2 (J)	NA	1.8 (J)	5.4	NA	NA	NA	NA
RE21-07-75820	21-27576	2–3	QBT3	—	—	—	0.52	—	NA	NA	NA	0.19 (J)	NA	0.13 (J)	0.49	—	—	—	NA
RE21-07-75825	21-27579	0–0.5	SOIL	0.064 (J)	0.063 (J)	NA	6.7	0.17 (J)	NA	NA	NA	2.1 (J)	NA	2.2	6	NA	NA	NA	NA

Table 6.12-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Dichlorobenzene[1,4-]	Dimethylphenol[2,4-]	Ethylbenzene	Fluoranthene	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Phenanthrene	Pyrene	Toluene	Trimethylbenzene[1,2,4-]	Xylene (Total)	Xylene[1,3-]+Xylene[1,4-]
Construction Worker SSL[a]				**831**	**4760**	**1830**	**8910**	**8910**	**na**[g]	**na**	**na**	**213**	**na**	**7150**	**6680**	**13400**	**245**[c]	**743**	**743**[h]
Industrial SSL[a]				**177**	**13700**	**378**	**24400**	**24400**	**na**	**na**	**na**	**23.4**	**na**	**20500**	**18300**	**57700**	**240**[d]	**3980**	**3980**[h]
Residential SSL[a]				**31.7**	**1220**	**68.4**	**2290**	**2290**	**na**	**na**	**na**	**1.48**	**na**	**1830**	**1720**	**5270**	**58**[d]	**814**	**814**[h]
RE21-07-75826	21-27579	2–3	QBT3	—	—	0.00043 (J)	0.44	—	NA	NA	NA	0.084 (J)	NA	0.24 (J)	0.36	—	0.00049 (J)	0.0015 (J)	NA
RE21-07-75829	21-27581	10–11	QBT3	—	—	—	—	—	NA	NA	NA	—	NA	—	—	0.00246	—	NA	—
MD21-09-8734	21-605240	0–0.5	SOIL	—	—	NA	—	—	NA	NA	NA	—	NA	—	—	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene used as a surrogate based on structural similarity.

[c] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[e] — = Not detected.

[f] NA = Not analyzed.

[g] na = Not available.

[h] Xylenes used as a surrogate based on structural similarity.

Table 6.12-4
Radionuclides Detected or Detected above BVs/FVs at Consolidated Unit 21-026(a)-99

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-75726	21-27550	0–0.5	SOIL	0.194	—[e]	—	0.221	0.0285006	—	—	—
RE21-07-75727	21-27550	4.33–5.33	QBT3	0.568	—	0.03	1.38	0.0696624	—	—	—
RE21-07-75728	21-27550	6.33–7.33	QBT3	0.0777	—	—	0.055	0.0642664	—	—	—
RE21-07-75729	21-27550	9.33–10.33	QBT3	0.336	—	—	0.432	0.0537875	—	—	—
RE21-07-75730	21-27551	10–11	QBT3	—	—	—	—	0.0483678	—	—	—
RE21-07-75731	21-27551	15–16	QBT3	—	—	—	—	0.0305427	—	—	—
RE21-07-75732	21-27551	20–21	QBT3	—	—	—	—	0.0496671	—	—	—
RE21-07-75735	21-27552	2–3	SOIL	—	0.108	—	—	0.013359	—	—	—
RE21-07-75736	21-27552	5–6	QBT3	—	—	—	—	0.0191331	—	—	—
RE21-07-75737	21-27553	0–0.5	SOIL	0.168 (J)	—	—	0.165	—	—	—	—
RE21-07-75738	21-27553	2–3	SOIL	0.0895 (J)	—	—	0.123	0.042743	—	—	—
RE21-07-75739	21-27553	5–6	QBT3	0.0312 (J)	—	—	0.094	0.0524174	—	—	—
RE21-07-75752	21-27554	0–0.5	SOIL	—	—	—	0.063	0.0036659	—	—	—
RE21-07-75753	21-27554	2.5–3.5	QBT3	—	—	—	—	0.0143567	—	—	—
RE21-07-75754	21-27554	4.5–5.5	QBT3	—	—	—	—	0.0185783	—	—	—
RE21-07-75743	21-27555	0–0.5	SOIL	—	—	—	—	0.0387394	—	—	—
RE21-07-75744	21-27555	2–2.5	QBT3	—	0.33	—	—	0.137131	—	—	—
RE21-07-75745	21-27556	0–0.5	SOIL	—	—	—	0.468	—	—	—	—
RE21-07-75746	21-27556	2–2.5	QBT3	—	—	—	—	0.0439035	—	—	—
RE21-07-75747	21-27557	0–0.5	SOIL	—	—	0.073	—	—	—	—	—
RE21-07-75748	21-27557	2–2.5	QBT3	—	—	—	—	0.0339545	—	—	—
RE21-07-75749	21-27558	0–0.5	SOIL	—	—	—	0.105	0.0370909	—	—	—
RE21-07-75750	21-27558	2–2.5	QBT3	—	—	—	—	0.0636988	—	—	—
RE21-07-75755	21-27559	0–0.5	SOIL	—	—	—	—	0.0031987	—	—	—
RE21-07-75756	21-27559	2.5–3.5	QBT3	—	—	—	—	0.0291276	—	—	—
RE21-07-75757	21-27559	4.5–5.5	QBT3	—	—	—	—	0.0167526	—	—	—
RE21-07-75766	21-27560	2–3	SOIL	—	—	—	0.067	0.0284521	—	—	—
RE21-07-75768	21-27561	2–3	SOIL	—	0.139	—	—	—	—	—	—
RE21-07-75769	21-27562	0–0.5	SOIL	—	—	—	0.127	0.0224184	—	—	—

Table 6.12-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-75770	21-27562	2–3	QBT3	—	—	—	—	0.0918258	—	—	—
RE21-07-75772	21-27563	2–3	SOIL	—	0.069	—	—	0.0193993	—	—	—
RE21-07-75773	21-27564	9.5–10.5	QBT3	0.0436 (J)	0.119	—	0.303	0.0224981	—	—	—
RE21-07-75774	21-27564	11.5–12.5	QBT3	—	—	—	—	0.0039263	—	—	—
RE21-07-75775	21-27565	12–13	QBT3	—	—	—	—	0.0625628	—	—	—
RE21-07-75776	21-27565	14–15	QBT3	—	—	—	0.034	0.0323526	—	—	—
RE21-07-75777	21-27566	12–13	QBT3	—	—	—	0.043	0.0163851	—	—	—
RE21-07-75778	21-27566	14–15	QBT3	—	—	—	—	0.0162787	—	—	—
RE21-07-75781	21-27568	10–11	QBT3	—	—	—	—	0.0526536	—	—	—
RE21-07-75782	21-27568	12–13	QBT3	—	—	—	—	0.0593838	—	—	—
RE21-07-75804	21-27570	0–0.5	SOIL	4.19	—	0.125	3.74	0.28166	—	—	—
RE21-07-75805	21-27570	3.5–4.5	QBT3	—	—	—	0.053	0.092848	—	—	—
RE21-07-75806	21-27570	5.5–6.5	QBT3	—	—	—	—	0.0352447	—	—	—
RE21-07-75807	21-27571	0–0.5	SOIL	0.271	—	—	0.468	0.0542499	—	—	—
RE21-07-75808	21-27571	3.5–4.5	QBT3	0.0718	—	—	0.109	0.08406	—	—	—
RE21-07-75809	21-27571	5.5–6.5	QBT3	—	—	—	—	0.0938817	—	—	—
RE21-07-75810	21-27572	0–0.5	QBT3	—	—	—	—	0.0082	—	—	—
RE21-07-75811	21-27572	2–3	QBT3	—	—	—	—	0.0396	—	—	—
RE21-07-75812	21-27572	5–6	QBT3	—	—	—	—	0.0128	—	—	—
RE21-07-75813	21-27573	0–0.5	SOIL	—	—	—	0.077	—	—	—	—
RE21-07-75815	21-27574	0–0.5	SOIL	0.0418	—	—	—	—	—	—	—
RE21-07-75816	21-27574	2–3	QBT3	—	—	—	—	0.02	—	—	—
RE21-07-75817	21-27575	0–0.5	SOIL	0.0296	—	—	0.169	—	—	—	—
RE21-07-75818	21-27575	2–3	QBT3	0.177	—	0.25	1.08	0.053	—	—	—
RE21-07-75819	21-27576	0–0.5	SOIL	58.1	—	3.24	83.5	6.12	12.6	0.65	3.44
RE21-07-75820	21-27576	2–3	QBT3	1.09	—	0.082	2.33	0.701	—	—	—
RE21-07-75821	21-27577	0–0.5	SOIL	0.182	—	—	0.369	—	—	—	—
RE21-07-75822	21-27577	2–3	QBT3	—	—	—	0.039	0.0165	—	—	—
RE21-07-75823	21-27578	0–0.5	SOIL	0.087	—	—	0.138	0.0343	—	—	—
RE21-07-75825	21-27579	0–0.5	SOIL	5.99	—	2.35	20.5	0.538	43.1	1.8	5.2

Table 6.12-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-75826	21-27579	2–3	QBT3	0.131	—	0.079	0.508	0.106	3.39	0.21	—
RE21-07-75827	21-27580	0–0.5	SOIL	—	—	—	0.126	0.0082	—	—	—
RE21-07-75828	21-27580	2–3	QBT3	—	—	—	—	0.0162	—	—	—
RE21-07-75829	21-27581	10–11	QBT3	—	—	—	—	0.0633622	—	—	—
RE21-07-75830	21-27581	12–13	QBT3	—	—	—	—	0.0388593	—	—	—

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

Table 6.13-1
Samples Collected and Analyses Requested at SWMU 21-027(a)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOTH	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
RE21-07-3894	21-600861	0–0.5	ALLH	07-267	07-267	07-267	07-267	07-267	07-267	—*	07-267	07-267	07-267	—	—	07-267	—	—	07-267	07-267
RE21-07-3895	21-600861	2–3	QBT3	07-267	07-267	07-267	07-267	07-267	07-267	—	07-267	07-267	07-267	—	07-267	07-267	—	—	07-267	07-267
RE21-07-3896	21-600862	0–0.5	ALLH	07-267	07-267	07-267	07-267	07-267	07-267	—	07-267	07-267	07-267	—	—	07-267	—	—	07-267	07-267
RE21-07-3897	21-600862	2–3	QBT3	07-267	07-267	07-267	07-267	07-267	07-267	—	07-267	07-267	07-267	—	07-267	07-267	—	—	07-267	07-267
RE21-07-3898	21-600863	0–0.5	ALLH	07-267	07-267	07-267	07-267	07-267	07-267	—	07-267	07-267	07-267	—	—	07-267	—	—	07-267	07-267
RE21-07-3899	21-600863	2–3	QBT3	07-267	07-267	07-267	07-267	07-267	07-267	—	07-267	07-267	07-267	—	07-267	07-267	—	—	07-267	07-267
RE21-07-3900	21-600864	0–0.5	ALLH	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	—	07-269	—	—	07-270	07-270
RE21-08-10373	21-600864	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	—	—	08-557	—	—	—
RE21-08-10374	21-600864	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	08-557	—	—	—
RE21-07-3901	21-600864	2–3	QBT3	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	07-269	07-269	—	—	07-270	07-270
RE21-07-3902	21-600865	0–0.5	ALLH	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	—	07-269	—	—	07-270	07-270
RE21-07-3903	21-600865	2–3	QBT3	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	07-269	07-269	—	—	07-270	07-270
RE21-07-3904	21-600866	0–0.5	ALLH	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	—	07-269	—	—	07-270	07-270
RE21-07-3905	21-600866	2–3	QBT3	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	07-269	07-269	—	—	07-270	07-270
RE21-07-3906	21-600867	0–0.5	ALLH	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	—	07-269	—	—	07-270	07-270
RE21-08-10375	21-600867	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	—	—	08-557	—	—	—
RE21-08-10376	21-600867	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	08-557	—	—	—
RE21-07-3907	21-600867	2–3	QBT3	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	07-269	07-269	—	—	07-270	07-270
RE21-07-3908	21-600868	0–0.5	ALLH	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	—	07-269	—	—	07-270	07-270
RE21-07-3909	21-600868	2–3	QBT3	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	07-269	07-269	—	—	07-270	07-270
RE21-07-3916	21-600872	0–0.5	ALLH	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	—	07-269	—	—	07-270	07-270
RE21-07-3925	21-600872	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	07-285	—	—	07-286	07-285	—	—
RE21-07-3917	21-600872	2–3	QBT3	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	07-269	07-269	—	—	07-270	07-270
RE21-08-10371	21-600872	2–3	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	08-557	—	—	—
RE21-07-3918	21-600872	5–6	QBT3	07-270	07-271	07-271	07-271	07-271	07-271	—	07-271	07-270	07-270	—	07-269	07-269	—	—	07-270	07-270
RE21-07-5860	21-601224	1–2	ALLH	07-734	07-735	07-735	07-735	07-735	07-735	—	07-735	07-734	07-734	—	07-733	07-733	—	—	07-734	07-734
RE21-07-5861	21-601224	3–4	ALLH	07-734	07-735	07-735	07-735	07-735	07-735	—	07-735	07-734	07-734	—	07-733	07-733	—	—	07-734	07-734
MD21-09-8594	21-601224	8–9	QBT3	—	—	—	—	09-2038	09-2038	—	—	—	—	—	—	—	—	—	—	—
RE21-07-5863	21-601225	3–4	QBT3	07-734	07-735	07-735	07-735	07-735	07-735	—	07-735	07-734	07-734	—	07-733	07-733	—	—	07-734	07-734
RE21-07-5893	21-601225	3–4	QBT3	—	—	—	—	—	—	—	—	—	—	08-348	—	—	08-347	08-348	—	—
MD21-09-12457	21-601225	7–8	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	09-3252	—	—	—
RE21-07-5865	21-601226	4.5–5.5	ALLH	07-734	07-735	07-735	07-735	07-735	07-735	—	07-735	07-734	07-734	—	07-733	07-733	—	—	07-734	07-734
MD21-09-8599	21-601226	9.5–10.5	QBT3	—	—	—	09-2038	—	—	—	—	—	—	—	—	—	—	—	—	—
RE21-07-5866	21-601227	1.5–2.5	ALLH	07-745	07-745	07-745	07-745	07-745	07-745	—	07-745	07-745	07-745	—	07-745	07-745	—	—	07-745	07-745
RE21-07-5867	21-601227	3.5–4.5	ALLH	07-745	07-745	07-745	07-745	07-745	07-745	—	07-745	07-745	07-745	—	07-745	07-745	—	—	07-745	07-745

Table 6.13-1 (continued)

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOTH	ISOU	Metals	Perchlorate	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-8593	21-601227	8.5–9.5	QBT3	—	—	—	—	09-2038	09-2038	—	—	09-2038	—	—	09-2038	—	—	—	—	—
RE21-07-5869	21-601228	4–5	QBT3	07-910	07-910	07-910	07-910	07-910	07-910	07-910	07-910	07-910	07-910	—	07-910	07-910	—	—	07-910	07-910
RE21-07-5871	21-601229	6–7	QBT3	08-272	08-273	08-273	08-273	08-273	08-273	—	08-273	08-272	08-272	—	08-271	08-271	—	—	08-272	08-272
RE21-08-10370	21-601229	6–7	ALLH	—	—	—	—	—	—	—	—	—	—	—	—	—	08-557	—	—	—
RE21-07-5872	21-601229	11–12	QBT3	08-272	08-273	08-273	08-273	08-273	08-273	—	08-273	08-272	08-272	—	08-271	08-271	—	—	08-272	08-272
MD21-09-8597	21-601229	11–12	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	09-2037	—	—	—
RE21-07-5873	21-601229	16–17	QBT3	08-272	08-273	08-273	08-273	08-273	08-273	—	08-273	08-272	08-272	—	08-271	08-271	—	—	08-272	08-272
RE21-07-5876	21-601229	21–22	QBT3	08-272	08-273	08-273	08-273	08-273	08-273	—	08-273	08-272	08-272	—	08-271	08-271	—	—	08-272	08-272
MD21-09-8838	21-605279	0–0.5	QBT3	—	—	—	—	09-2489	09-2489	—	09-2489	09-2489	—	—	—	09-2489	—	—	—	—
MD21-09-8839	21-605280	0–0.5	ALLH	—	—	—	—	—	—	—	—	09-2489	—	—	—	—	—	—	—	—
MD21-09-12456	21-608020	0–0.5	ALLH	—	—	—	—	—	—	—	—	09-3251	—	—	—	—	—	—	—	—
MD21-11-24248	21-614575	4–5	QBT3	—	—	—	—	—	11-3003	—	—	—	—	—	—	—	11-3002	—	—	—
MD21-11-24249	21-614576	1–2	ALLH	—	—	—	—	—	11-3003	—	—	—	—	—	—	—	11-3002	—	—	—
MD21-11-24250	21-614576	4–5	QBT3	—	—	—	—	—	11-3003	—	—	—	—	—	—	—	11-3002	—	—	—
MD21-11-24251	21-614577	1–2	ALLH	—	—	—	—	—	11-3003	—	—	—	—	—	—	—	11-3002	—	—	—
MD21-11-24252	21-614577	4–5	ALLH	—	—	—	—	—	11-3003	—	—	—	—	—	—	—	11-3002	—	—	—
MD21-11-24253	21-614578	0–0.5	QBT3	—	—	—	—	—	11-3230	—	—	—	—	—	—	—	11-3229	—	—	—
MD21-11-24254	21-614578	1.5–2	QBT3	—	—	—	—	—	11-3230	—	—	—	—	—	—	—	11-3229	—	—	—
MD21-11-24255	21-614579	0–0.5	ALLH	—	—	—	—	—	11-3230	—	—	—	—	—	—	—	11-3229	—	—	—
MD21-11-24256	21-614579	1.5–2	ALLH	—	—	—	—	—	11-3230	—	—	—	—	—	—	—	11-3229	—	—	—

*— = Analyses not requested.

Table 6.13-2
Inorganic Chemicals above BVs at SWMU 21-027(a)

Sample ID	Location ID	Depth (ft)	Media	Arsenic	Barium	Cadmium	Chromium	Copper	Cyanide (Total)	Lead	Lithium	Mercury	Nitrate	Perchlorate	Selenium	Strontium	Zinc
Qbt2,3,4 BV[a]				**2.8**	**46**	**1.63**	**7.14**	**4.66**	**0.5**	**11.2**	**na[b]**	**0.1**	**na**	**na**	**0.3**	**na**	**63.5**
Soil BV[a]				**8.2**	**295**	**0.4**	**19.3**	**14.7**	**0.5**	**22.3**	**na**	**0.1**	**na**	**na**	**1.52**	**na**	**48.8**
Construction Worker SSL[c]				**53**	**4350**	**277**	**465000[d]**	**12400**	**186**	**800**	**708[e]**	**92.9**	**496000**	**217**	**1550**	**186000**	**92900**
Industrial SSL[c]				**18**	**223000**	**897**	**1700000[d]**	**45400**	**681**	**800**	**2300[f]**	**341**	**1820000**	**795**	**5680**	**681000**	**341000**
Residential SSL[c]				**3.9**	**15600**	**70.3**	**117000[d]**	**3130**	**46.9**	**400**	**160[f]**	**23.5**	**125000**	**54.8**	**391**	**46900**	**23500**
RE21-07-3894	21-600861	0–0.5	SOIL	—[g]	—	2.86	509	148	—	57	11	0.213	3.57	—	—	43.2 (J)	398
RE21-07-3895	21-600861	2–3	QBT3	—	—	—	27.8	8.25	—	—	4.14	—	3	—	1.46 (U)	4.13 (J)	—
RE21-07-3896	21-600862	0–0.5	SOIL	—	—	2.03	146	31.5	—	24.5	7.31	—	6.78	0.00364	—	26.7 (J)	128
RE21-07-3897	21-600862	2–3	QBT3	—	—	—	15.6	—	—	12.8	4.65	—	—	—	1.5 (U)	4.55 (J)	—
RE21-07-3898	21-600863	0–0.5	SOIL	—	—	2	187	60.5	—	53.4	15.3	0.457	13.9	0.000884 (J)	—	38.5 (J)	209
RE21-07-3899	21-600863	2–3	QBT3	—	—	—	32.7	6.16	—	12.2	3.41	—	3.95	—	0.923 (J)	8.18 (J)	—
RE21-07-3900	21-600864	0–0.5	SOIL	—	—	0.457 (J)	82.4	17.6	—	22.7 (J)	8.99	—	3.19	—	—	16.2	—
RE21-07-3901	21-600864	2–3	QBT3	—	—	—	10.5	—	—	—	3.5	—	2.08	—	1.48 (U)	2.6	—
RE21-07-3902	21-600865	0–0.5	SOIL	—	—	0.696	42.2	—	—	37.6 (J)	9.02	—	2.98	—	—	11.7	52.9
RE21-07-3903	21-600865	2–3	QBT3	—	—	—	12	—	—	—	4.25	—	—	0.00135 (J)	1.49 (U)	4.77	—
RE21-07-3904	21-600866	0–0.5	SOIL	—	—	0.502 (U)	—	—	—	—	8.21	—	2.6	—	—	3.06	—
RE21-07-3905	21-600866	2–3	QBT3	—	—	—	—	—	—	—	1.86 (J)	—	—	—	0.562 (J)	1.17	—
RE21-07-3906	21-600867	0–0.5	SOIL	—	—	0.805	105	—	—	—	6.73	0.224	3.11	—	—	11.6	59.8
RE21-07-3907	21-600867	2–3	QBT3	—	—	—	—	—	—	—	2.33	—	—	—	1.49 (U)	0.703	—
RE21-07-3908	21-600868	0–0.5	SOIL	—	—	0.468 (J)	105	—	—	—	9.11	—	3.1	0.000581 (J)	—	12.5	58.9
RE21-07-3909	21-600868	2–3	QBT3	—	—	—	—	—	—	—	5.1	—	—	—	0.594 (J)	6.79	—
RE21-07-3916	21-600872	0–0.5	SOIL	—	—	2.07	152	40.7	—	24.5 (J)	9.37	—	3.92	—	—	20.3	160
RE21-07-3917	21-600872	2–3	QBT3	—	—	—	13.6	4.7	—	—	4.05	—	—	—	1.45 (U)	3.2	—
RE21-07-3918	21-600872	5–6	QBT3	—	—	—	9.95	—	—	—	4.45	—	2.1	—	1.5 (U)	2.34	—
RE21-07-5860	21-601224	1–2	SOIL	—	—	—	—	—	—	—	12	—	4.59	0.00178 (J+)	2.34	20.4	148
RE21-07-5861	21-601224	3–4	SOIL	—	—	0.515 (U)	—	—	—	—	15.3	—	2.73	0.00231 (J+)	2.13	25.7	73.5
RE21-07-5863	21-601225	3–4	QBT3	4.2	61.8	—	81.2	16.1	—	19.4	8.81	—	1.84	—	2.95	14.8	—
RE21-07-5865	21-601226	4.5–5.5	SOIL	—	—	0.568 (U)	—	—	—	—	13	—	—	—	2.83	21.4	—
RE21-07-5866	21-601227	1.5–2.5	SOIL	—	—	0.585 (U)	—	—	—	—	14.3	—	—	—	—	33.9	100
RE21-07-5867	21-601227	3.5–4.5	SOIL	—	—	0.605 (U)	—	—	—	—	11.1	—	1.81	—	1.81 (U)	18	278
RE21-07-5869	21-601228	4–5	QBT3	—	—	—	116	—	0.51 (UJ)	13.3 (J-)	2.1 (J)	0.274 (J+)	1.8	—	—	11.5	176
RE21-07-5871	21-601229	6–7	QBT3	—	—	—	—	—	—	—	5.43 (J+)	—	—	—	1.8	1.19	—
RE21-07-5872	21-601229	11–12	QBT3	—	—	—	—	—	—	—	4.49 (J+)	—	—	—	1.33 (J)	0.573	—
RE21-07-5873	21-601229	16–17	QBT3	—	—	—	—	—	—	—	5.34 (J+)	—	—	—	1.87	0.96	—

Table 6.13-2 (continued)

Sample ID	Location ID	Depth (ft)	Media	Arsenic	Barium	Cadmium	Chromium	Copper	Cyanide (Total)	Lead	Lithium	Mercury	Nitrate	Perchlorate	Selenium	Strontium	Zinc
Qbt2,3,4 BV[a]				**2.8**	**46**	**1.63**	**7.14**	**4.66**	**0.5**	**11.2**	**na[b]**	**0.1**	**na**	**na**	**0.3**	**na**	**63.5**
Soil BV[a]				**8.2**	**295**	**0.4**	**19.3**	**14.7**	**0.5**	**22.3**	**na**	**0.1**	**na**	**na**	**1.52**	**na**	**48.8**
Construction Worker SSL[c]				**53**	**4350**	**277**	**465000[d]**	**12400**	**186**	**800**	**708[e]**	**92.9**	**496000**	**217**	**1550**	**186000**	**92900**
Industrial SSL[c]				**18**	**223000**	**897**	**1700000[d]**	**45400**	**681**	**800**	**2300[f]**	**341**	**1820000**	**795**	**5680**	**681000**	**341000**
Residential SSL[c]				**3.9**	**15600**	**70.3**	**117000[d]**	**3130**	**46.9**	**400**	**160[f]**	**23.5**	**125000**	**54.8**	**391**	**46900**	**23500**
RE21-07-5876	21-601229	21–22	QBT3	—	—	—	—	—	—	—	5.29 (J+)	—	—	—	1.35 (J)	0.502 (J)	—
MD21-09-8838	21-605279	0–0.5	QBT3	NA[h]	NA	NA	—	—	NA	18	NA	—	NA	NA	NA	NA	—
MD21-09-8839	21-605280	0–0.5	SOIL	NA	NA	NA	140 (J+)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-12456	21-608020	0–0.5	SOIL	NA	NA	NA	76 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] na = Not available.

[c] SSLs from NMED (2012, 209971) unless otherwise noted.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

[h] NA = Not analyzed.

Table 6.13-3
Organic Chemicals Detected at SWMU 21-027(a)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Bis(2-ethylhexyl)phthalate	Butanone[2-]	Carbon Disulfide	Chrysene	Di-n-butylphthalate	Fluoranthene
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680[b]**	**4760**	**84300**	**1580**	**20600**	**23800**	**8910**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**1370**	**375000**	**8330**	**2340**	**68400**	**24400**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**2.22**	**1.48**	**0.15**	**1.48**	**1720[b]**	**347**	**37100**	**1530**	**148**	**6110**	**2290**
RE21-07-3894	21-600861	0–0.5	SOIL	0.0481	NA[c]	0.0776	NA	NA	0.336	0.37	0.586	0.18	—[d]	NA	NA	0.386	—	0.873
RE21-07-3895	21-600861	2–3	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3896	21-600862	0–0.5	SOIL	—	NA	0.0173 (J)	NA	NA	0.2	0.24	0.375	0.162	—	NA	NA	0.272	—	0.422
RE21-07-3897	21-600862	2–3	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	0.0108 (J)
RE21-07-3898	21-600863	0–0.5	SOIL	0.0557 (J)	NA	0.0906 (J)	NA	NA	0.713	0.82	1.55	0.457	0.287 (J)	NA	NA	0.801	—	1.84
RE21-07-3899	21-600863	2–3	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-3900	21-600864	0–0.5	SOIL	—	NA	—	NA	NA	—	—	0.0639	0.0273 (J)	—	NA	NA	0.0274 (J)	—	0.0544
RE21-08-10373	21-600864	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10374	21-600864	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3902	21-600865	0–0.5	SOIL	—	NA	—	NA	NA	0.042	—	0.0848	0.0346 (J)	—	NA	NA	0.047	—	0.0738
RE21-07-3904	21-600866	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	NA	NA	—	—	0.012 (J)
RE21-07-3906	21-600867	0–0.5	SOIL	—	NA	0.00724 (J)	NA	NA	—	—	0.137	—	—	NA	NA	0.0771	—	0.133
RE21-08-10375	21-600867	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10376	21-600867	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3908	21-600868	0–0.5	SOIL	—	NA	—	NA	NA	—	—	—	—	—	NA	NA	0.0273 (J)	—	0.0469
RE21-07-3916	21-600872	0–0.5	SOIL	0.0227 (J)	NA	0.0323 (J)	NA	NA	0.201	—	0.387	0.137 (J)	—	NA	NA	0.232	—	0.461
RE21-07-3925	21-600872	0–0.5	SOIL	NA	NA	NA	0.052	0.0284 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10371	21-600872	2–3	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5860	21-601224	1–2	SOIL	—	—	—	NA	NA	0.0223 (J)	—	—	—	—	—	—	0.0206 (J)	—	0.0214 (J)
RE21-07-5861	21-601224	3–4	SOIL	—	—	—	NA	NA	0.0189 (J)	—	—	—	—	—	—	—	—	0.0209 (J)
RE21-07-5863	21-601225	3–4	QBT3	—	—	—	NA	NA	0.0196 (J)	—	0.033 (J)	—	—	—	—	0.0208 (J)	—	0.0396
RE21-07-5893	21-601225	3–4	QBT3	NA	NA	NA	0.01	0.0069	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-12457	21-601225	7–8	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5865	21-601226	4.5–5.5	SOIL	—	0.0269 (J)	—	NA	NA	—	—	—	—	—	0.00581 (J)	—	—	—	—
RE21-07-5866	21-601227	1.5–2.5	SOIL	—	—	—	NA	NA	—	—	0.0493 (J)	—	—	—	—	—	—	0.0122 (J)
RE21-07-5867	21-601227	3.5–4.5	SOIL	—	—	—	NA	NA	—	—	—	—	—	—	—	—	—	—
RE21-07-5869	21-601228	4–5	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	—	—	0.036 (J)	—
RE21-08-10370	21-601229	6–7	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-09-8597	21-601229	11–12	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.13-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Acenaphthene	Acetone	Anthracene	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Bis(2-ethylhexyl)phthalate	Butanone[2-]	Carbon Disulfide	Chrysene	Di-n-butylphthalate	Fluoranthene
Construction Worker SSL[a]				**18600**	**221000**	**66800**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680[b]**	**4760**	**84300**	**1580**	**20600**	**23800**	**8910**
Industrial SSL[a]				**36700**	**868000**	**183000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300[b]**	**1370**	**375000**	**8330**	**2340**	**68400**	**24400**
Residential SSL[a]				**3440**	**66600**	**17200**	**1.12**	**2.22**	**1.48**	**0.15**	**1.48**	**1720[b]**	**347**	**37100**	**1530**	**148**	**6110**	**2290**
RE21-07-5873	21-601229	16–17	QBT3	—	—	—	NA	NA	—	—	—	—	—	—	0.0059	—	—	—
MD21-11-24248	21-614575	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24249	21-614576	1–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24250	21-614576	4–5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24251	21-614577	1–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24252	21-614577	4–5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24253	21-614578	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24254	21-614578	1.5–2	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24255	21-614579	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24256	21-614579	1.5–2	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.13-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]
Construction Worker SSL[a]				**8910**	**na**[e]	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-07-3894	21-600861	0–0.5	SOIL	0.0344	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3895	21-600861	2–3	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3896	21-600862	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3897	21-600862	2–3	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3898	21-600863	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3899	21-600863	2–3	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3900	21-600864	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10373	21-600864	0–0.5	SOIL	NA	1.15E-05	2.56E-05	2.57E-06	2.44E-07 (J)	6.38E-06	3.23E-07 (J)	6.42E-07 (J)	5.64E-07 (J)	6.05E-06	2.78E-07 (J)	2E-07 (J)
RE21-08-10374	21-600864	2–3	QBT3	NA	—	1.60E-07	—	—	—	—	—	—	—	—	—
RE21-07-3902	21-600865	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3904	21-600866	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3906	21-600867	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-08-10375	21-600867	0–0.5	SOIL	NA	6.13E-07 (J)	1.28E-06	1.77E-07 (J)	—	3.90E-07	—	—	—	—	—	—
RE21-08-10376	21-600867	2–3	QBT3	NA	1.25E-07 (J)	1.25E-07	—	—	—	—	—	—	—	—	—
RE21-07-3908	21-600868	0–0.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3916	21-600872	0–0.5	SOIL	0.0156 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-3925	21-600872	0–0.5	SOIL	NA	0.0837	0.201	0.0109	0.000799	0.0518	0.000499	0.00304	0.00129	0.0212	0.000279	0.000296
RE21-08-10371	21-600872	2–3	QBT3	NA	3.62E-07 (J)	7.35E-07	—	—	—	—	—	—	—	—	—
RE21-07-5860	21-601224	1–2	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5861	21-601224	3–4	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5863	21-601225	3–4	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5893	21-601225	3–4	QBT3	NA	0.00132	0.00279	0.000152 (J)	1.42E-05	0.000726 (J)	6.38E-06	3.79E-05	1.61E-05	0.000259	4.92E-06	3.82E-06
MD21-09-12457	21-601225	7–8	QBT3	NA	0.000162	0.000338	1.52E-05	1.59E-06 (J)	5.96E-05	1.73E-06 (J)	4.98E-06	4.01E-06	4.49E-05	8.09E-07 (J)	6.89E-07 (J)
RE21-07-5865	21-601226	4.5–5.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5866	21-601227	1.5–2.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5867	21-601227	3.5–4.5	SOIL	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
RE21-07-5869	21-601228	4–5	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 6.13-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Fluorene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]
Construction Worker SSL[a]				**8910**	**na**[e]	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Industrial SSL[a]				**24400**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
Residential SSL[a]				**2290**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**
RE21-08-10370	21-601229	6–7	SOIL	NA	0.000447	0.000912	1.85E-05	2.1E-06 (J)	7.60E-05	2.01E-06 (J)	7.71E-06	4.44E-06	6.90E-05	1.05E-06 (J)	8.54E-07 (J)
MD21-09-8597	21-601229	11–12	QBT3	NA	8.52E-05	0.000182	6.09E-06	—	2.34E-05	9.36E-07 (J)	2.08E-06 (J)	1.62E-06 (J)	1.78E-05	—	—
RE21-07-5873	21-601229	16–17	QBT3	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MD21-11-24248	21-614575	4–5	QBT3	NA	0.000535	0.00122	2.86E-05	—	0.000118	4.87E-06 (J)	9.72E-06 (J)	2.5E-05 (J)	0.000127	—	—
MD21-11-24249	21-614576	1–2	SOIL	NA	0.000697	0.00158	7.10E-05	6.12E-06 (J)	0.00026	—	2.19E-05 (J)	2.09E-05 (J)	0.000217	—	—
MD21-11-24250	21-614576	4–5	QBT3	NA	4.45E-05	9.75E-05	5.2E-06 (J)	—	1.79E-05	—	1.42E-06 (J)	1.14E-06 (J)	1.21E-05	—	—
MD21-11-24251	21-614577	1–2	SOIL	NA	4.55E-06 (J)	9.24E-06	6.59E-07 (J)	—	1.74E-06 (J)	—	—	—	—	—	—
MD21-11-24252	21-614577	4–5	SOIL	NA	4.17E-06 (J)	9.53E-06	5.37E-07 (J)	—	1.37E-06 (J)	—	—	—	5.35E-07 (J)	—	—
MD21-11-24253	21-614578	0–0.5	QBT3	NA	5.23E-05	0.000124	1.01E-05	7.36E-07 (J)	3.07E-05	8.3E-07 (J)	1.8E-06 (J)	1.42E-06 (J)	2.09E-05	5.97E-07 (J)	5.97E-07 (J)
MD21-11-24254	21-614578	1.5–2	QBT3	NA	2.67E-06 (J)	6.26E-06	6.33E-07 (J)	—	1.4E-06 (J)	—	—	—	5.11E-07 (J)	—	—
MD21-11-24255	21-614579	0–0.5	SOIL	NA	0.0113	0.028	0.00243	0.000209	0.0119	6.82E-05 (J)	0.000447	0.000127 (J)	0.00358	7.54E-05 (J)	5.75E-05 (J)
MD21-11-24256	21-614579	1.5–2	SOIL	NA	0.008	0.0155	0.00158	0.000132 (J)	0.00738	4.03E-05 (J)	0.000296	9.18E-05 (J)	0.00206	4.24E-05 (J)	3.69E-05 (J)

Table 6.13-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofuran[1,2,3,7,8,9-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxin[1,2,3,7,8-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene
Construction Worker SSL[a]				**na**	**na**	**na**	**213**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**7150**
Industrial SSL[a]				**na**	**na**	**na**	**23.4**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**20500**
Residential SSL[a]				**na**	**na**	**na**	**1.48**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1830**
RE21-07-3894	21-600861	0–0.5	SOIL	NA	NA	NA	0.229	NA	NA	NA	NA	NA	NA	NA	0.415
RE21-07-3895	21-600861	2–3	QBT3	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-3896	21-600862	0–0.5	SOIL	NA	NA	NA	0.213	NA	NA	NA	NA	NA	NA	NA	0.0989
RE21-07-3897	21-600862	2–3	QBT3	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-3898	21-600863	0–0.5	SOIL	NA	NA	NA	0.721	NA	NA	NA	NA	NA	NA	NA	0.611
RE21-07-3899	21-600863	2–3	QBT3	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-3900	21-600864	0–0.5	SOIL	NA	NA	NA	0.0218 (J)	NA	NA	NA	NA	NA	NA	NA	0.0153 (J)
RE21-08-10373	21-600864	0–0.5	SOIL	—	2.29E-07 (J)	3.01E-06	NA	8.85E-05	5.49E-06	2.39E-07 (J)	4.79E-07	—	—	1.90E-06	NA
RE21-08-10374	21-600864	2–3	QBT3	—	—	—	NA	5.22E-07 (J)	—	—	—	—	—	—	NA
RE21-07-3902	21-600865	0–0.5	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	0.0206 (J)
RE21-07-3904	21-600866	0–0.5	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-3906	21-600867	0–0.5	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	0.0509
RE21-08-10375	21-600867	0–0.5	SOIL	—	—	1.10E-07	NA	4.41E-06 (J)	3.95E-07 (J)	—	—	—	—	—	NA
RE21-08-10376	21-600867	2–3	QBT3	—	—	—	NA	4.75E-07 (J)	—	—	—	—	—	—	NA
RE21-07-3908	21-600868	0–0.5	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	0.0142 (J)
RE21-07-3916	21-600872	0–0.5	SOIL	NA	NA	NA	0.115 (J)	NA	NA	NA	NA	NA	NA	NA	0.207
RE21-07-3925	21-600872	0–0.5	SOIL	7.85E-05	0.000619	0.0135	NA	0.35	0.0351	0.000247	0.002	3.03E-05	8.49E-05	0.00225	NA
RE21-08-10371	21-600872	2–3	QBT3	—	—	—	NA	1.79E-06 (J)	—	—	—	—	—	—	NA
RE21-07-5860	21-601224	1–2	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5861	21-601224	3–4	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5863	21-601225	3–4	QBT3	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	0.0239 (J)
RE21-07-5893	21-601225	3–4	QBT3	1.29E-06 (J)	6.92E-06	0.000205	NA	0.0152	0.000503 (J)	3.22E-06	2.79E-05	5.03E-07 (J)	1.43E-06 (J)	2.76E-05	NA
MD21-09-12457	21-601225	7–8	QBT3	2.3E-07 (J)	1.09E-06 (J)	2.42E-05	NA	0.00139	4.54E-05	1.57E-06 (J)	8.85E-06	1.31E-07 (J)	2.34E-07 (J)	7.43E-06	NA
RE21-07-5865	21-601226	4.5–5.5	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5866	21-601227	1.5–2.5	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5867	21-601227	3.5–4.5	SOIL	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
RE21-07-5869	21-601228	4–5	QBT3	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—

Table 6.13-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Hexachlorodibenzofuran[1,2,3,7,8,9-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	Pentachlorodibenzodioxin[1,2,3,7,8-]	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene
Construction Worker SSL[a]				**na**	**na**	**na**	**213**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**7150**
Industrial SSL[a]				**na**	**na**	**na**	**23.4**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**20500**
Residential SSL[a]				**na**	**na**	**na**	**1.48**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1830**
RE21-08-10370	21-601229	6–7	SOIL	3.16E-07 (J)	1.26E-06 (J)	2.63E-05	NA	0.00364	4.60E-05	1.45E-06 (J)	8.71E-06	1.71E-07 (J)	4.25E-07 (J)	6.07E-06	NA
MD21-09-8597	21-601229	11–12	QBT3	—	—	5.81E-06	NA	0.000879 (J)	2.15E-05	6.01E-07 (J)	2.54E-06	—	—	1.60E-06	NA
RE21-07-5873	21-601229	16–17	QBT3	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	NA	—
MD21-11-24248	21-614575	4–5	QBT3	—	3.31E-06 (J)	3.51E-05	NA	0.00711	0.00019	4.79E-06 (J)	1.78E-05 (J)	—	—	8.4E-06 (J)	NA
MD21-11-24249	21-614576	1–2	SOIL	—	6.17E-06 (J)	0.000119	NA	0.00715	0.000166	5.79E-06 (J)	3.17E-05	—	2.96E-06 (J)	4.45E-05	NA
MD21-11-24250	21-614576	4–5	QBT3	—	—	6.67E-06	NA	0.000474	1.49E-05	—	6.17E-07 (J)	—	—	2.31E-06 (J)	NA
MD21-11-24251	21-614577	1–2	SOIL	—	—	—	NA	4.76E-05	1.3E-06 (J)	—	—	—	—	—	NA
MD21-11-24252	21-614577	4–5	SOIL	—	—	—	NA	4.54E-05	—	—	—	—	—	—	NA
MD21-11-24253	21-614578	0–0.5	QBT3	—	7.62E-07 (J)	1.47E-05	NA	0.000522	2.42E-05	—	1.35E-06 (J)	—	—	3.23E-06 (J)	NA
MD21-11-24254	21-614578	1.5–2	QBT3	—	—	—	NA	2.33E-05	9.67E-07 (J)	—	—	—	—	—	NA
MD21-11-24255	21-614579	0–0.5	SOIL	—	0.000104 (J)	0.00394	NA	0.134 (J-)	0.00455 (J-)	3.35E-05 (J)	0.000184	—	1.03E-05 (J)	0.000454	NA
MD21-11-24256	21-614579	1.5–2	SOIL	—	6.65E-05 (J)	0.00235	NA	0.103	0.00528	1.63E-05 (J)	7.15E-05 (J)	—	6.84E-06 (J)	6.56E-05 (J)	NA

Table 6.13-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Pyrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Tetrachloroethene	Toluene
Construction Worker SSL[a]				**6680**	**0.000284**	**na**	**0.0152**	**na**	**212**	**13400**
Industrial SSL[a]				**18300**	**0.000204**	**na**	**0.00204**	**na**	**36.6**	**57700**
Residential SSL[a]				**1720**	**0.000045**	**na**	**0.00045**	**na**	**7.02**	**5270**
RE21-07-3894	21-600861	0–0.5	SOIL	0.759	NA	NA	NA	NA	NA	NA
RE21-07-3895	21-600861	2–3	QBT3	—	NA	NA	NA	NA	—	0.000401 (J)
RE21-07-3896	21-600862	0–0.5	SOIL	0.405	NA	NA	NA	NA	NA	NA
RE21-07-3897	21-600862	2–3	QBT3	—	NA	NA	NA	NA	—	—
RE21-07-3898	21-600863	0–0.5	SOIL	1.72	NA	NA	NA	NA	NA	NA
RE21-07-3899	21-600863	2–3	QBT3	—	NA	NA	NA	NA	—	0.000414 (J)
RE21-07-3900	21-600864	0–0.5	SOIL	0.0458	NA	NA	NA	NA	NA	NA
RE21-08-10373	21-600864	0–0.5	SOIL	NA	—	—	1.5E-07 (J)	6.07E-07	NA	NA
RE21-08-10374	21-600864	2–3	QBT3	NA	—	—	—	—	NA	NA
RE21-07-3902	21-600865	0–0.5	SOIL	0.0648	NA	NA	NA	NA	NA	NA
RE21-07-3904	21-600866	0–0.5	SOIL	0.0109 (J)	NA	NA	NA	NA	NA	NA
RE21-07-3906	21-600867	0–0.5	SOIL	0.124	NA	NA	NA	NA	NA	NA
RE21-08-10375	21-600867	0–0.5	SOIL	NA	—	—	—	—	NA	NA
RE21-08-10376	21-600867	2–3	QBT3	NA	—	—	—	—	NA	NA
RE21-07-3908	21-600868	0–0.5	SOIL	0.045	NA	NA	NA	NA	NA	NA
RE21-07-3916	21-600872	0–0.5	SOIL	0.316	NA	NA	NA	NA	NA	NA
RE21-07-3925	21-600872	0–0.5	SOIL	NA	2.59E-05	0.00021	9.24E-06	0.000427	NA	NA
RE21-08-10371	21-600872	2–3	QBT3	NA	—	—	—	—	NA	NA
RE21-07-5860	21-601224	1–2	SOIL	0.0274 (J)	NA	NA	NA	NA	—	0.000341 (J+)
RE21-07-5861	21-601224	3–4	SOIL	0.0235 (J)	NA	NA	NA	NA	0.000227 (J)	0.00066 (J+)
RE21-07-5863	21-601225	3–4	QBT3	0.0325 (J)	NA	NA	NA	NA	—	0.00117
RE21-07-5893	21-601225	3–4	QBT3	NA	5.99E-07	4.23E-06	3.02E-07 (J)	6.43E-06	NA	NA
MD21-09-12457	21-601225	7–8	QBT3	NA	4.12E-07 (J)	2.66E-06	—	1.60E-06	NA	NA
RE21-07-5865	21-601226	4.5–5.5	SOIL	—	NA	NA	NA	NA	—	0.000448 (J)
RE21-07-5866	21-601227	1.5–2.5	SOIL	0.0293 (J)	NA	NA	NA	NA	0.00078 (J)	—
RE21-07-5867	21-601227	3.5–4.5	SOIL	—	NA	NA	NA	NA	0.00559	—
RE21-07-5869	21-601228	4–5	QBT3	—	NA	NA	NA	NA	—	—
RE21-08-10370	21-601229	6–7	SOIL	NA	—	5.24E-07	—	1.02E-06	NA	NA

Table 6.13-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Pyrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)	Tetrachloroethene	Toluene
Construction Worker SSL[a]				**6680**	**0.000284**	**na**	**0.0152**	**na**	**212**	**13400**
Industrial SSL[a]				**18300**	**0.000204**	**na**	**0.00204**	**na**	**36.6**	**57700**
Residential SSL[a]				**1720**	**0.000045**	**na**	**0.00045**	**na**	**7.02**	**5270**
MD21-09-8597	21-601229	11–12	QBT3	NA	1.15E-07 (J)	2.84E-07	—	—	NA	NA
RE21-07-5873	21-601229	16–17	QBT3	—	NA	NA	NA	NA	—	—
MD21-11-24248	21-614575	4–5	QBT3	NA	1.06E-06 (J)	1.7E-06 (J)	—	—	NA	NA
MD21-11-24249	21-614576	1–2	SOIL	NA	1.06E-06 (J)	4.31E-06 (J)	2.34E-06 (J)	1.03E-05 (J)	NA	NA
MD21-11-24250	21-614576	4–5	QBT3	NA	1.19E-07 (J)	1.19E-07 (J)	—	—	NA	NA
MD21-11-24251	21-614577	1–2	SOIL	NA	—	—	—	—	NA	NA
MD21-11-24252	21-614577	4–5	SOIL	NA	—	—	—	—	NA	NA
MD21-11-24253	21-614578	0–0.5	QBT3	NA	—	—	—	1.21E-06 (J)	NA	NA
MD21-11-24254	21-614578	1.5–2	QBT3	NA	—	—	—	1.73E-07 (J)	NA	NA
MD21-11-24255	21-614579	0–0.5	SOIL	NA	—	9.03E-06 (J)	—	5.11E-05	NA	NA
MD21-11-24256	21-614579	1.5–2	SOIL	NA	—	—	—	2.37E-05 (J)	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971).

[b] Pyrene used as a surrogate based on structural similarity.

[c] NA = Not analyzed.

[d] — = Not detected.

[e] na = Not available.

Table 6.13-4
Radionuclides Detected or Detected above BVs/FVs at SWMU 21-027(a)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-3894	21-600861	0–0.5	SOIL	54.5 (J)	—[e]	22.6	144	—	38.7	1.9	2.39
RE21-07-3895	21-600861	2–3	QBT3	0.865	—	1.23	4.7	—	3.27	0.246	—
RE21-07-3896	21-600862	0–0.5	SOIL	16.7 (J)	—	28.3	96.4	—	11.8	0.656	—
RE21-07-3897	21-600862	2–3	QBT3	0.674	—	1.52	3.32	—	2.7	0.193	—
RE21-07-3898	21-600863	0–0.5	SOIL	24.7	—	27.9	159	0.108889	51.9	2.74	—
RE21-07-3899	21-600863	2–3	QBT3	1.01	—	1.52	4.56	—	2.65	0.186	—
RE21-07-3900	21-600864	0–0.5	SOIL	2.54	—	2.23	14.7	—	4.68	0.361	—
RE21-07-3901	21-600864	2–3	QBT3	0.279	—	0.324	1.37	—	—	0.124	—
RE21-07-3902	21-600865	0–0.5	SOIL	6.64	—	7.09	39.1	—	8.11	0.411	—
RE21-07-3903	21-600865	2–3	QBT3	0.269	—	0.401	1.25	—	—	0.116	—
RE21-07-3904	21-600866	0–0.5	SOIL	0.235	—	0.282	1.2	—	3.5	—	2.77
RE21-07-3905	21-600866	2–3	QBT3	—	—	—	0.0329	—	—	0.101	—
RE21-07-3906	21-600867	0–0.5	SOIL	7.11	—	8.52	33.8	0.019911	7.65	0.454	—
RE21-07-3907	21-600867	2–3	QBT3	0.3	—	0.482	1.67	—	—	0.105	—
RE21-07-3908	21-600868	0–0.5	SOIL	5.57	—	2.23	28.9	—	4.35	0.209	—
RE21-07-3909	21-600868	2–3	QBT3	0.0699	—	0.068	0.353	—	—	—	—
RE21-07-3916	21-600872	0–0.5	SOIL	15.1	—	22.3	72.9	0.018326	25.9	1.26	—
RE21-07-3917	21-600872	2–3	QBT3	0.574	—	0.815	2.74	—	—	0.0994	—
RE21-07-3918	21-600872	5–6	QBT3	0.463	—	0.831	3.44	—	—	—	—
RE21-07-5860	21-601224	1–2	SOIL	1.43	0.179	0.753	13.4	0.01811	—	—	—
RE21-07-5861	21-601224	3–4	SOIL	1.65	—	0.593	14.4	0.021812	—	—	—
MD21-09-8594	21-601224	8–9	QBT3	0.05	NA[f]	—	0.123	NA	NA	NA	NA
RE21-07-5863	21-601225	3–4	QBT3	2.75	—	0.598	17.7	—	2.87	—	—
RE21-07-5865	21-601226	4.5–5.5	SOIL	0.0775	—	—	0.497	0.71619	—	—	—
MD21-09-8599	21-601226	9.5–10.5	QBT3	NA	NA	NA	NA	0.400616	NA	NA	NA
RE21-07-5866	21-601227	1.5–2.5	SOIL	0.828	—	0.192	5.38	—	2.66	0.202	—
RE21-07-5867	21-601227	3.5–4.5	SOIL	2.39	—	0.746	14.1	—	2.79	—	—
MD21-09-8593	21-601227	8.5–9.5	QBT3	—	NA	0.0278	0.169	NA	NA	NA	NA
RE21-07-5869	21-601228	4–5	QBT3	—	—	—	27.9	—	—	—	—

Table 6.13-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236	Uranium-238
Qbt2,3,4 BV[a]				**na[b]**	**na**	**na**	**na**	**na**	**1.98**	**0.09**	**1.93**
Soil BV[a]				**0.013[c]**	**1.65[c]**	**0.023[c]**	**0.054[c]**	**na**	**2.59**	**0.2**	**2.29**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**	**410**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**	**750**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**	**150**
RE21-07-5871	21-601229	6–7	QBT3	—	—	—	0.0272	0.012764	—	—	—
RE21-07-5873	21-601229	16–17	QBT3	—	—	—	0.0974	—	—	—	—
MD21-09-8838	21-605279	0–0.5	QBT3	—	NA	—	0.211	NA	—	—	—
MD21-11-24248	21-614575	4–5	QBT3	NA	NA	—	0.529	NA	NA	NA	NA
MD21-11-24249	21-614576	1–2	SOIL	NA	NA	0.379 (J)	14.2	NA	NA	NA	NA
MD21-11-24250	21-614576	4–5	QBT3	NA	NA	—	3.76	NA	NA	NA	NA
MD21-11-24251	21-614577	1–2	SOIL	NA	NA	—	0.0426	NA	NA	NA	NA
MD21-11-24252	21-614577	4–5	SOIL	NA	NA	—	0.0494	NA	NA	NA	NA
MD21-11-24253	21-614578	0–0.5	QBT3	NA	NA	—	1.34	NA	NA	NA	NA
MD21-11-24254	21-614578	1.5–2	QBT3	NA	NA	—	0.0968	NA	NA	NA	NA
MD21-11-24255	21-614579	0–0.5	SOIL	NA	NA	0.997	61.9	NA	NA	NA	NA
MD21-11-24256	21-614579	1.5–2	SOIL	NA	NA	0.559	37.8	NA	NA	NA	NA

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL (1998, 059730).

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

[f] NA = Not analyzed.

Table 6.14-1
Samples Collected and Analyses Requested at AOC C-21-027

Sample ID	Location ID	Depth (ft)	Media	Gen Chem	Gamma Spec	Strontium-90	Tritium	AM-241	ISOPU	ISOU	Metals	Perchlorate	Hex Cr	Pest PCB	VOC	SVOC	Dioxin Furan	High Explosives	Total Cyanide	pH
MD21-09-9090	21-605337	0–0.5	ALLH	09-3185	09-3186	09-3186	09-3186	09-3186	09-3186	09-3186	09-3185	09-3185	09-3185	—*	09-3184	09-3184	—	—	09-3185	09-3185
MD21-09-9091	21-605337	5–6	ALLH	09-3185	09-3186	09-3186	09-3186	09-3186	09-3186	09-3186	09-3185	09-3185	09-3185	—	09-3184	09-3184	—	—	09-3185	09-3185
MD21-09-9092	21-605337	10–11	QBT3	09-3185	09-3186	09-3186	09-3186	09-3186	09-3186	09-3186	09-3185	09-3185	09-3185	—	09-3184	09-3184	—	—	09-3185	09-3185
MD21-09-9093	21-605338	0–0.5	ALLH	09-3185	09-3186	09-3186	09-3186	09-3186	09-3186	09-3186	09-3185	09-3185	09-3185	—	09-3184	09-3184	—	—	09-3185	09-3185
MD21-10-7825	21-605338	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	—	—	10-855	—	—	—
MD21-09-9094	21-605338	5–6	ALLH	09-3185	09-3186	09-3186	09-3186	09-3186	09-3186	09-3186	09-3185	09-3185	09-3185	—	09-3184	09-3184	—	—	09-3185	09-3185
MD21-09-9095	21-605338	10–11	QBT3	09-3185	09-3186	09-3186	09-3186	09-3186	09-3186	09-3186	09-3185	09-3185	09-3185	—	09-3184	09-3184	—	—	09-3185	09-3185
MD21-10-7826	21-605339	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	—	—	10-855	—	—	—
MD21-09-9096	21-605339	0–1	ALLH	09-3193	09-3194	09-3194	09-3194	09-3194	09-3194	09-3194	09-3193	09-3193	09-3193	—	09-3199	09-3194	—	—	09-3193	09-3193
MD21-09-9097	21-605339	2–3	QBT3	09-3193	09-3194	09-3194	09-3194	09-3194	09-3194	09-3194	09-3193	09-3193	09-3193	—	09-3199	09-3194	—	—	09-3193	09-3193
MD21-11-24261	21-605339	7–8	QBT3	—	—	—	—	—	—	—	11-3068	—	—	—	—	—	—	—	—	—
MD21-09-9099	21-605340	0–0.5	ALLH	09-3193	09-3194	09-3194	09-3194	09-3194	09-3194	09-3194	09-3193	09-3193	09-3193	—	09-3199	09-3194	—	—	09-3193	09-3193
MD21-09-9100	21-605340	2–3	ALLH	09-3193	09-3194	09-3194	09-3194	09-3194	09-3194	09-3194	09-3193	09-3193	09-3193	—	09-3199	09-3194	—	—	09-3193	09-3193
MD21-09-12897	21-605340	2–3	ALLH	—	—	—	—	—	—	—	—	—	—	09-3310	—	—	09-3311	09-3310	—	—
MD21-10-7816	21-605340	5–6	QBT3	—	—	—	—	10-857	10-857	—	—	—	—	—	—	—	10-855	—	—	—
MD21-09-9102	21-605341	0–0.5	ALLH	09-3193	09-3194	09-3194	09-3194	09-3194	09-3194	09-3194	09-3193	09-3193	09-3193	—	09-3199	09-3194	—	—	09-3193	09-3193
MD21-09-9103	21-605341	2–3	ALLH	09-3193	09-3194	09-3194	09-3194	09-3194	09-3194	09-3194	09-3193	09-3193	09-3193	—	09-3199	09-3194	—	—	09-3193	09-3193
MD21-09-9105	21-605342	0–0.5	QBT3	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	—	—	09-3263	—	—	09-3263	09-3263
MD21-10-7832	21-605342	0–0.5	QBT3	—	—	—	—	—	—	—	—	—	—	—	—	—	10-1058	—	—	—
MD21-09-9106	21-605342	2–3	QBT3	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	09-3263	—	09-3263	09-3263	—	—	09-3263	09-3263
MD21-10-7817	21-610682	0–0.5	ALLH	—	—	—	—	—	10-857	—	—	—	—	—	—	—	—	—	—	—
MD21-10-7818	21-610683	0–1	ALLH	—	—	—	—	—	10-857	—	—	—	—	—	—	—	—	—	—	—
MD21-10-7819	21-610684	0–0.5	ALLH	10-856	10-857	10-857	10-857	10-857	10-857	10-857	10-856	10-856	10-856	—	—	10-856	10-855	—	10-856	10-856
MD21-10-7821	21-610684	10–11	QBT3	10-856	10-857	10-857	10-857	10-857	10-857	10-857	10-856	10-856	10-856	—	10-856	10-856	—	—	10-856	10-856
MD21-10-7820	21-610684	5–6	QBT3	10-856	10-857	10-857	10-857	10-857	10-857	10-857	10-856	10-856	10-856	—	10-856	10-856	—	—	10-856	10-856
MD21-10-7833	21-610686	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	—	—	10-1058	—	—	—
MD21-11-24257	21-614580	0–0.5	ALLH	—	—	—	—	11-3230	11-3230	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24258	21-614580	5–6	QBT3	—	—	—	—	11-3230	11-3230	—	—	—	—	—	—	—	—	—	—	—
MD21-11-24259	21-614581	0–0.5	ALLH	11-3046	—	—	—	11-3046	11-3046	—	11-3046	11-3046	—	—	—	—	—	—	—	—
MD21-11-24260	21-614581	5–6	ALLH	11-3046	—	—	—	11-3046	11-3046	—	11-3046	11-3046	—	—	—	—	—	—	—	—
MD21-11-24262	21-614582	0–0.5	ALLH	—	—	—	—	—	—	—	—	—	—	—	—	—	11-3229	—	—	—
MD21-11-24263	21-614583	0–0.5	ALLH	11-3033	—	—	11-3033	11-3033	11-3033	11-3033	11-3033	11-3033	—	—	—	—	—	—	—	—
MD21-11-24265	21-614583	5–6	ALLH	11-3033	—	—	11-3033	11-3033	11-3033	11-3033	11-3033	11-3033	—	—	—	—	—	—	—	—
MD21-11-24264	21-614583	9–10	QBT3	11-3033	—	—	11-3033	11-3033	11-3033	11-3033	11-3033	11-3033	—	—	—	—	—	—	—	—
MD21-11-24266	21-614584	0–0.5	ALLH	11-3230	—	—	—	11-3230	11-3230	11-3230	—	11-3230	—	—	—	—	—	—	—	—
MD21-11-24267	21-614585	6–7	QBT3	11-3230	—	—	—	—	—	—	11-3230	11-3230	—	—	—	—	11-3229	—	—	—

*— = Analyses not requested.

Table 6.14-2
Inorganic Chemicals above BVs at AOC C-21-027

Sample ID	Location ID	Depth (ft)	Media	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Cyanide (Total)	Lead	Magnesium	Nickel	Nitrate	Perchlorate	Selenium	Silver	Thallium	Zinc
Qbt2,3,4 BV[a]				**7340**	**0.5**	**2.79**	**46**	**1.63**	**2200**	**7.14**	**3.14**	**4.66**	**0.5**	**11.2**	**1690**	**6.58**	**na[b]**	**na**	**0.3**	**1**	**1.1**	**63.5**
Soil BV[a]				**29200**	**0.83**	**8.17**	**295**	**0.4**	**6120**	**19.3**	**8.64**	**14.7**	**0.5**	**22.3**	**4610**	**15.4**	**na**	**na**	**1.52**	**1**	**0.73**	**48.8**
Construction Worker SSL[c]				**40700**	**124**	**53**	**4350**	**277**	**na**	**465000[d]**	**36.6[e]**	**12400**	**186**	**800**	**na**	**6190**	**496000**	**217**	**1550**	**1550**	**3.1**	**92900**
Industrial SSL[c]				**1130000**	**454**	**17.7**	**223000**	**897**	**na**	**1700000[d]**	**350[f]**	**45400**	**681**	**800**	**na**	**22500**	**1820000**	**795**	**5680**	**5680**	**11.4**	**341000**
Residential SSL[c]				**78000**	**31.3**	**3.9**	**15600**	**70.3**	**na**	**117000[d]**	**23[f]**	**3130**	**46.9**	**400**	**na**	**1560**	**125000**	**54.8**	**391**	**391**	**0.782**	**23500**
MD21-09-9090	21-605337	0–0.5	SOIL	—[g]	—	—	—	—	9100	20	—	—	—	—	—	—	—	0.00037 (J)	—	—	1 (U)	53
MD21-09-9091	21-605337	5–6	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00014 (J)	—	1.1 (U)	1.1 (U)	87
MD21-09-9092	21-605337	10–11	QBT3	—	2.2 (UJ)	—	—	—	5600	19	—	—	—	—	—	—	—	0.00012 (J)	0.54 (U)	1.1 (U)	—	—
MD21-09-9093	21-605338	0–0.5	SOIL	—	—	—	—	—	—	67	—	—	—	—	—	—	29 (J-)	0.00035 (J)	—	—	1 (U)	52
MD21-09-9094	21-605338	5–6	SOIL	—	—	—	—	0.56 (U)	—	—	—	—	—	—	—	—	—	0.00018 (J)	—	1.1 (U)	1.1 (U)	—
MD21-09-9095	21-605338	10–11	QBT3	—	—	—	—	—	—	16	—	—	—	—	—	—	—	0.00015 (J)	0.54 (U)	1.1 (U)	—	—
MD21-09-9096	21-605339	0–1	SOIL	—	2.24	—	—	0.648	—	—	—	—	—	30.2	—	—	1.22	0.000625 (J+)	—	—	—	625
MD21-09-9097	21-605339	2–3	QBT3	—	1.35	—	51.6	—	28800 (J+)	10.5	—	—	—	—	—	—	—	0.00063 (J+)	1 (U)	—	—	—
MD21-09-9099	21-605340	0–0.5	SOIL	—	0.904 (J)	—	—	—	—	—	—	—	0.797	—	—	—	21.9	0.00817 (J+)	—	—	—	—
MD21-09-9100	21-605340	2–3	SOIL	—	0.965 (J)	—	—	—	—	20.1	—	—	0.807	—	—	—	14.1	0.00575 (J+)	—	—	—	—
MD21-09-9102	21-605341	0–0.5	SOIL	—	1.02 (J)	—	—	—	—	—	—	—	0.63	—	—	—	39.1	0.00369 (J+)	—	—	—	—
MD21-09-9103	21-605341	2–3	SOIL	—	—	—	—	—	—	—	—	—	—	—	—	—	78.6	0.00826 (J+)	—	—	—	—
MD21-09-9105	21-605342	0–0.5	QBT3	—	2 (U)	—	—	—	—	—	—	—	—	14 (J)	—	—	—	0.00019 (J)	0.5 (U)	—	—	—
MD21-09-9106	21-605342	2–3	QBT3	—	2 (U)	—	—	—	—	—	—	—	—	—	—	—	—	0.0046	0.49 (U)	—	—	—
MD21-10-7819	21-610684	0–0.5	SOIL	—	0.99 (U)	—	—	—	27000	—	—	—	0.54 (U)	32	—	—	38	0.00068	—	1.1 (U)	1.1 (U)	56
MD21-10-7820	21-610684	5–6	QBT3	8400	0.53 (U)	3.2	120	—	5600	10 (J)	3.5	5.1	0.6 (U)	—	1800	9.2	1.8 (J)	0.00015 (J)	0.6 (U)	1.2 (U)	1.2 (U)	—
MD21-10-7821	21-610684	10–11	QBT3	—	—	—	100	—	9700	9.8 (J)	—	—	0.59 (U)	12	—	7.7	1.9 (J)	0.00014 (J)	0.59 (U)	1.2 (U)	1.2 (U)	—
MD21-11-24259	21-614581	0–0.5	SOIL	NA[h]	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	12.2	0.001 (J)	NA	NA	NA	—
MD21-11-24260	21-614581	5–6	SOIL	NA	NA	NA	NA	NA	NA	—	NA	NA	NA	NA	NA	NA	1.72	—	NA	NA	NA	—
MD21-11-24263	21-614583	0–0.5	SOIL	NA	NA	NA	NA	NA	—	—	NA	NA	NA	—	NA	NA	1.73	—	NA	NA	NA	—
MD21-11-24265	21-614583	5–6	SOIL	NA	NA	NA	NA	NA	—	—	NA	NA	NA	—	NA	NA	1.75	—	NA	NA	NA	—
MD21-11-24264	21-614583	9–10	QBT3	NA	NA	NA	NA	NA	3650 (J)	—	NA	NA	NA	23.4	NA	NA	1.6	—	NA	NA	NA	—
MD21-11-24266	21-614584	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2	0.0011 (J)	NA	NA	NA	NA
MD21-11-24267	21-614585	6–7	QBT3	NA	NA	NA	NA	NA	NA	9.94	NA	NA	NA	NA	NA	NA	15.3	0.00127 (J)	NA	NA	NA	NA

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] BVs from LANL (1998, 059730).

[b] SSLs from NMED (2012, 209971) unless otherwise noted.

[c] na = Not available.

[d] SSL for trivalent chromium.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[g] — = Not detected or not detected above BV.

[h] NA = Not analyzed.

Table 6.14-3
Organic Chemicals Detected at AOC C-21-027

Sample ID	Location ID	Depth (ft)	Media	Acetone	Aroclor-1254	Aroclor-1260	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Bis(2-ethylhexyl)phthalate	Chrysene	Di-n-butylphthalate	Fluoranthene	Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	Heptachlorodibenzodioxins (Total)	Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	Heptachlorodibenzofuran[1,2,3,4,7,8,9-]
Construction Worker SSL[a]				**221000**	**4.36**	**75.8**	**213**	**21.3**	**213**	**6680**[b]	**2060**	**4760**	**20600**	**23800**	**8910**	**na**[c]	**na**	**na**	**na**
Industrial SSL[a]				**868000**	**8.26**	**8.26**	**23.4**	**2.34**	**23.4**	**18300**[b]	**234**	**1370**	**2340**	**68400**	**24400**	**na**	**na**	**na**	**na**
Residential SSL[a]				**66600**	**1.12**	**2.22**	**1.48**	**0.148**	**1.48**	**1720**[b]	**14.8**	**347**	**148**	**6110**	**2290**	**na**	**na**	**na**	**na**
MD21-09-9090	21-605337	0–0.5	SOIL	—[d]	NA[e]	NA	0.16 (J)	0.16 (J)	0.24 (J)	0.1 (J)	0.097 (J)	—	0.15 (J)	—	0.23 (J)	NA	NA	NA	NA
MD21-09-9091	21-605337	5–6	SOIL	0.013 (J)	NA	NA	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
MD21-09-9093	21-605338	0–0.5	SOIL	—	NA	NA	—	—	0.083 (J)	—	—	0.071 (J)	—	—	0.086 (J)	NA	NA	NA	NA
MD21-10-7825	21-605338	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00046	0.000988	3.49E-05	2.76E-06
MD21-09-9095	21-605338	10–11	QBT3	0.016 (J)	NA	NA	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
MD21-10-7826	21-605339	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000323	0.000694	5.93E-05	4.25E-06
MD21-09-9096	21-605339	0–1	SOIL	—	NA	NA	—	0.0108 (J)	0.0278 (J)	—	—	—	—	0.0732 (J)	0.0229 (J)	NA	NA	NA	NA
MD21-09-9099	21-605340	0–0.5	SOIL	—	NA	NA	—	—	—	—	—	—	—	—	—	NA	NA	NA	NA
MD21-09-12897	21-605340	2–3	SOIL	NA	0.0024 (J)	0.0025 (J)	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00148	0.00354	0.000296	2.53E-05
MD21-09-9100	21-605340	2–3	SOIL	—	NA	NA	—	—	—	—	—	0.0744 (J)	—	—	0.0125 (J)	NA	NA	NA	NA
MD21-10-7816	21-605340	5–6	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00495	0.0109	0.000982	8.99E-05
MD21-09-9102	21-605341	0–0.5	SOIL	—	NA	NA	—	—	—	—	—	—	—	—	0.0259 (J)	NA	NA	NA	NA
MD21-10-7832	21-605342	0–0.5	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00016	0.000344	2.11E-05	1.49E-06 (J)
MD21-10-7819	21-610684	0–0.5	SOIL	NA	NA	NA	—	—	0.094 (J)	—	—	0.1 (J)	—	—	0.15 (J)	0.000137	0.000293	2.00E-05	2.79E-06
MD21-10-7833	21-610686	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0227	0.0433	0.00164	0.00015
MD21-11-24262	21-614582	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.94E-05	0.000107	4.82E-06	—
MD21-11-24267	21-614585	6–7	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000788	0.00166	0.000187	1.69E-05 (J)

Table 6.14-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Heptachlorodibenzofurans (Total)	Hexachlorodibenzodioxin[1,2,3,4,7,8-]	Hexachlorodibenzodioxin[1,2,3,6,7,8-]	Hexachlorodibenzodioxin[1,2,3,7,8,9-]	Hexachlorodibenzodioxins (Total)	Hexachlorodibenzofuran[1,2,3,4,7,8-]	Hexachlorodibenzofuran[1,2,3,6,7,8-]	Hexachlorodibenzofuran[1,2,3,7,8,9-]	Hexachlorodibenzofuran[2,3,4,6,7,8-]	Hexachlorodibenzofurans (Total)	Indeno(1,2,3-cd)pyrene	Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	**Pentachlorodibenzodioxin[1,2,3,7,8-]**
Construction Worker SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**213**	**na**	**na**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**23.4**	**na**	**na**	**na**
Residential SSL[a]				**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**na**	**1.48**	**na**	**na**	**na**
MD21-09-9090	21-605337	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.091 (J)	NA	NA	NA
MD21-09-9091	21-605337	5–6	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	NA	NA
MD21-09-9093	21-605338	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	NA	NA
MD21-10-7825	21-605338	0–0.5	SOIL	0.000105	1.08E-05	1.57E-05	9.79E-06	0.000162	1.56E-06 (J)	1.85E-06 (J)	—	2.94E-06	5.93E-05	NA	0.00482	7.34E-05	3.46E-06
MD21-09-9095	21-605338	10–11	QBT3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	NA	NA
MD21-10-7826	21-605339	0–0.5	SOIL	0.000194	3.17E-06	1.07E-05	4.91E-06	7.99E-05	1.63E-06 (J)	1.58E-06 (J)	3.41E-07 (J)	2.51E-06	6.27E-05	NA	0.00389	0.000149	1.52E-06 (J)
MD21-09-9096	21-605339	0–1	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	NA	NA
MD21-09-9099	21-605340	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	NA	NA
MD21-09-12897	21-605340	2–3	SOIL	0.00135	5.81E-06	4.39E-05	9.86E-06	0.000211	6.19E-06	3.84E-06	—	8.13E-06	0.000315	NA	0.0199	0.00145	—
MD21-09-9100	21-605340	2–3	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	NA	NA
MD21-10-7816	21-605340	5–6	QBT3	0.00469	2.44E-05	0.00019	3.76E-05	0.000857	2.22E-05	1.43E-05	4.43E-06	3.14E-05	0.00119	NA	0.0783	0.00309	1.10E-05
MD21-09-9102	21-605341	0–0.5	SOIL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	—	NA	NA	NA
MD21-10-7832	21-605342	0–0.5	QBT3	5.73E-05	2.18E-06 (J)	6.03E-06	4.64E-06	7.14E-05	8.96E-07 (J)	1.06E-06 (J)	—	1.50E-06 (J)	2.67E-05	NA	0.0016	4.97E-05	1.45E-06 (J)
MD21-10-7819	21-610684	0–0.5	SOIL	5.82E-05	1.4E-06 (J)	3.61E-06	2.96E-06	3.56E-05	6.98E-06	2.46E-06 (J)	6.47E-07 (J)	3.09E-06	4.78E-05	—	0.00132	5.14E-05	9.90E-07 (J)
MD21-10-7833	21-610686	0–0.5	SOIL	0.00642	0.000131	0.000542	0.000275	0.00503	6.57E-05	6.59E-05	1.62E-05	0.000112	0.00235	NA	0.209 (J-)	0.00402	6.04E-05
MD21-11-24262	21-614582	0–0.5	SOIL	1.31E-05	6.69E-07 (J)	1.45E-06 (J)	1.21E-06 (J)	1.56E-05	—	—	—	—	6.80E-06	NA	0.000435	9.94E-06	—
MD21-11-24267	21-614585	6–7	QBT3	0.000843	4.49E-06 (J)	3.42E-05	1.00E-05 (J)	0.000183	5.45E-06 (J)	4.28E-06 (J)	1.90E-06 (J)	8.07E-06 (J)	0.000282	NA	0.0105	0.000461	1.92E-06 (J)

Table 6.14-3 (continued)

Sample ID	Location ID	Depth (ft)	Media	Pentachlorodibenzodioxins (Total)	Pentachlorodibenzofuran[1,2,3,7,8-]	Pentachlorodibenzofuran[2,3,4,7,8-]	Pentachlorodibenzofurans (Totals)	Phenanthrene	Pyrene	Tetrachlorodibenzodioxin[2,3,7,8-]	Tetrachlorodibenzodioxins (Total)	Tetrachlorodibenzofuran[2,3,7,8-]	Tetrachlorodibenzofurans (Totals)
Construction Worker SSL[a]				**na**	**na**	**na**	**na**	**7150**	**6680**	**0.000284**	**na**	**0.0152**	**na**
Industrial SSL[a]				**na**	**na**	**na**	**na**	**20500**	**18300**	**0.000204**	**na**	**0.00204**	**na**
Residential SSL[a]				**na**	**na**	**na**	**na**	**1830**	**1720**	**0.000045**	**na**	**0.00045**	**na**
MD21-09-9090	21-605337	0–0.5	SOIL	NA	NA	NA	NA	—	0.34 (J)	NA	NA	NA	NA
MD21-09-9091	21-605337	5–6	SOIL	NA	NA	NA	NA	—	—	NA	NA	NA	NA
MD21-09-9093	21-605338	0–0.5	SOIL	NA	NA	NA	NA	—	0.2 (J)	NA	NA	NA	NA
MD21-10-7825	21-605338	0–0.5	SOIL	2.55E-05	3.93E-07 (J)	—	2.49E-05	NA	NA	5.99E-07	3.15E-06	—	7.32E-06
MD21-09-9095	21-605338	10–11	QBT3	NA	NA	NA	NA	—	—	NA	NA	NA	NA
MD21-10-7826	21-605339	0–0.5	SOIL	1.02E-05	2.58E-07 (J)	5.09E-07 (J)	1.56E-05	NA	NA	5.09E-07	1.74E-06	—	4.39E-06
MD21-09-9096	21-605339	0–1	SOIL	NA	NA	NA	NA	0.0117 (J)	0.0258 (J)	NA	NA	NA	NA
MD21-09-9099	21-605340	0–0.5	SOIL	NA	NA	NA	NA	—	0.0108 (J)	NA	NA	NA	NA
MD21-09-12897	21-605340	2–3	SOIL	6.96E-06	3.44E-07 (J)	9.31E-07 (J)	3.59E-05	NA	NA	3.92E-07 (J)	1.5E-06 (J)	—	6.14E-06
MD21-09-9100	21-605340	2–3	SOIL	NA	NA	NA	NA	—	0.0157 (J)	NA	NA	NA	NA
MD21-10-7816	21-605340	5–6	QBT3	5.04E-05	1.19E-06 (J)	1.54E-06 (J)	0.000144	NA	NA	1.27E-06	4.58E-06	—	1.72E-05
MD21-09-9102	21-605341	0–0.5	SOIL	NA	NA	NA	NA	0.0178 (J)	0.0275 (J)	NA	NA	NA	NA
MD21-10-7832	21-605342	0–0.5	QBT3	1.03E-05	2.40E-07 (J)	3.98E-07 (J)	8.50E-06	NA	NA	2.52E-07 (J)	1.24E-06	—	3.03E-06
MD21-10-7819	21-610684	0–0.5	SOIL	6.97E-06	1.68E-06 (J)	8.29E-06	6.64E-05	—	0.13 (J)	—	7.94E-07	3.84E-06	3.21E-05
MD21-10-7833	21-610686	0–0.5	SOIL	0.000535	7.65E-06	1.94E-05	0.000527	NA	NA	5.82E-06	6.04E-05	2.52E-06	0.000134
MD21-11-24262	21-614582	0–0.5	SOIL	9.13E-07 (J)	—	—	2.09E-06 (J)	NA	NA	—	1.75E-07 (J)	—	1.06E-06 (J)
MD21-11-24267	21-614585	6–7	QBT3	8.14E-06 (J)	—	8.88E-07 (J)	2.69E-05	NA	NA	—	—	—	3.11E-06 (J)

Notes: All concentrations are in mg/kg. Data qualifiers are defined in Appendix A.

[a] SSLs from NMED (2012, 219971).

[b] Pyrene used as a surrogate based on structural similarity.

[c] na = Not available.

[d] — = Not detected.

[e] NA = Not analyzed.

Table 6.14-4
Radionuclides Detected or Detected above BVs/FVs at AOC C-21-027

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**
MD21-09-9090	21-605337	0–0.5	SOIL	0.189	—[e]	0.063	1.66	—	—	—
MD21-09-9091	21-605337	5–6	SOIL	—	—	—	0.172	—	—	—
MD21-09-9092	21-605337	10–11	QBT3	0.039	—	—	0.213	—	—	—
MD21-09-9093	21-605338	0–0.5	SOIL	0.341	—	0.152	3.72	—	—	—
MD21-09-9094	21-605338	5–6	SOIL	—	—	—	0.108	—	—	—
MD21-09-9095	21-605338	10–11	QBT3	—	—	—	0.262	—	—	—
MD21-09-9096	21-605339	0–1	SOIL	0.853	—	0.0831	13.8	0.011872	—	—
MD21-09-9097	21-605339	2–3	QBT3	—	—	—	0.248	—	—	—
MD21-09-9099	21-605340	0–0.5	SOIL	0.263	—	0.0376	3.5 (J)	—	—	—
MD21-09-9100	21-605340	2–3	SOIL	0.94	0.336	0.118	9.72	—	—	—
MD21-10-7816	21-605340	5–6	QBT3	2.74	NA[f]	0.245	20.3	NA	NA	NA
MD21-09-9102	21-605341	0–0.5	SOIL	0.368	—	0.0428	4.31	—	—	0.223
MD21-09-9103	21-605341	2–3	SOIL	0.13	—	—	1.19 (J)	—	—	—
MD21-09-9105	21-605342	0–0.5	QBT3	0.05	0.301	—	0.518	—	—	—
MD21-09-9106	21-605342	2–3	QBT3	—	—	—	0.0194	—	—	—
MD21-10-7817	21-610682	0–0.5	SOIL	NA	NA	3.54	295	NA	NA	NA
MD21-10-7818	21-610683	0–1	SOIL	NA	NA	0.039	6.75	NA	NA	NA
MD21-10-7819	21-610684	0–0.5	SOIL	0.416	—	0.097	8.76	0.488141 (J-)	5.19	0.273
MD21-10-7820	21-610684	5–6	QBT3	—	—	—	0.137	—	—	—
MD21-10-7821	21-610684	10–11	QBT3	—	—	—	0.363	—	—	—
MD21-11-24257	21-614580	0–0.5	SOIL	10.4	NA	0.993	83	NA	NA	NA
MD21-11-24258	21-614580	5–6	QBT3	2.05	NA	0.215	14.4	NA	NA	NA
MD21-11-24259	21-614581	0–0.5	SOIL	0.422	NA	0.0979	4.29	NA	NA	NA
MD21-11-24260	21-614581	5–6	SOIL	0.0415	NA	—	0.315	NA	NA	NA
MD21-11-24263	21-614583	0–0.5	SOIL	0.0704	NA	—	0.875	—	—	—
MD21-11-24265	21-614583	5–6	SOIL	0.0866	NA	—	1.77	—	—	—

Table 6.14-4 (continued)

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/240	Tritium	Uranium-234	Uranium-235/236
Qbt2,3,4 BV[a]				**na**[b]	**na**	**na**	**na**	**na**	**1.98**	**0.09**
Soil BV[a]				**0.013**[c]	**1.65**[c]	**0.023**[c]	**0.054**[c]	**na**	**2.59**	**0.2**
Construction Worker SAL[d]				**140**	**31**	**130**	**120**	**62000**	**770**	**100**
Industrial SAL[d]				**990**	**39**	**1300**	**1200**	**200000**	**3000**	**150**
Residential SAL[d]				**82**	**4.7**	**84**	**79**	**850**	**270**	**39**
MD21-11-24264	21-614583	9–10	QBT3	0.0187	NA	—	0.24	—	—	0.121
MD21-11-24266	21-614584	0–0.5	SOIL	0.0618	NA	—	0.621	NA	—	—

Note: All activities are in pCi/g. Data qualifiers are defined in Appendix A.

[a] BVs/FVs are from LANL 1998, 059730.

[b] na = Not available.

[c] FV applies to soil and tuff samples collected from 0.0–1.0 ft only.

[d] SALs from LANL (2014, 600064).

[e] — = Not detected, or not detected above BV/FV.

[f] NA = Not analyzed.

Table 8.1-1
Summary of Investigation Results and Site Recommendations

Consolidated Unit	SWMU/AOC	Brief Description	Extent Defined or No Further Sampling Warranted?	Potential Unacceptable Risk?	Recommendation
21-003-99	21-003	PCB container storage area	Yes	No, all scenarios	Complete without controls
	21-013(f)	Surface disposal area			
	21-024	Inactive septic system	Yes	No, all scenarios	Complete without controls
21-006(c)-99	21-006(a)	Underground seepage pit	Yes	No, all scenarios	Complete without controls
	21-006(b)	Brick manhole placed within a trench, drainline, and outfall			
	21-006(c)	Seepage pit			
	21-006(d)	Seepage pit			
21-022(h)-99	21-022(h)	Sump, drainline, and outfall	Yes	Yes, residential; no other scenarios (entire site) No, all scenarios (mesa top only)	Complete with controls
	21-022(i)	Sump	n/a*	n/a	Sampling to be conducted as part of building 21-002 investigation
	21-022(j)	Sump	Yes	No, all scenarios	Complete without controls
21-023(a)-99	21-023(a)	Septic tank and drainlines	Yes	Yes, residential; no other scenarios	Complete with controls
	21-023(b)	Septic tank and drainlines			
	21-023(d)	Septic tank and drainlines			
	21-024(b)	Septic tank, pipelines, and associated outfall	Yes	No, all scenarios entire site and mesa top only	Complete without controls
	21-024(d)	Inactive septic tank, pipelines, and associated outfall	Yes	No, all scenarios	Complete without controls
	21-024(g)	Inactive septic system	Yes	No, all scenarios	Complete without controls
	21-024(k)	Inactive septic tank, tile leach field, pipelines, and associated outfall	Yes	No, all scenarios	Complete without controls

Table 8.1-1 (continued)

Consolidated Unit	SWMU/AOC	Brief Description	Extent Defined or No Further Sampling Warranted?	Potential Unacceptable Risk?	Recommendation
21-024(l)-99	21-022(a)	Sump and associated lines	Yes	Yes, residential; no other scenarios	Complete with controls
	21-024(l)	Outfall			
	21-004(a)	Aboveground storage tank and associated lines			
	21-024(n)	Septic system	Yes	No, all scenarios	Complete without controls
21-026(a)-99	21-013(a)	Surface disposal area	Yes	Yes, residential; no other scenarios (entire site) No, all scenarios (mesa top only)	Complete with controls
	21-026(a)	Sewage treatment plant			
	21-026(b)	Four sludge drying/sand filter beds			
	21-026(c)	Dosing siphon chamber			
	21-026(d)	Outfall			
	21-027(a)	Surface drainage and outfall	Yes	Yes, all scenarios (entire site) No, all scenarios (mesa top only)	Complete with controls
	C-21-027	Cooling tower	Yes	Yes, industrial and residential; no construction worker (entire site) No all scenarios (mesa top only)	Complete with controls

Note: Shading denotes consolidated unit.
*n/a = Not applicable.

Appendix A

Acronyms and Abbreviations,
Metric Conversion Table, and Data Qualifier Definitions

A-1.0 ACRONYMS AND ABBREVATIONS

%R	percent recovery
AK	acceptable knowledge
ALARA	as low as reasonably acceptable
AOC	area of concern
ASTDR	Agency for Toxic Substances and Disease Registry
AUF	area use factor
BCG	Biota Concentration Guide (DOE)
bgs	below ground surface
BH	borehole
BV	background value
CCV	continuing calibration verification
CMP	corrugated metal pipe
cpm	counts per minute
COC	chain of custody
Consent Order	Compliance Order on Consent
COPC	chemical of potential concern
COPEC	chemical of potential ecological concern
D&D	decontamination and decommissioning
DAF	dilution attenuation factor
DL	detection limit
DOE	Department of Energy (U.S.)
DP	Delta Prime
dpm	disintegrations per minute
DRO	diesel range organics
Eh	redox potential
EP	Environmental Programs Directorate
EPA	Environmental Protection Agency (U.S.)
EPC	exposure point concentration
EQL	estimated quantitation limit
ER	Environmental Restoration (former Laboratory project)
ESH	Environment, Safety, and Health
ESL	ecological screening level
eV	electronvolt
FV	fallout value

GC/MS	gas chromatography–mass spectrometry
HI	hazard index
HQ	hazard quotient
HR	home range
HSA	hollow-stem auger
ICPES	inductively coupled plasma emission spectroscopy
ICS	interference check sample
ICV	initial calibration verification
I.D.	inside diameter
IDW	investigation-derived waste
IS	internal standard
K_d	soil-water partition coefficient
K_{oc}	organic carbon partition coefficient
K_{ow}	octanol-water partition coefficient
LAL	lower acceptance level
LANL	Los Alamos National Laboratory
LASL	Los Alamos Scientific Laboratory
LCS	laboratory control sample
LOAEL	lowest observed adverse effect level
LLW	low-level waste
MDA	material disposal area
MS	matrix spike
MSW	municipal solid waste
NMED	New Mexico Environment Department
NMSA	New Mexico Statutes Annotated
NOAEL	no observed adverse effect level
NOD	notice of deficiency
NPDES	National Pollution Discharge Elimination System
PAH	polycyclic aromatic hydrocarbon
PAUF	population area use factor
PCB	polychlorinated biphenyl
PID	photoionization detector
PRG	preliminary remediation goal
QA	quality assurance
QC	quality control
QP	quality procedure

RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
RCT	radiological control technician
RDA	recommended daily allowance
RfD	reference dose
RFI	RCRA facility investigation
RL	reporting limit
RPD	relative percent difference
SAL	screening action level
SCL	sample collection log
SF	slope factor
SMO	Sample Management Office
SOP	standard operating procedure
SOW	statement of work
SSL	soil screening level
SSO	site safety officer
SVOC	semivolatile organic compound
SWMU	solid waste management unit
T&E	threatened and endangered
TA	technical area
TAL	target analyte list (EPA)
TCDD	tetrachlorodibenzo-p-dioxin
TEF	toxicity equivalency factor
TPH	total petroleum hydrocarbons
TRV	toxicity reference values
TSCA	Toxic Substances Control Act
UAL	upper acceptance level
UCL	upper confidence limit
VCA	voluntary corrective action
VCP	vitrified clay pipe
VOC	volatile organic compound
WCSF	waste characterization strategy form

A-2.0 METRIC CONVERSION TABLE

Multiply Sl (Metric) Unit	by	To Obtain U.S. Customary Unit
kilometers (km)	0.622	miles (mi)
kilometers (km)	3281	feet (ft)
meters (m)	3.281	feet (ft)
meters (m)	39.37	inches (in.)
centimeters (cm)	0.03281	feet (ft)
centimeters (cm)	0.394	inches (in.)
millimeters (mm)	0.0394	inches (in.)
micrometers or microns (µm)	0.0000394	inches (in.)
square kilometers (km^2)	0.3861	square miles (mi^2)
hectares (ha)	2.5	acres
square meters (m^2)	10.764	square feet (ft^2)
cubic meters (m^3)	35.31	cubic feet (ft^3)
kilograms (kg)	2.2046	pounds (lb)
grams (g)	0.0353	ounces (oz)
grams per cubic centimeter (g/cm^3)	62.422	pounds per cubic foot (lb/ft^3)
milligrams per kilogram (mg/kg)	1	parts per million (ppm)
micrograms per gram (µg/g)	1	parts per million (ppm)
liters (L)	0.26	gallons (gal.)
milligrams per liter (mg/L)	1	parts per million (ppm)
degrees Celsius (°C)	9/5 + 32	degrees Fahrenheit (°F)

A-3.0 DATA QUALIFIER DEFINITIONS

Data Qualifier	Definition
U	The analyte was analyzed for but not detected.
J	The analyte was positively identified, and the associated numerical value is estimated to be more uncertain than would normally be expected for that analysis.
J+	The analyte was positively identified, and the result is likely to be biased high.
J-	The analyte was positively identified, and the result is likely to be biased low.
UJ	The analyte was not positively identified in the sample, and the associated value is an estimate of the sample-specific detection or quantitation limit.
R	The data are rejected as a result of major problems with quality assurance/quality control (QA/QC) parameters.

Appendix B

Field Methods

B-1.0 INTRODUCTION

This appendix summarizes field methods used during the 2011 Phase III investigation at Delta Prime (DP) Site Aggregate Area within Technical Area 21 (TA-21) at Los Alamos National Laboratory (LANL or the Laboratory). Table B-1.0-1 summarizes the methods and the following sections provide more detail of the field methods for DP Site Aggregate Area. All activities were conducted in accordance with the applicable Environmental Programs Directorate standard operating procedures (SOPs) and quality procedures (QPs). A list of the SOPs used to guide the fieldwork and sampling is available at http://www.lanl.gov/environment/plans-procedures.php. The SOPs and QPs are also available in the electronic public reading room at http://eprr.lanl.gov/oppie/service.

B-2.0 EXPLORATORY DRILLING CHARACTERIZATION

No drilling was conducted during the 2011 investigation activities.

B-3.0 FIELD-SCREENING METHODS

This section summarizes the field-screening methods used during the 2011 sampling activities. The field-screening results for the Phase III samples are presented in Table 3.2-2 of the investigation report.

B-3.1 Field Screening for Organic Vapors

Organic vapor screening was conducted using a photoionization detector (PID) in accordance with SOP-6.33, Headspace Vapor Screening with a Photoionization Detector. Samples were field screened for organic vapors using a MiniRae 2000 PID with an 11.7 electronvolt (eV) lamp. The PID, bench calibrated yearly by the vendor, was field calibrated by field personnel using 100 ppm isobutylene as a span calibration gas. Field-screening results were recorded on sample collection logs (Appendix G on CD).

B-3.2 Field Screening for Radioactivity

All samples collected were field-screened for radioactivity before they were submitted to the Sample Management Office (SMO). A Laboratory radiological control technician (RCT) conducted radiological screening using an Eberline E-600 radiation meter with an SHP-380AB alpha/beta scintillation detector held within 1 in. of the sample. Field-screening results for radioactivity were recorded in disintegrations per minute (dpm) on sample collection logs (Appendix G on CD).

B-4.0 FIELD INSTRUMENT CALIBRATION

All instruments were calibrated before use. Several environmental factors might affect the instruments' integrity, including air temperature, atmospheric pressure, wind speed, and humidity. Calibration of the PID was conducted by the site-safety officer (SSO). Calibration of the Eberline E-600 was conducted by the RCT. All calibrations were performed according to the manufacturers' specifications and requirements.

B-4.1 PID Calibration

The PID was calibrated both to ambient air and a standard reference gas (100 ppm isobutylene). The ambient-air calibration determined the zero point of the instrument sensor calibration curve in ambient air.

Calibration with the standard reference gas determined a second point of the sensor calibration curve. Each calibration was within 3% of 100 ppm isobutylene, qualifying the instrument for use.

The following calibration information was recorded daily on operational calibration logs:

- instrument ID number
- final span settings
- date and time
- concentration and type of calibration gas used (isobutylene at 100 ppm)
- name of the SSO performing the calibration

All calibration procedures for the MiniRAE 2000 PID met the manufacturer's specifications for standard reference gas calibration.

B-4.2 Eberline E-600 Instrument Calibration

The Eberline E-600 was calibrated daily by the RCT before local background levels for radioactivity were measured. The instrument was calibrated using plutonium-239 and chloride-36 sources for alpha and beta emissions, respectively. The following five checks were performed as part of the calibration procedures: calibration date, physical damage, battery, response to a source of radioactivity, and background. All calibrations performed for the Eberline E-600 met the manufacturer's specifications and the applicable radiation detection instrument manual.

B-5.0 SURFACE AND SUBSURFACE SAMPLING

This section summarizes the methods used for collecting samples for laboratory analysis, including soil and tuff. The samples were collected according to the approved Phase III investigation work plan (LANL 2011, 203659; NMED 2011, 203825).

B-5.1 Surface Sampling Methods

Surface samples were collected from 0.0−0.5 ft below ground surface (bgs) in accordance with SOP 06.09, Spade and Scoop Method for Collection of Soil Samples, or SOP-06.10, Hand Auger and Thin-Wall Tube Sampler. Samples were placed in a stainless-steel bowl before they were transferred to sterile sample collection jars or bags for transport to the SMO. Samples for volatile organic chemical (VOC) analysis were transferred immediately from the sampler to the sample container to minimize the loss of VOCs during the sample-collection process. Containers for VOC samples were filled as completely as possible, leaving no or minimal headspace, and sealed with a Teflon-lined cap. The remaining sample material was field screened for radioactivity, visually inspected, and subsequently placed in a stainless-steel bowl with a stainless-steel scoop, after which it was transferred to sterile sample collection jars or bags. Samples were preserved using coolers to maintain the required temperature and chemical preservatives in accordance with an approved subcontractor procedure technically equivalent to SOP-5056, Sample Containers and Preservation.

Samples were appropriately labeled, sealed with custody seals, and documented before they were transported to the SMO. Samples were managed according to approved subcontractor procedures technically equivalent to SOP-5057, Handling, Packaging, and Transporting Field Samples, and WES-EDA-QP-219, Sample Control and Field Documentation.

Sample collection tools were decontaminated immediately before each sample was collected in accordance with a subcontractor procedure technically equivalent to SOP-5061, Field Decontamination of Equipment.

B-5.2 Subsurface Sampling Methods

The subsurface samples were collected using approved subcontractor procedures technically equivalent to SOP-06.10, Hand Auger and Thin-Wall Tube Sampler. Subsurface samples were collected using the hand-auger method, assisted by a power auger where necessary.

Samples for VOC analysis were transferred immediately from the auger to the sample container to minimize the loss of VOCs during the sample-collection process. Containers for VOC samples were filled as completely as possible, leaving no or minimal headspace, and sealed with a Teflon-lined cap. The remaining sample material was field screened for radioactivity, visually inspected, and subsequently placed in a stainless-steel bowl with a stainless-steel scoop, after which it was transferred to sterile sample collection jars or bags. Samples were preserved using coolers to maintain the required temperature and chemical preservatives in accordance with an approved subcontractor procedure technically equivalent to SOP-5056, Sample Containers and Preservation.

Samples were appropriately labeled, sealed with custody seals, and documented before they were transported to the SMO. Samples were managed in accordance with an approved subcontractor procedures technically equivalent to SOP-5057, Handling, Packaging, and Transporting Field Samples, and WES-EDA-QP-219, Sample Control and Field Documentation.

The sample collection tools were decontaminated immediately before each sample was collected in accordance with an approved subcontractor procedure technically equivalent to SOP-5061, Field Decontamination of Equipment.

B-5.3 Quality Assurance/Quality Control Samples

Quality control (QC) samples were collected in accordance with an approved subcontractor procedure technically equivalent to SOP-5059, Field Quality Control Samples. The QC samples included field duplicates, field rinsate blanks, and field trip blanks. Field duplicate samples were collected from the same material as the regular investigation samples and submitted for the same analyses. Field duplicate samples were collected at a frequency of at least 1 duplicate sample for every 10 samples.

Field rinsate blanks were collected to evaluate field decontamination procedures. Rinsate blanks were collected by rinsing sampling equipment (i.e., auger buckets and sampling bowls and spoons) after decontamination with deionized water. The rinsate water was collected in a sample container and submitted to the SMO. Field rinsate blank samples were analyzed for inorganic chemicals (target analyte list metals, cyanide, nitrate, and perchlorate) and were collected from sampling equipment at a frequency of at least 1 rinsate sample for every 10 solid samples.

Field trip blanks were collected at a frequency of one per day at the time samples were collected for VOCs. Trip blanks consisted of containers of certified clean sand opened and kept with the other sample containers during the sampling process. Trip blanks were analyzed for VOCs only.

B-5.4 Sample Documentation and Handling

Field personnel completed a sample collection log and chain-of-custody (COC) form for each sample set. Sample containers were sealed with signed COC seals and placed in coolers at approximately 4°C.

Samples were packaged with preservatives, as necessary, depending upon the analytical method to be used, packed, handled, and shipped in accordance with SOP-5057, Handling, Packaging, and Transporting Field Samples, and SOP-5056, Sample Containers and Preservation.

Swipe samples were collected from the exterior of sample containers and analyzed by the RCT before the sample containers were removed from the site. Samples were transported to the SMO in sealed coolers before they were shipped to the analytical laboratory. The SMO reviewed and approved the sample collection logs and COC forms and accepted custody of the samples.

B-5.5 Decontamination of Sampling Equipment

All sampling equipment was decontaminated immediately before each sample was collected to avoid outside contamination and cross-contamination between samples. Decontamination included wiping the equipment with Fantastik and clean paper towels. Residual material adhering to equipment was removed using dry decontamination methods such as the use of wire brushes and scrapers. Decontamination activities were performed in accordance with an approved subcontractor procedure technically equivalent to SOP-5061, Field Decontamination of Equipment. Decontaminated equipment was surveyed by an RCT before it was released from the site.

B-6.0 EXCAVATIONS

Excavations for the DP Site Aggregate Area Phase III investigation were conducted using a Volvo Backhoe #11219. Contaminated soil was removed from portions of three sites as part of the Phase III investigation: Solid Waste Management Unit (SWMU) 21-024(b), Consolidated Unit 21-024(l)-99, and SWMU 21-027(a). The outfall areas at SWMUs 21-024(b) and 21-027(a) as well as Consolidated Units 21-022(h)-99 and 21-026(a)-99 are on steep, unstable canyon slopes. Because of safety concerns described in the approved Phase III work plan, these outfalls were not remediated during the Phase III activities (LANL 2011, 203659; NMED 2011, 203825). The planned excavations were performed by advancing the 2-ft backhoe bucket to the depth specified in the Phase III work plan and disposing of the soil in 9-yd^3 polypropylene flexible intermediate bulk waste containers. Excavations with a starting depth below ground surface consisted of stockpiling the overburden material adjacent to the excavation, removing and disposing of the contaminated soil, and replacing the stockpiled overburden as backfill material. The excavations were subsequently backfilled with clean fill material to ground surface and restored by reseeding and hydromulching the disturbed area.

At SWMU 21-024(b), four areas on the mesa top were remediated because of americium-241 and isotopic plutonium contamination. The excavated areas included soil under the septic tank inlet north of DP Road (5.5−7.5 ft bgs and 3.3−5.3 ft bgs), at the inlet to the former septic tank (5.0−8.0 ft bgs), and at the outlet to the former septic tank (3.5−5.5 ft bgs). Data obtained previously from deeper depths were used as confirmatory sampling information at three excavated locations (21-601087, 21-601088, and 21-601089). One excavated location (21-601090) was sampled at depth to collect a confirmatory sample for isotopic plutonium.

At Consolidated Unit 21-024(l)-99, two areas on the mesa top were remediated because of benzo(a)pyrene contamination. The areas were excavated to 2.0−4.0 ft bgs and 2.5−4.5 ft bgs. No confirmatory samples were collected because data already obtained from deeper depths at the excavated locations (21-27520 and 21-27521) were used as confirmatory sampling information.

At SWMU 21-027(a), two areas on the mesa top were remediated because of isotopic plutonium and dioxins/furans contamination. The excavated areas included location 21-601226 (2.5−4.5 ft bgs) and at

the ponding area between locations 21-601225 and 21-601228 (1.0−4.0 ft bgs). Data already obtained from deeper depths at the excavated locations were used as confirmatory sampling information at two locations (21-601228 and 21-601229). Additional samples were collected at locations 21-614575, 21-614576, and 21-614577 to confirm the ponding area excavation area and depth.

The diesel spill area around tank 21-57 was not excavated or sampled as proposed in the Phase III work plan because fieldwork activities at TA-21 were suspended in October 2011 (see section B-9.0).

B-7.0 GEODETIC SURVEYING

Geodetic surveys of all sampling locations were performed using a Trimble R8 Global Navigation Satellite System referenced from published and monumented external Laboratory survey control points in the vicinity. All sampling locations were surveyed in accordance with an approved subcontractor procedure technically equivalent to SOP-5028, Coordinating and Evaluating Geodetic Surveys. Horizontal accuracy of the monumented control points is within 0.1 ft. The Trimble R8 GNSS instrument referenced from Laboratory control points is accurate within 0.2 ft. The surveyed coordinates for the Phase III sample locations are presented in Table 3.2-1 of the investigation report.

B-8.0 INVESTIGATION-DERIVED WASTE STORAGE AND DISPOSAL

All investigation-derived waste (IDW) generated during the field investigation was managed in accordance with an approved subcontractor procedure technically equivalent to SOP-5238, Characterization and Management of Environmental Program Waste (currently superseded by EP DIV-SOP-10021). This procedure incorporates the requirements of all applicable U.S. Environmental Protection Agency (EPA) and New Mexico Environment Department (NMED) regulations, U.S. Department of Energy orders, and Laboratory implementation requirements. IDW was also managed in accordance with the approved waste characterization strategy form (Attachment D-1 on CD).

Six waste streams were generated during field activities and included

- contact waste,
- remediation waste, and
- municipal solid waste.

Appendix D contains the details of the wastes generated.

B-9.0 DEVIATIONS FROM WORK PLAN

The following deviations from the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825) occurred during sample collection:

The diesel spill area around tank 21-57 was not excavated or sampled as proposed in the Phase III work plan because fieldwork activities at TA-21 were suspended in October 2011.

The approved Phase III work plan specified that potential diesel fuel contamination from tank 21-57 at several locations, including under the slab foundation of building 21-357, would be sampled at six locations and analyzed for semivolatile organic compounds, VOCs, and/or total petroleum hydrocarbons diesel range organics. Three areas were proposed for soil excavation to a depth of 10 ft bgs as directed by NMED (2010, 110959). Once the nature and extent of contamination under the slab are defined, the

contaminated soil will be excavated, if warranted. However, sampling and excavation were contingent on the slab foundation being removed to allow access to the potential contamination. The diesel spill area around tank 21-57 was not excavated or sampled as proposed in the Phase III work plan because fieldwork activities at TA-21 were suspended in October 2011. The proposed sampling and potential excavation at this site are delayed until the work can be rescheduled and the slab is removed.

At Area of Concern C-21-027, a sample was collected at location 21-614585 (between locations 21-605340 and 21-605341) from 6.0–7.0 ft bgs to define the vertical extent of americium-241, plutonium-238, and plutonium-239/240 at location 21-605340. However, the analytical laboratory did not conduct the requested analyses of americium-241, plutonium-238, and plutonium-239/240 on the sample submitted in 2011.

B-10.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate's Records Processing Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory's Electronic Document Management System and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the ESH Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

LANL (Los Alamos National Laboratory), May 2011. "Phase III Letter Work Plan for DP Site Aggregate Area," Los Alamos National Laboratory document LA-UR-11-2842, Los Alamos, New Mexico. (LANL 2011, 203659)

NMED (New Mexico Environment Department), October 19, 2010. "Direction to Modify Phase II Investigation Report for Delta Prime Site Aggregate Area, Technical Area 21, Revision 1," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2010, 110959)

NMED (New Mexico Environment Department), June 10, 2011. "Approval with Modification, Phase III Letter Work Plan for DP Site Aggregate Area," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico. (NMED 2011, 203825)

Table B-1.0-1
Summary of Field Investigation Methods

Method	Summary
Spade and Scoop Collection of Soil Samples	This method is typically used to collect shallow (i.e., approximately 0.0−1.0 ft bgs) soil or sediment samples. The spade-and-scoop method involved digging a hole to the desired depth, as prescribed in the sampling and analysis plan, and collecting a discrete grab sample. The sample was placed in a clean stainless-steel bowl before it was transferred to various sample containers. Samples for VOC analysis were transferred immediately from the auger to the sample container to minimize the loss of VOCs during the sample-collection process. Containers for VOC samples were filled as completely as possible, leaving no or minimal headspace, and sealed with a Teflon-lined cap.
Hand-Auger and Power Auger Sampling	This method is typically used for sampling soil or sediment at depths of less than 10–15 ft but in some cases may be used to collect samples of weathered or nonwelded tuff. The method involved hand-turning a stainless-steel bucket auger (typically 3–4 in. inside diameter), creating a vertical hole that was advanced to the desired sample depth. When the desired depth was reached, the auger was decontaminated before advancing the hole through the sample depth. The sample material was transferred from the auger bucket to a stainless-steel sampling bowl before the various required sample containers were filled.
Headspace Vapor Screening	Individual soil, tuff, or sediment samples were field screened for organic vapors by placing a portion of the sample in a plastic sample bag or in a glass container with a foil-sealed cover. The container was sealed and gently shaken and allowed to equilibrate for 5 min. The sample was then screened by inserting a PID probe into the container and measuring and recording any detected vapors. PIDs must use lamps with voltage of 11.7 eV.
Handling, Packaging, and Shipping of Samples	Field team members sealed and labeled samples before packing and ensured that the sample containers and the containers used for transport were free of external contamination. Field team members packaged all samples to minimize the possibility of breakage during transportation. After all environmental samples were collected, packaged, and preserved, a field team member transported them either to the SMO or to an SMO-approved radiation screening laboratory under COC. The SMO arranged for shipping samples to analytical laboratories. The field team member must inform the SMO and/or the radiation screening laboratory coordinator when levels of radioactivity were in the action-level or limited-quantity ranges.
Sample Control and Field Documentation	The collection, screening, and transport of samples were documented on standard forms generated by the SMO. These forms included sample collection logs, COC forms, and sample container labels. Collection logs were completed at the time of sample collection and were signed by the sampler and a reviewer who verified the logs for completeness and accuracy. Corresponding labels were initialed and applied to each sample container, and custody seals were placed around container lids or openings. The COC forms were completed and assigned to verify the samples had not been left unattended.
Field Quality Control Samples	Field quality control samples were collected as follows: Field Duplicates: at a frequency 10%; collected at the same time as a regular sample and submitted for the same analyses Equipment Rinsate Blank: at a frequency of 10%; collected by rinsing sampling equipment with deionized water, which was collected in a sample container and submitted for laboratory analysis Trip Blanks: required for all field events that include collecting samples for VOC analysis. Trip blanks containers of certified clean sand that were opened and kept with the other sample containers during the sampling process

Table B-1.0-1 (continued)

Method	Summary
Field Decontamination of Drilling and Sampling Equipment	Dry decontamination is the preferred method to minimize the generation of liquid waste. Dry decontamination methods included the use of a wire brush or other tool to remove soil or other material adhering to the sampling equipment, followed by the use of a commercial cleaning agent (nonacid, waxless cleaners) and paper wipes. Dry decontamination was followed by wet decontamination, if necessary.
Containers and Preservation of Samples	Specific requirements/processes for sample containers, preservation techniques, and holding times are based on EPA guidance for environmental sampling, preservation, and quality assurance. Specific requirements for each sample were printed on the sample collection logs provided by the SMO (size and type of container [e.g., glass, amber glass, and polyethylene]). All samples were preserved by being placed in insulated containers with ice to maintain a temperature of 4˚C. Nitric acid and other preservatives were also applied to the media or analytical requests.
Coordinating and Evaluating Geodetic Surveys	Geodetic surveys focused on obtaining survey data of acceptable quality to use during project investigations. Geodetic surveys were conducted with a Trimble 5700 differential global positioning system. The survey data conformed to Laboratory Information Architecture project standards IA-CB02, Geographic Information System Horizontal Spatial Reference System, and IA-D802, Geospatial Positioning Accuracy Standard for A/E/C/ and Facility Management. All coordinates were expressed as State Plain Coordinate System 83, NM Central, U.S. feet coordinates. All elevation data were reported relative to the National Geodetic Vertical Datum of 1983.
Management of Environmental Restoration Project Waste, Waste Characterization	IDW was managed, characterized, and stored in accordance with an approved waste characterization strategy form that documented site history, field activities, and the characterization approach for each waste stream managed. Waste characterization was adequate to comply with on- or off-site waste acceptance criteria. All stored IDW was marked with appropriate signage and labels. Drummed IDW was stored on pallets to prevent deterioration of containers. Generators were required to reduce the volume of waste generated by as much as was technically and economically feasible. The means to store, control, and transport each potential waste type and its classification were determined before the start of field operations that generated waste. A waste storage area was established before waste was generated. Waste storage areas located in controlled areas of the laboratory were controlled as needed to prevent inadvertent addition or management of wastes by unauthorized personnel. Each container of waste generated was individually labeled with waste classification, item identification number, and radioactivity (if applicable), immediately following containerization. All waste was segregated by classification and compatibility to prevent cross-contamination.

Appendix C

Photographs of DP Site Aggregate Area Cliff Sites



Photo 1 Solid Waste Management Unit 21-022(h) looking west



Photo 2 Solid Waste Management Unit 21-022(h) looking south



Photo 3 Solid Waste Management Unit 21-024(b) looking south



Photo 4 Consolidated Unit 21-026(a)-99 looking west



Photo 5 Solid Waste Management Unit 21-027(a) looking south

Appendix D

Management of Investigation-Derived Waste

D-1.0 INTRODUCTION

This appendix contains the waste management records for the investigation-derived waste (IDW) generated while implementing the approved Delta Prime (DP) Site Phase III work plan (LANL 2011, 203659; NMED 2011, 203825) at Technical Area 21 (TA-21) of Los Alamos National Laboratory (LANL or the Laboratory).

All IDW was managed in accordance with Standard Operating Procedure (SOP) 5238, Characterization and Management of Environmental Program Waste. This SOP incorporates the waste management requirements of applicable U.S Environmental Protection Agency and New Mexico Environment Department (NMED) regulations, U.S Department of Energy orders, and Laboratory requirements.

In accordance with SOP-5238, a waste characterization strategy form (WCSF) and an amendment (Amendment #1) were prepared to address characterization approaches, on-site management, and final disposition options for wastes. Analytical data and information on wastes generated during previous investigations and/or acceptable knowledge (AK) were used to complete the WCSF. The WCSF and Amendment #1 are included as Attachment D-1 (on CD).

The selection of waste containers was based on appropriate U.S. Department of Transportation requirements, waste types, and estimated volumes of IDW generated. Immediately following containerization, each waste container was individually labeled with a unique identification number and with information regarding waste classification, contents, and date generated. Wastes were staged in clearly marked, appropriately constructed waste accumulation areas. Waste accumulation area posting, regulated storage duration, and inspection requirements were based on the type of IDW and its classification. Container and storage requirements were detailed in the WCSF and approved before waste was generated.

Investigation activities were conducted in a manner that minimized the generation of waste. Waste minimization was accomplished by implementing the most recent version of the Laboratory's hazardous waste minimization report.

D-2.0 WASTE STREAMS

The IDW streams generated and managed during the DP Site Phase III sampling and remediation are described below and are summarized in Table D-2.0-1.

- *Contact waste*: This waste stream includes spent personal protective equipment, material used in dry decontamination of sampling equipment (e.g., paper towels), and plastic bags. Characterization of this waste was conducted using the analytical results from site characterization and direct sampling of the waste. The waste was characterized as low-level waste (LLW) and less than 1 yd^3 was disposed at TA-54 Area G.
- *Remediation waste*: This waste stream consists of excavated environmental media (soil, fill, and tuff), excavated anthropogenic debris (concrete, asphalt, piping, etc.), and associated contact waste from Solid Waste Management Unit (SWMU) 21-024(b), SWMU 21-024(k), Consolidated Unit 21-024(l)-99, and SWMU 21-027(a). These wastes were stored on-site in Super Sacks until they were shipped for disposal at TA-54 Area G. The waste was characterized as LLW using the analytical results from site characterization and direct sampling of the waste. Approximately 43 yd^3 of remediation waste was disposed of at TA-54 Area G.

- *Municipal solid waste (MSW)*: This waste stream consists of noncontact trash and debris and empty sample preservation containers. A negligible amount of this waste was stored in Super Sacks and disposed of at the Los Alamos County landfill.

D.3.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate's Records Processing Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory's Electronic Document Management System and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the ESH Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

LANL (Los Alamos National Laboratory), May 2011. "Phase III Letter Work Plan for DP Site Aggregate Area," Los Alamos National Laboratory document LA-UR-11-2842, Los Alamos, New Mexico. (LANL 2011, 203659)

NMED (New Mexico Environment Department), June 10, 2011. "Approval with Modification, Phase III Letter Work Plan for DP Site Aggregate Area," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico. (NMED 2011, 203825)

Table D-2.0-1
Summary of IDW Generation and Management

Waste Stream	Waste Type	Volume	Characterization Method	On-Site Management	Disposition
Contact Waste	LLW	< 1 yd^3	Direct sampling	Super Sacks	Area G
Remediation Waste	LLW	43 yd^3	Direct sampling	Super Sacks	Area G
Municipal Solid	MSW	Negligible	AK	Super Sacks	Los Alamos County Landfill

Attachment D-1

Waste Characterization Strategy Form and Amendment #1
(on CD included with this document)

Appendix E

Diesel Tank 21-57 Spill Site Investigation

E-1.0 INTRODUCTION

In 2002 and 2003, site assessments were conducted by Los Alamos National Laboratory regarding a potential fuel-oil leak into the subsurface surrounding the underground pipelines connected to aboveground diesel tank 21-57 at Technical Area 21 (TA-21). A 2009 investigation presented in the Phase II report (LANL 2010, 110772.33, Appendix E) further characterized the site and assessed the extent of contamination at the site. Additional work to address the diesel contamination related to the potential fuel-oil leak from tank 21-57 was proposed in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825).

E-2.0 FIELD ACTIVITIES

As directed by the New Mexico Environment Department (NMED) (2010, 110959), total petroleum hydrocarbons–diesel range organics (TPH-DRO) contamination detected within 10 ft of the surface at concentrations above the 2006 TPH screening guideline was to be removed at Areas I, J, and K (Figure E-1). Excavation of contaminated soil from Area I, Area J, and north of building 21-357 (Area K) to a depth of 10 ft below ground surface (bgs) was to be conducted, as proposed in the approved Phase III work plan (LANL 2011, 203659; NMED 2011, 203825). Because vertical extent was not defined at Areas I and J, samples were to be collected at locations D-1 and D-2 from 9.0–10.0 ft bgs and 14.0–15.0 ft bgs to define extent (Figure E-1). The samples were analyzed for semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and TPH-DRO in the 9.0–10.0-ft samples and TPH-DRO in the 14.0–15.0-ft samples (LANL 2011, 203659, Table 1).

In addition, analytical data from angled boreholes 1 and 2 drilled in 2002–2003 indicated contamination under the footprint of building 21-357. Therefore, the Phase III work plan proposed collecting samples from 0.0–1.0 ft, 5.0–6.0 ft, 9.0–10.0 ft, and 14.0–15.0 ft bgs under the slab foundation of building 21-357 to determine the extent of contamination (Figure E-1, locations D-3 through D-6). The samples collected between 0.0 ft and 10.0 ft bgs were to be analyzed for SVOCs, VOCs, and TPH-DRO, and samples collected from intervals deeper than 10.0 ft would be analyzed only for TPH-DRO. The sampling under the slab foundation was dependent upon the slab being removed to allow access to this area. If the extent of contamination was not defined with depth or laterally, additional samples would be collected at 5.0-ft intervals, laterally and vertically, until extent was defined. Once extent was defined, contaminated soil beneath the slab would be excavated (Figure E-1, Area K).

E-3.0 STATUS OF THE INVESTIGATION

The proposed excavation north of and under slab foundation of building 21-357 (Area K) to a depth of 10.0 ft bgs and the proposed sampling and excavations at Areas I and J were not conducted as proposed in the Phase III work plan because fieldwork activities at TA-21 were suspended in October 2011.

The proposed sampling and potential excavation at the diesel spill site are delayed until the work can be rescheduled and the slab foundation of building 21-357 is removed.

E-4.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate's Records Processing

Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory's Electronic Document Management System and, where applicable, in the master reference set.

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LANL (Los Alamos National Laboratory), October 2010. "Phase II Investigation Report for Delta Prime Site Aggregate Area at Technical Area 21, Revision 1," Los Alamos National Laboratory document LA-UR-10-6478, Los Alamos, New Mexico. (LANL 2010, 110772.33)

LANL (Los Alamos National Laboratory), May 2011. "Phase III Letter Work Plan for DP Site Aggregate Area," Los Alamos National Laboratory document LA-UR-11-2842, Los Alamos, New Mexico. (LANL 2011, 203659)

NMED (New Mexico Environment Department), October 19, 2010. "Direction to Modify Phase II Investigation Report for Delta Prime Site Aggregate Area, Technical Area 21, Revision 1," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2010, 110959)

NMED (New Mexico Environment Department), June 10, 2011. "Approval with Modification, Phase III Letter Work Plan for DP Site Aggregate Area," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico. (NMED 2011, 203825)

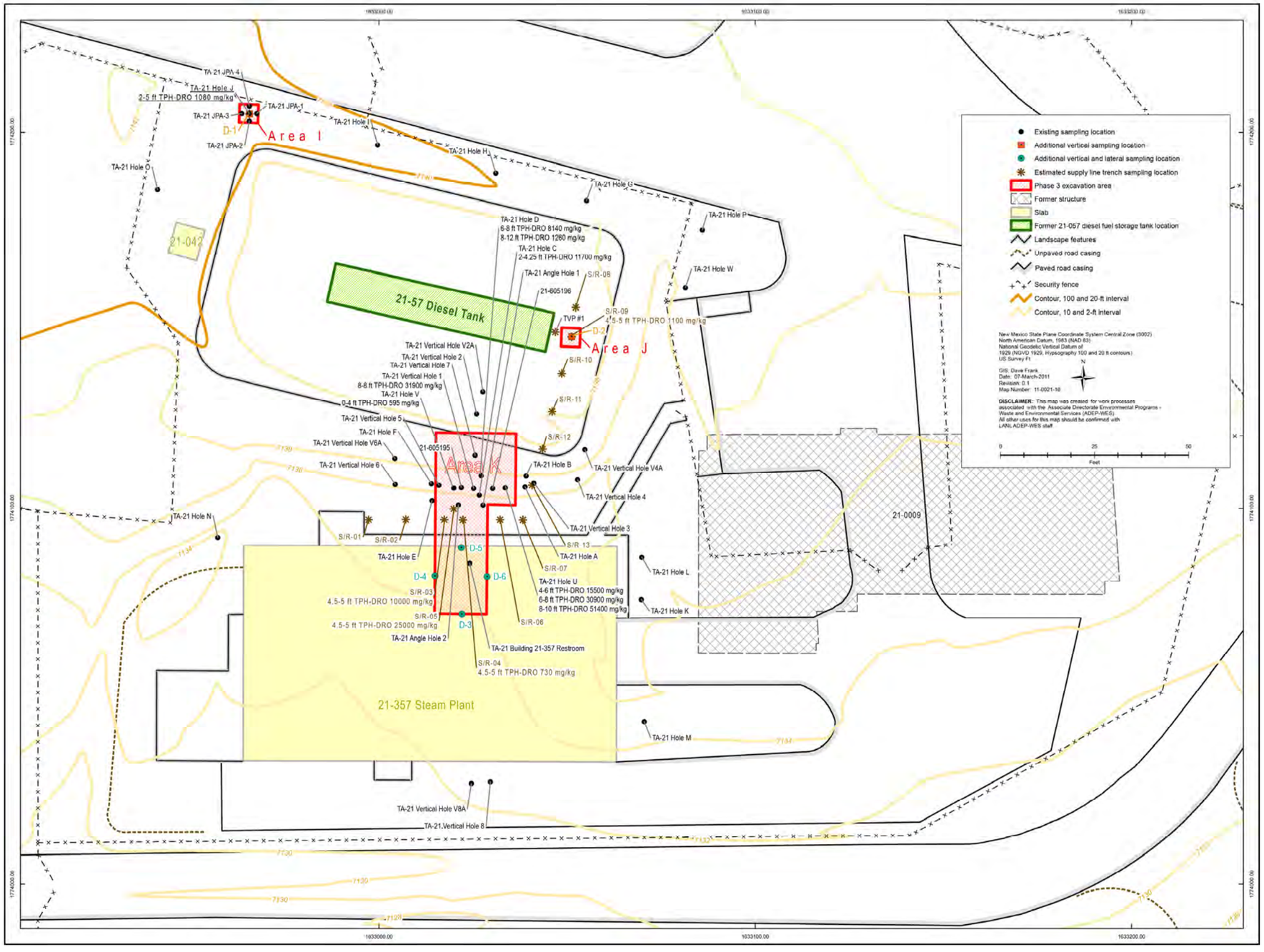


Figure E-1 TPH-DRO concentrations detected above NMED TPH-screening guidance (520 mg/kg) within 10 ft bgs and proposed sampling and excavation areas at diesel spill site

Appendix F

Analytical Program

F-1.0 INTRODUCTION

This appendix summarizes the inorganic chemical, radionuclide, and organic chemical analytical methods, the quality assurance (QA)/quality control (QC), and data validation procedures used in the Phase III investigation at Delta Prime (DP) Site Aggregate Area. The QA/QC procedures were implemented in accordance with the requirements of the Los Alamos National Laboratory (LANL or the Laboratory) "Quality Assurance Project Plan Requirements for Sampling and Analysis" (LANL 1996, 054609) and the Laboratory's analytical services statement of work (SOW) for contract laboratories (LANL 2008, 109962).

The results of the QA/QC activities were used to estimate accuracy, bias, and precision of the analytical measurements. QC samples included method blanks, blank spikes, matrix spikes (MSs), and laboratory control samples (LCSs) to assess accuracy. The analytical services SOW describe the type and frequency of QC analyses (LANL 2008, 109962). Other QC factors such as sample preservation and holding times were also assessed. Evaluating these QC indicators allows estimates to be made of the accuracy, bias, and precision of the analytical results.

The following standard operating procedures (SOPs) were used for data validation of the Phase III sample data:

- SOP-5161, Routine Validation of Volatile Organic Compound (VOC) Analytical Data
- SOP-5162, Routine Validation of Semivolatile Organic Compound (SVOC) Analytical Data
- SOP-5165, Routine Validation of Metals Analytical Data
- SOP-5166, Routine Validation of Gamma Spectroscopy, Chemical Separation Alpha Spectrometry, Gas Proportional Counting, and Liquid Scintillation Analytical Data
- SOP-5169, Routine Validation of Dioxin Furan Analytical Data (EPA Method 1618 and SW-846 EPA Method 8290)
- SOP-5191, Routine Validation of LC/MS/MS Perchlorate Analytical Data (SW-846 EPA Method 6850)

Routine data validation was performed for each data package (also referred to as request numbers), and analytical data were reviewed and evaluated based on U.S. Environmental Protection Agency (EPA) National Functional Guidelines, where applicable (EPA 1994, 048639; EPA 1999, 066649). As a result of the data validation and assessment efforts, qualifiers are assigned to the analytical records as appropriate. The data-qualifier definitions are provided in Appendix A. Sample collection logs (SCLs) and chain-of-custody (COC) forms are provided in Appendix G (on CD included with this report). The analytical data, instrument printouts, and data validation reports are also provided in Appendix G.

Some analytical results were rejected for various reasons and are not usable for the purposes of this report. The remaining Phase III data, including qualified data, lend themselves to evaluation and interpretation. The following sections provide summaries of the analytical methods for inorganic chemicals, radionuclides, and organic chemicals. Only Phase III data are addressed in the following sections; the Phase II data are discussed in the Phase II investigation report (LANL 2010, 110772.33, Appendix F).

F-2.0 INORGANIC CHEMICAL ANALYSIS METHODS

A total of 15 samples were analyzed for inorganic chemicals, 13 samples were analyzed for nitrate and perchlorate, and 6 samples were analyzed for cyanide during Phase III sampling within the DP Site Aggregate Area. Samples were analyzed for one or more of the following inorganic chemical analytical suites: target analyte list (TAL) metals (specific metals or entire suite), nitrate, perchlorate, and total cyanide. The analytical methods used for inorganic chemicals are listed in Table F-1.0-1.

Tables in the Phase III investigation report summarize all samples collected and the analyses requested for the investigation of the DP Site Aggregate Area. All the analytical results are presented in Appendix G (on CD included with this report).

F-2.1 Inorganic Chemical QA/QC Samples

LCSs, method blanks, MS samples, laboratory duplicate samples, interference check samples (ICSs), and serial dilution samples were analyzed to assess accuracy and precision of inorganic chemical analyses. Each of these QA/QC sample types is described in the analytical services SOW (LANL 2008, 109962) and is briefly described in the following sections.

The LCS serves as a monitor of the overall performance of each step during the analysis, including sample digestion. The analytical results for the samples were qualified according to National Functional Guidelines (EPA 1994, 048639) if the individual LCS recoveries were not within method-specific acceptable criteria. LCS recoveries should fall into the control limits of 75%–125% (LANL 2008, 109962).

A method blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as those used in the environmental sample processing. It is extracted and analyzed in the same manner as the corresponding environmental samples. Method blanks serve as a measurement of bias and potential cross-contamination. All target analyte results should be below the contract-required detection limit (LANL 2008, 109962).

MS samples are used to assess the accuracy of inorganic chemical analyses. An MS sample provides information about the effect of each sample matrix on the sample preparation procedures and analytical technique. The spike sample recoveries should be within the acceptance range of 75%–125% (LANL 2008, 109962).

Laboratory duplicate samples assess the precision of inorganic chemical analyses. All relative percent differences (RPDs) between the sample and laboratory duplicate should be ±35% (LANL 2008, 109962).

ICSs verify interelement and background correction factors at the beginning and end of each analysis run.

Serial dilution samples are used to determine the concentration of an analyte when serial dilution is employed. The purpose of such dilution is to bring the concentration of an analyte in the sample within the range of the analysis or to increase the precision of the detected result.

The validation of inorganic chemical data using QA/QC samples and other methods results in the assignment of various qualifiers to individual sampling results or the rejection of the data. The inorganic chemical data were qualified using the appropriate SOPs, and the qualifiers do not affect the usability of the sampling results (except for R-qualified results). The qualified data (except R-qualified data) were used as reported.

F-2.2 Data-Quality Results for Inorganic Chemicals

The majority of the analytical results for inorganic chemicals either were not assigned a qualifier or were qualified as not detected (U) because the analytes were not detected by the respective analytical methods. No quality issues are associated with these data.

F-2.2.1 Maintenance of COC

SCL/COC forms were maintained properly for all samples analyzed for inorganic chemicals (see Appendix G, on CD included with this report).

F-2.2.2 Sample Documentation

All samples analyzed for inorganic chemicals were properly documented on SCL/COC forms in the field (see Appendix G, on CD included with this report).

F-2.2.3 Sample Dilutions

Some samples were diluted for inorganic chemical analyses. No qualifiers were applied to any inorganic chemical sampling results because of dilutions.

F-2.2.4 Sample Preservation

Preservation criteria were met for all samples analyzed for inorganic chemicals.

F-2.2.5 Holding Times

All inorganic chemical analyses were performed within prescribed holding time requirements. No qualifiers were applied to any inorganic chemical sampling results because of holding time issues.

F-2.2.6 Initial Calibration Verification and Continuing Calibration Verification

No qualifiers were applied to any inorganic chemical results because of the initial calibration blank/continuous calibration blank.

F-2.2.7 Interference Check Sample and/or Serial Dilutions

No qualifiers were applied to any inorganic chemical results because of interference check sample and/or serial dilution issues.

F-2.2.8 Laboratory Duplicate Samples

Eleven TAL metals results were qualified as estimated (J) because the sample and the duplicate sampling results were greater than or equal to 5 times the reporting limit (RL) and the duplicate RPD was greater than 35% for soil samples.

F-2.2.9 Blanks

One TAL metals result was qualified as not detected (U) because the sampling results were less than or equal to 5 times the concentration of the related analytes in the equipment rinsate blank.

Four TAL metals results were qualified as estimated (J) because the analyte was identified in the method blank but was greater than 5 times the RL.

F-2.2.10 MS Samples

Four TAL metals results were qualified as estimated not detected (UJ) because the associated MS recovery was below the lower acceptance limit (LAL) but greater than 10%.

Two TAL metals results were qualified as estimated and biased low (J−) because the analyte was recovered below the LAL but was greater than 10% in the associated MS sample.

Fifteen TAL metals results were qualified as estimated and biased high (J+) because the associated MS recovery was above the upper acceptance level (UAL).

F-2.2.11 LCS Recoveries

No qualifiers were applied to any inorganic chemical results because of LCS recovery issues.

F-2.2.12 Detection Limits

Eleven TAL metals and five perchlorate results were qualified as estimated (J) because the results were between the estimated detection limit and method detection limit.

F-2.2.13 Rejected Data

There were no rejected inorganic chemical data for the Phase III samples.

F-3.0 ORGANIC CHEMICAL ANALYSIS METHODS

A total of 11 samples were analyzed for dioxins/furans, 8 samples were analyzed for semivolatile organic compounds (SVOCs), and 6 samples were analyzed for volatile organic compounds (VOCs) within the DP Site Aggregate Area during Phase III sampling. Samples were analyzed for one or more of the following organic chemical analytical suites: VOCs, SVOCs, and dioxins/furans. Table F-1.0-1 lists the analytical methods used for organic chemicals.

Tables within the investigation report summarize all samples collected and the analyses requested for the investigation of the DP Site Aggregate Area. All organic chemical results are provided in Appendix G (on CD included with this report).

F-3.1 Organic Chemical QA/QC Samples

Calibration verifications, instrument-performance checks, LCSs, method blanks, MS samples, surrogates, and internal standards (ISs) were analyzed to assess the accuracy and precision of the organic chemical analyses. The analytical services SOW define each of these QA/QC sample types (LANL 2008, 109962). The following section briefly describes these sample types.

Calibration verification, consisting of initial calibration verification (ICV) and continuing calibration verification (CCV), establishes a quantitative relationship between the response of the analytical procedure and the concentration of the target analyte. Initial calibration verifies the accuracy of the calibration curve and the individual calibration standards used to perform the calibration. Continuing

calibration ensures the initial calibration is still holding and is correct as the instrument is used to process samples. The continuing calibration also serves to determine whether analyte identification criteria, such as retention times and spectral matching, have been met.

Instrument performance checks consist of both background and check source counts for the proportional and liquid scintillation counters and check source counts and full width at half-maximum determinations for the gamma spectrometers.

The LCS is a sample of a known matrix that has been spiked with compounds that are representative of the target analytes, and it serves as a monitor of the overall performance of a "controlled" sample. On a daily basis, the LCS is the primary demonstration of the ability to analyze samples with good qualitative and quantitative accuracy. The analytical results for the samples were qualified according to National Functional Guidelines (EPA 1999, 066649) if the individual LCS recoveries were not within method-specific acceptable criteria. LCS recoveries should fall into the control limits of 75%–125% (LANL 2008, 109962).

A method blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as those used in the environmental sample processing and which is extracted and analyzed in the same manner as the corresponding environmental samples. Method blanks are used to assess the potential for sample contamination during extraction and analysis. All target analytes should be below the contract-required detection limit in the method blank (LANL 2008, 109962).

MS samples are used to measure the ability to recover prescribed analytes from a native sample matrix. MS samples are aliquots of the submitted samples spiked with a known concentration of the target analyte(s). Spiking typically occurs before sample preparation and analysis. The spike sample recoveries should be within the acceptance range of 75%–125% (LANL 2008, 109962).

A surrogate compound (surrogate) is an organic chemical compound used in the analyses of organic target analytes that is similar in composition and behavior to the target analytes but is not normally found in environmental samples. Surrogates are added to every blank, sample, and spike to evaluate the efficiency with which analytes are recovered during the extraction and analysis. The recovery percentage of the surrogates must be within specified ranges, or the results may be rejected or assigned a qualifier (LANL 2008, 109962).

ISs are chemical compounds added to every blank, sample, and standard extract at a known concentration. The ISs compensate for analyte concentration changes that might occur during storage of the extract and quantitation variations that can occur during analysis. ISs are used as the basis for quantitation of target analytes. The percent recovery (%R) for ISs should be within the range of 50%–200% (LANL 2008, 109962).

The validation of organic chemical data using QA/QC samples and other methods can result in the assignment of various qualifiers to individual sample results or the rejection of the data. The organic chemical data were qualified using the appropriate SOPs, and the qualifiers do not affect the usability of the sampling results (except for R-qualified results). The qualified data (except R-qualified data) were used as reported.

F-3.2 Data-Quality Results for Organic Chemicals

The majority of the analytical results for organic chemicals were either not assigned a qualifier or qualified as not detected (U) because the analytes were not detected by the respective analytical methods. These data do not have any quality issues associated with the values presented.

Six dioxin/furan results were qualified as not detected (U) because the results did not meet ion abundance ratios.

F-3.2.1 Maintenance of COC

SCL/COC forms were maintained properly for all samples analyzed for organic chemicals (see Appendix G, on CD included with this report).

F-3.2.2 Sample Documentation

All samples analyzed for organic chemicals were properly documented on the SCL in the field (see Appendix G, on CD included with this report).

F-3.2.3 Sample Dilutions

Some samples were diluted for organic chemical analyses. No qualifiers were applied to any organic chemical sampling results because of dilutions.

F-3.2.4 Sample Preservation

Preservation criteria were met for all samples analyzed for organic chemicals.

F-3.2.5 Holding Times

All organic chemical analyses were performed within prescribed holding time requirements. No qualifiers were applied to any organic chemical sampling results because of holding time issues.

F-3.2.6 ICVs and CCVs

Thirty-eight SVOC and 12 VOC results were qualified as estimated not detected (UJ) because the ICV and/or CCV were recovered outside the method-specific limits.

F-3.2.7 Surrogate Recoveries

Surrogate recovery criteria were met for all samples analyzed for organic chemicals.

F-3.2.8 IS Responses

IS response criteria were met for all samples analyzed for organic chemicals.

F-3.2.9 Blanks

Five dioxin/furan results were qualified as estimated (J) because the sampling result was greater than 5 times the amount in the method blank.

Nine dioxin/furan results were qualified as not detected (U) because the sampling result was less than or equal to 5 times the concentration of the related analyte in the method blank.

F-3.2.10 MS Samples

Two dioxin/furan results were qualified as estimated biased low (J−) because the fortification sample recovery was less than 40% but greater than 10%.

F-3.2.11 Laboratory Duplicate Samples

Laboratory duplicates collected for organic chemical analyses indicated acceptable precision for all samples.

F-3.2.12 LCS Recoveries

LCS criteria were met for all samples analyzed for organic chemicals.

F-3.2.13 Quantitation and Method Detection Limits

Fifty-nine dioxin/furan and 19 SVOC results were qualified as estimated (J) because the sampling results were reported as detected below the RL.

F-3.2.14 Rejected Data

There were no rejected organic chemical data for the Phase III samples.

F-4.0 SUMMARY OF RADIONUCLIDE ANALYSIS

A total of 31 samples were analyzed for isotopic plutonium, 20 samples were analyzed for americium-241, 13 samples were analyzed for tritium, 12 samples were analyzed for isotopic uranium, and 6 samples were for strontium-90, technetium-99, and gamma-emitting radionuclides within the DP Site Aggregate Area during the Phase III sampling. Samples were analyzed for one or more of the following radionuclide analytical suites: alpha spectroscopy (americium-241, isotopic plutonium, isotopic thorium, and isotopic uranium); gamma spectroscopy (cesium-137); strontium-90; technetium-99; and tritium. The analytical methods used for radionuclides are listed in Table F-1.0-1.

Tables in the investigation report summarize all samples collected and the analyses requested from the DP Site Aggregate Area. All radionuclide results are provided in Appendix G (on CD included with this report).

F-4.1 Radionuclide QA/QC Samples

Radionuclides with reported values less than the minimum detectable activity were qualified as not detected (U). Each radionuclide result was also compared with the corresponding total propagated uncertainty. If the result was not greater than 3 times the total propagated uncertainty, the radionuclide was qualified as not detected (U).

The precision and bias of radiochemical analyses performed at external laboratories were assessed using MS samples, LCSs, method blanks, laboratory duplicates, and tracers. The analytical services SOW (LANL 2008, 109962) specify that spike sample recoveries should be within ±25% of the certified value. LCSs were analyzed to assess the accuracy of radionuclide analyses. The LCSs serve as a monitor of the overall performance of each step during the analysis, including the radiochemical separation preparation. The analytical services SOW (LANL 2008, 109962) specify that the LCS recoveries should

be within ±25% of the certified value. Method blanks are also used to assess bias. The analytical services SOW (LANL 2008, 109962) specify that the method blank concentration should not exceed the required minimum detectable activity.

The validation of radionuclide data using QA/QC samples and other criteria can result in the assignment of various qualifiers to individual sampling results or in the rejection of the data. The radionuclide data were qualified using the appropriate SOPs, and the qualifiers do not affect the usability of the sampling results (except for R-qualified results). The qualified data (except rejected [R-qualified] data) were used as reported.

F-4.2 Data-Quality Results for Radionuclides

The majority of the analytical results for radionuclides either were not assigned a qualifier or were qualified as not detected (U) because the analytes were not detected by the respective analytical methods. These data do not have any quality issues associated with the values presented.

All procedures were followed as required by the analytical services SOWs (LANL 2008, 109962). Some sampling results were qualified as not detected (U) because the associated sample concentration was less than or equal to the minimum detectable concentration. Some sampling results were qualified as not detected (U) because the associated sample concentration was less than or equal to 3 times the total propagated uncertainty. This data qualification is related to detection status only, not to the quality of the data.

F-4.2.1 Maintenance of COC

SCL/COC forms were maintained properly for all samples (see Appendix G, on CD included with this report).

F-4.2.2 Sample Documentation

All samples were properly documented on the SCL/COC forms in the field (see Appendix G, on CD included with this report).

F-4.2.3 Sample Dilutions

Some samples were diluted for radionuclide analyses. No qualifiers were applied to any radionuclide sampling results because of dilutions.

F-4.2.4 Sample Preservation

Preservation criteria were met for all samples analyzed for radionuclides.

F-4.2.5 Holding Times

Holding-time criteria were met for all samples analyzed for radionuclides.

F-4.2.6 Method Blanks

One radionuclide result was qualified as estimated (J) because the sampling result was greater than 5 times the amount in the method blank.

F-4.2.7 MS Samples

MS criteria were met for all samples analyzed for radionuclides.

F-4.2.8 Tracer Recoveries

Tracer criteria were met for all samples analyzed for radionuclides.

F-4.2.9 LCS Recoveries

LCS recovery criteria were met for all samples analyzed for radionuclides.

F-4.2.10 Laboratory Duplicate Samples Recoveries

Laboratory duplicate sample recovery criteria were met for all samples analyzed for radionuclides.

F-4.2.11 Rejected Data

Three cesium-134 results were qualified as rejected (R) because spectral interferences prevent positive identification of the analyte.

The rejected data were not used to determine the nature and extent of contamination or to assess the potential human and ecological risks. However, sufficient data of good quality are available to characterize the sites. The results of other qualified data were used as reported and do not affect the usability of the data.

F-5.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate's Records Processing Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory's Electronic Document Management System and, where applicable, in the master reference set.

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LANL (Los Alamos National Laboratory), June 30, 2008. “Exhibit "D" Scope of Work and Technical Specifications, Analytical Laboratory Services for General Inorganic, Organic, Radiochemical, Asbestos, Low-Level Tritium, Particle Analysis, Bioassay, Dissolved Organic Carbon Fractionation, and PCB Congeners,” Los Alamos National Laboratory document RFP No. 63639-RFP-08, Los Alamos, New Mexico. (LANL 2008, 109962)

LANL (Los Alamos National Laboratory), October 2010. “Phase II Investigation Report for Delta Prime Site Aggregate Area at Technical Area 21, Revision 1,” Los Alamos National Laboratory document LA-UR-10-6478, Los Alamos, New Mexico. (LANL 2010, 110772.33)

Table F-1.0-1
Inorganic Chemical, Organic Chemical, and Radionuclide
Analytical Methods Used in the Phase III Investigation at DP Site Aggregate Area Sites

Analytical Method	Analytical Description	Analytical Suite
Inorganic Chemicals		
EPA 300.0	Ion chromatography	Anions (nitrate)
EPA SW-846: 6010/6010B	Inductively coupled plasma emission spectroscopy—atomic emission spectroscopy	Aluminum, antimony, arsenic, **barium**, beryllium, boron, **calcium**, cadmium, cobalt, **chromium**, copper, iron, **lead**, lithium, magnesium, manganese, mercury, nickel, potassium, selenium, silicon, sodium, silver, thallium, titanium, uranium, vanadium, and **zinc** (TAL metals)*
EPA SW-846: 9012A	Automated colorimetric/off-line distillation	Total cyanide
EPA SW-846:6850	Liquid chromatography–mass spectrometry/mass spectrometry	Perchlorate
Organic Chemicals		
EPA SW-846: 8260 and 8260B	Gas chromatography–mass spectrometry (GC/MS)	VOCs (analytical services SOW [LANL 2008, 109962])
EPA SW-846:8270C	GC/MS	SVOCs (analytical services SOW [LANL 2008, 109962])
EPA SW-846:8290	High-resolution gas chromatography/high-resolution mass spectrometry	Dioxins/furans (analytical services SOW [LANL 2008, 109962])
Radionuclides		
HASL-300: Am-241	Alpha spectroscopy	Americium-241
EPA Method: 906.0 LA-10300-M, Vol. 1:R230	Liquid scintillation	Tritium
EPA:905.0 ASTM:D5811-95M	Gas-flow proportional counting	Strontium-90
HASL-300:TC99	Alpha spectroscopy	Technetium-99
HASL-300: ISOPU	Alpha spectroscopy	Isotopic plutonium
HASL-300: ISOTH	Alpha spectroscopy	Isotopic thorium
HASL-300: ISOU	Alpha spectroscopy	Isotopic uranium

*Bolded metals were specifically analyzed for in one or more samples collected during the Phase III investigation.

Appendix G

Analytical Suites and Results and Analytical Reports
(on CD included with this document)

Appendix H

Risk Assessments

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Attachments

Attachment H-1 TEF Calculations for Dioxin/Furan Congeners (on CD included with this document)
Attachment H-2 ProUCL Files (on CD included with this document)
Attachment H-3 Vapor Intrusion Model Spreadsheets (on CD included with this document)
Attachment H-4 Ecological Scoping Checklists

H-1.0 INTRODUCTION

This appendix presents the results of the human health and ecological risk-screening evaluations conducted in support of environmental characterization and remediation of the Delta Prime (DP) Site Aggregate Area at Los Alamos National Laboratory (LANL or the Laboratory). The solid waste management units (SWMUs), areas of concern (AOCs), and consolidated units discussed in this appendix are located in Technical Area 21 (TA-21) (Figure 1.1-1 of the report). This appendix presents the evaluation of potential risk and dose at 10 sites (SWMUs, AOCs, or consolidated units) based on decision-level data from 2006 to 2011 and site remediation that resulted in the removal of contaminated media.

H-2.0 BACKGROUND

Descriptions and operational histories of the SWMUs, AOCs, and consolidated units evaluated by the Phase III DP Site Aggregate Area investigation are presented in section 6.0 of the investigation report. Brief descriptions of the DP Site Aggregate Area SWMUs, AOCs, and consolidated units assessed for potential risk are presented in this section. The 10 sites presented in this appendix either were not evaluated for human health and ecological risk-screening during the Phase II investigation or were sampled or remediated during the Phase III investigations that could potentially change the risk-screening results previously presented in the Phase II report. Additionally, of the three SWMUs that make up Consolidated Unit 21-022(h)-99, only SWMU 21-022(h) is evaluated for risk/dose because sampling at SWMU 21-022(i) will occur as part of the building 21-002 investigation (LANL 2011, 111603) and all samples collected at SWMU 21-022(j) are at depths deeper than are relevant for exposure (greater than 10 ft below ground surface [bgs]). Human health and ecological risk-screening evaluations conducted at the other three sites [Consolidated Unit 21-006(c)-99, SWMU 21-024(d), and SWMU 21-024(g)] presented in this report were evaluated in the Phase II report, which found no potential unacceptable human health and ecological risks or doses, and Phase III extent sampling did not affect those results. The risk assessments for these sites were not reassessed in this appendix.

H-2.1 Site Descriptions

H-2.1.1 Consolidated Unit 21-003-99, Polychlorinated Biphenyl Container Storage Area, and SWMU 21-024(c), Septic System

Consolidated Unit 21-003-99 consists of SWMUs 21-003 and 21-013(f). SWMU 21-003 was a polychlorinated biphenyl (PCB) container storage area inside building 21-061, including the area immediately outside and east of the building. Based on a 1949 aerial photograph (LANL 1990, 007512), SWMU 21-013(f) was possibly a surface disposal area within the boundaries of SWMU 21-003.

SWMU 21-024(c) is an inactive septic system that previously routed sewage from two buildings (21-54 and 21-61) through a septic tank (structure 21-56).

H-2.1.2 Consolidated Unit 21-022(h)-99, Sumps, Drainline, and Outfall

Consolidated Unit 21-022(h)-99 consists of SWMU 21-022(h), a sump, drainline, and outfall that received industrial wastewater and drainage from floor and roof drains of the plutonium fuel service building 21-150; SWMU 21-022(i), a sump located in the equipment room of building 21-002; and SWMU 21-022(j), a sump that received drainage from the equipment room of building 21-003.

Only SWMU 21-022(h) is evaluated for risk because sampling at SWMU 21-022(i) will occur as part of the building 21-002 investigation, and all samples collected at SWMU 21-022(j) are deeper than the exposure scenarios address.

H-2.1.3 Consolidated Unit 21-023(a)-99, Septic Systems

Consolidated Unit 21-023(a)-99 consists of SWMU 21-023(a), a septic tank and drainlines that reportedly serviced a janitor's mop sink in building 21-003; SWMU 21-023(b), a septic tank and drainlines that received wastewater from the shower room in building 21-003; and SWMU 21-023(d), a septic tank and drainlines that received industrial waste and sewage from building 21-003.

H-2.1.4 SWMU 21-024(b), Septic System

SWMU 21-024(b) is a septic tank, pipelines, and associated outfall that formerly routed sewage from building 21-017 (a passageway connecting buildings 21-004 and 21-005).

H-2.1.5 SWMU 21-024(k), Septic System

SWMU 21-024(k) is an inactive septic tank, tile leach field, pipelines, and associated outfall that received sewage from building 21-209, a high-temperature chemistry building.

H-2.1.6 Consolidated Unit 21-024(l)-99, Sump and Associated Lines, Outfall, Aboveground Storage Tank and Associated Lines

Consolidated Unit 21-024(l)-99 consists of SWMU 21-022(a), a sump and associated lines; SWMU 21-024(l), an outfall; and AOC 21-004(a), an aboveground storage tank and associated lines.

H-2.1.7 SWMU 21-024(n), Septic System

SWMU 21-024(n) originally consisted of a corrugated metal pipe that exited building 21-155 and an outfall. Three additional pipelines and outfalls were identified in the same vicinity during the 2004 geophysical survey and/or from as built engineering drawings (LANL 2004, 087461). Therefore, these structures have been included in this SWMU.

H-2.1.8 Consolidated Unit 21-026(a)-99, Sewage Treatment Plant

Consolidated Unit 21-026(a)-99 is a sewage treatment plant that consists of SWMUs 21-013(a), a surface disposal area; 21-026(a), a sewage treatment plant; and 21-026(b), four sludge drying/sand filter beds; and AOCs 21-026(c), a dosing siphon chamber; and 21-026(d), an outfall that served the TA-21 facilities.

H-2.1.9 SWMU 21-027(a), Drainlines, Surface Drainage, and Outfall

SWMU 21-027(a) consists of drainlines that received effluent from floor drains in building 21-003, a surface-drainage system, and an outfall that discharges to the mesa edge and into Los Alamos Canyon.

H-2.1.10 AOC C-21-027, Cooling Tower

AOC C-21-027 consists of a former cooling tower (chilled water recirculator), structure 21-143. The tower received water from building 21-003, circulated it, and returned it to the building in a closed loop. The

cooling tower was connected to an acid tank and also had a 3-in. cast-iron drain that discharged into Los Alamos Canyon to the south.

H-2.2 Investigation Sampling

The final data set used in this appendix to evaluate the potential risks to human health and the environment are the qualified analytical results from sampling activities conducted from 2006 to 2011. Samples removed as part of the remediation activities conducted at a site are excluded from the final data sets. Only those data determined to be of decision-level quality following the data-quality assessment (Appendix F) are included in the final data set evaluated in this appendix.

H-2.3 Determination of Chemicals of Potential Concern

Chemicals of potential concern (COPCs) were previously identified in the Phase I or Phase II reports. The industrial scenarios used data for samples collected from 0.0–1.0 ft and the ecological screening used data for samples collected from 0.0–5.0 ft bgs. The construction worker and the residential scenarios used data for samples collected from 0.0–10.0 ft bgs. The outfall areas for some sites are on a steep cliff, with 45- to 90-degree slopes. This area consists of unstable, highly weathered, fractured bedrock with little soil present and would not serve as an exposure area to residents, construction workers, or industrial workers. The approved Phase III work plan stated that no human exposure to the slope/cliff portions of the sites exists, given the site conditions and lack of accessibility (LANL 2011, 203659; NMED 2011, 203825). Therefore, five sites were evaluated over the entire site as well as the mesa top only. The mesa-top portions were evaluated for potential risk/dose under the industrial, construction worker, and residential scenarios. The slope/cliff portions were not evaluated separately for human health risk because there is no exposure to human receptors. In addition, sampling depths often overlapped because of multiple investigations; therefore, samples with a starting depth less than the lower bound of the interval were included in the risk-screening assessments for a given scenario and ecological as appropriate.

Tables H-2.3-1 to H-2.3-36 summarize the COPCs evaluated for potential risk for each site evaluated in this appendix. Some of the COPCs identified in this report may not be evaluated for potential risk under one or more scenarios because they were not within the specified depth intervals associated with a given scenario.

H-3.0 CONCEPTUAL SITE MODEL

The primary mechanisms of release are related to historical contaminant sources described in the DP Site Aggregate Area investigation work plan (LANL 2008, 100693) and the supplemental work plan (LANL 2006, 092079). Releases at the sites may have occurred as a result of potential leaks from septic systems, storage tanks, waste lines and drains; discharges from outfalls, sumps, waste treatment processes; and spills. Previous sampling results indicated contamination from inorganic chemicals, organic chemicals, and radionuclides (LANL 2008, 104989; NMED 2009, 104978).

H-3.1 Receptors and Exposure Pathways

The primary exposure pathway for human receptors is surface soil and subsurface soil/tuff that may be brought to the surface through intrusive activities. Migration of contamination to groundwater through the vadose zone is unlikely given the depth to groundwater (greater than 1000 ft bgs). Human receptors (industrial worker, construction worker, and resident) may be exposed through direct contact with soil or suspended particulates by ingestion, inhalation, dermal contact, and external irradiation pathways. The

vapor intrusion pathway for a resident might be incomplete or potentially complete depending upon the site and the data. Direct-contact exposure pathways from subsurface contamination to human receptors are complete for the resident and the construction worker, where appropriate. The exposure pathways are the same as those for surface soil.

The sites within the DP Site Aggregate Area are in an industrial area or on the slope/cliff of canyon walls. The sites on the mesa top provide minimal potential habitat for ecological receptors, especially where sites are covered with asphalt. For unpaved sites or areas of sites, exposure pathways are complete to surface soil and tuff for ecological receptors. Exposure is assessed across the site to a depth of 0.0−5.0 ft bgs. Weathering of tuff is the only viable natural process that may result in the exposure of receptors to COPCs in tuff. However, because of the slow rate of weathering expected for tuff, exposure to COPCs in tuff is negligible, although it is included in the assessments. Exposure pathways to subsurface contamination below 5.0 ft are not complete unless contaminated soil or tuff were excavated and brought to the surface. The potential pathways are root uptake by plants, inhalation of dust, dermal contact, incidental ingestion of soil, external irradiation, and food web transport. Pathways from subsurface releases may be complete for plants. Surface water was not evaluated because of the lack of surface water features.

Exposure pathways to subsurface contamination below 5.0 ft (ecological) or 10.0 ft (human health) are not complete unless contaminated soil or tuff were excavated and brought to the surface. Sources, exposure pathways, and receptors are presented in the conceptual site model (Figure H-3.1-1).

H-3.2 Environmental Fate and Transport

The evaluation of environmental fate addresses the chemical processes affecting the persistence of chemicals in the environment, and the evaluation of transport addresses the physical processes affecting mobility along a migration pathway. Migration into soil and tuff depends on precipitation or snowmelt, soil moisture content, depth of soil, soil hydraulic properties, and properties of the COPCs. Migration into and through tuff also depends on the unsaturated flow properties of the tuff and the presence of joints and fractures.

The most important factor with respect to the potential for COPCs to migrate to groundwater is the presence of saturated conditions. Downward migration in the vadose zone is also limited by a lack of hydrostatic pressure as well as the lack of a source for the continued release of contamination. Without sufficient moisture and a source, little or no potential migration of materials through the vadose zone to groundwater occurs.

Contamination at depth is addressed in the discussions of nature and extent for each site. Results from the deepest samples collected at most sites showed either no detected concentrations of COPCs or low- to trace-level concentrations of only a few inorganic, radionuclide, and/or organic COPCs in tuff. The limited extent of contamination is related to the absence of the key factors that facilitate migration, as discussed above. Given how long the contamination has been present in the subsurface, the physical and chemicals properties of the COPCs, and the lack of saturated conditions, the potential for contaminant migration to groundwater is very low.

The New Mexico Environment Department (NMED) guidance (NMED 2012, 219971) contains screening levels that consider the potential for contaminants in soil to result in groundwater contamination. These screening levels consider equilibrium partitioning of contaminants among solid, aqueous, and vapor phases and account for dilution and attenuation in groundwater through the use of dilution attenuation factors (DAFs). These DAF soil screening levels (SSLs) may be used to identify chemical concentrations in soil that have the potential to contaminate groundwater (EPA 1996, 059902). Screening contaminant

concentrations in soil against these DAF SSLs does not, however, provide an indication of the potential for contaminants to migrate to groundwater. The assumptions used in the development of these DAF SSLs include the uniformity of contaminant concentrations from the contaminant source to the water table (i.e., it is assumed that migration to groundwater has already occurred). Furthermore, this assumption is inappropriate for cases such as the DP Site Aggregate Area where sampling has shown that contamination is vertically bounded near the surface and the distance from the surface to the water table is large (greater than 1000 ft bgs). For these reasons, screening of contaminant concentrations in soil against the DAF SSLs was not performed.

The relevant release and transport processes of the COPCs are a function of chemical-specific properties that include the relationship between the physical form of the constituents and the nature of the constituent transport processes in the environment. Specific properties include the degree of saturation and the potential for ion exchange (barium and other inorganic chemicals) or sorption and the potential for natural bioremediation. The transport of volatile organic compounds (VOCs) occurs primarily in the vapor phase by diffusion or advection in subsurface air.

Current potential transport mechanisms that may lead to exposure include

- dissolution and/or particulate transport of surface contaminants during precipitation and runoff events,
- airborne transport of contaminated surface soil,
- continued dissolution and advective/dispersive transport of chemical contaminants contained in subsurface soil and tuff as a result of past operations,
- disturbance of contaminants in shallow soil and subsurface tuff by Laboratory operations, and
- disturbance and uptake of contaminants in shallow soil by plants and animals.

Contaminant distributions at the sites indicate that after the initial deposition of contaminants from operational activities and historical remediation efforts, elevated levels of COPCs tend to remain concentrated in the vicinity of the original release points. The primary potential release and transport mechanisms include direct discharge; precipitation, sorption, and mechanical transport; dissolution and advective transport in water; and volatilization, diffusion, and dispersion. Less significant transport mechanisms include wind entrainment and, given the asphalt pavement covering most sites, dispersal of surface soil and uptake of contaminants from soil and water by biota.

Gas or vapor-phase contaminants such as VOCs are likely to volatilize to the atmosphere from near-surface soil and sediment and/or migrate by diffusion through air-filled pores in the vadose zone. Migration of vapor-phase contaminants from tuff into ambient air may occur by diffusion or advection driven by barometric pressure changes.

H-3.2.1 Inorganic Chemicals

In general, and particularly in a semiarid climate, inorganic chemicals are not highly soluble or mobile in the environment, although there are exceptions. The physical and chemical factors that determine the distribution of inorganic COPCs within the soil and tuff at DP Site Aggregate Area are the soil-water partition coefficient (K_d) of the inorganic chemicals, the pH of the soil, soil characteristics (such as sand or clay content), and the redox potential (Eh). The interaction of these factors is complex, but the K_d values provide a general assessment of the potential for migration through the subsurface; chemicals with higher K_d values are less likely to be mobile than those with lower ones. Chemicals with K_d values greater than 40 are very unlikely to migrate through soil towards the water table (Kincaid et al. 1998, 093270).

Table H-3.2-1 presents the K_d values and water solubility for the inorganic COPCs for the DP Site Aggregate Area. Based on this criterion, the following COPCs have a low potential to mobilize and migrate through soil and the vadose zone: aluminum, antimony, barium, beryllium, cadmium, chromium, cobalt, lead, lithium, manganese, mercury, nickel, thallium, uranium, vanadium, and zinc. The K_d values for arsenic, copper, cyanide, iron, molybdenum, nitrate, perchlorate, selenium, silver, and strontium are less than 40 and may indicate a greater potential to mobilize and migrate through soil and the vadose zone beneath the sites.

It is important to note that other factors besides the K_d values (e.g., speciation in soil, oxidation-reduction potential, pH, and soil mineralogy) also play significant roles in the likelihood that inorganic chemicals will migrate. The COPCs with K_d values less than 40 are discussed further below. Information about the fate and transport properties of inorganic chemicals was obtained from individual chemical profiles published by the Agency for Toxic Substances and Disease Registry (ATSDR) (ATSDR 1997, 056531, http://www.atsdr.cdc.gov/) with the exception of molybdenum, for which there is no profile.

Arsenic may undergo a variety of reactions, including oxidation-reduction reactions, ligand exchange, precipitation, and biotransformation. Arsenic forms insoluble complexes with iron, aluminum, and magnesium oxides found in soil and in this form, arsenic is relatively immobile. However, under low pH and reducing conditions, arsenic can become soluble and may potentially leach into groundwater or result in runoff of arsenic into surface waters. Arsenic is expected to have low mobility under the environmental conditions (average soil pH is 7.9) present in the DP Site Aggregate Area.

Copper movement in soil is determined by physical and chemical interactions with the soil components. Most copper deposited in soil will be strongly adsorbed and remains in the upper few centimeters of soil. Copper will adsorb to organic matter, carbonate minerals, clay minerals, or hydrous iron, and manganese oxides. In most temperate soil, pH, organic matter, and ionic strength of the soil solutions are the key factors affecting adsorption. Soil in the area is alkaline to neutral, so the leaching of copper is not a concern at this site. Copper binds to soil much more strongly than other divalent cations, and the distribution of copper in the soil solution is less affected by pH than other metals. Copper is expected to be bound to the soil and move in the system by way of transport of soil particles by water as opposed to movement as dissolved species. The average soil pH is 7.9 for the DP Site Aggregate Area determined from investigation sampling results, so leaching of copper is unlikely.

Cyanide tends to adsorb onto various natural media, including clay and sediment; however, sorption is insignificant relative to the potential for cyanide to volatilize and/or biodegrade. At soil surfaces, volatilization of hydrogen cyanide is a significant mechanism for cyanide loss. Cyanide at low concentrations in subsurface soil is likely to biodegrade under both aerobic and anaerobic conditions. Cyanide is present at the site in trace to low levels and is not expected to be mobile.

Iron is naturally occurring in soil and tuff and may be relatively mobile under reducing conditions. Iron is sensitive to soil pH conditions, occurring in two oxidation states, iron(III), the insoluble oxidized form, and iron(II), the reduced soluble form. Most iron in well-drained neutral-to-alkaline soil is present as precipitates of iron(III) hydroxides and oxides. With time, these precipitates are mineralized and form various iron minerals, such as lepidcrocite, hematite, and goethite. The average soil pH is 7.9 for the DP Site Aggregate Area, so iron is not expected to be mobile.

Molybdenum is naturally occurring in soil and tuff. It is considered an essential trace element, necessary for human health (http://rais.ornl.gov/tox/profiles/molybdenum_c_V1.html).

Nitrate (and to a lesser degree perchlorate) is soluble in water and may migrate with water molecules in saturated soil. As noted above, the subsurface material beneath the sites has low moisture content, which inhibits the mobility of nitrate and perchlorate as well as most other inorganic chemicals.

Selenium is not often found in the environment in its elemental form but is usually combined with sulfide minerals or with silver, copper, lead, and nickel minerals. In soil, pH and Eh are determining factors in the transport and partitioning of selenium. In soil with a pH of greater than 7.5, selenates, which have high solubility and a low tendency to adsorb onto soil particles, are the major selenium species and are very mobile. The average soil pH is 7.9 in the DP Site Aggregate Area so selenium is not particularly mobile.

Natural processes, such as the weathering of rock and the erosion of soil release silver to air and water. Silver sorbs onto soil and sediment and tends to form complexes with inorganic chemicals and humic substances in soil. Organic matter complexes with silver and reduces its mobility. Silver compounds tend to leach from well-drained soil so it may potentially migrate into the subsurface. Site conditions are neutral to slightly alkaline, and silver is not expected to be mobile.

Strontium has moderate mobility in soil and sediment, and sorbs moderately to metal oxides and clays. Strontium can be easily absorbed into plants from soil via the roots to satisfy the plant's metabolic requirements for calcium because of strontium's similarity to calcium. Once absorbed in the plant, strontium translocates to other parts of the plant such as the leaves. Plants release strontium to the soil surface through leaf fall.

H-3.2.2 Organic Chemicals

Table H-3.2-2 presents the physical and chemical properties (organic carbon partition coefficient [K_{oc}], logarithm to the base 10 octanol-water partition coefficient [log K_{ow}], and solubility) of the organic COPCs identified for the DP Site Aggregate Area. The physical and chemical properties of organic chemicals are important when evaluating their fate and transport. The following discussion about the physiochemical properties of organic COPCs is presented to illustrate some aspects of the fate and transport tendencies of the COPCs. The information is summarized from Ney (1995, 058210).

Water solubility is perhaps the most important chemical characteristic used to assess mobility of organic chemicals. The higher the water solubility of a chemical, the more likely it is to be mobile and the less likely it is to accumulate, bioaccumulate, volatilize, or persist in the environment. A highly soluble chemical (water solubility greater than 1000 mg/L) is prone to biodegradation and metabolism that may detoxify the parent chemical. Several solvents identified for the DP Site Aggregate Area have water solubilities greater than 1000 mg/L, including acetone; benzoic acid; benzyl alcohol; 2-butanone; carbon disulfide; chloroform; 1,1-dichloroethane; 1,1-dichloroethene; 2,4-dimethylphenol; di-n-butylphthalate; methylene chloride; and trichloroethene.

The lower the water solubility of a chemical, especially below 10 mg/L, the more likely it will be immobilized by adsorption. Chemicals with lower water solubilities are likely to accumulate or bioaccumulate and persist in the environment, to be slightly prone to biodegradation, and may be metabolized in plants and animals. The COPCs identified as having water solubilities less than 10 mg/L are primarily Aroclor-1242; Aroclor-1248; Aroclor-1254; Aroclor-1260; carbazole; 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin); semivolatile organic compounds (SVOCs), including bis(2-ethylhexyl)phthalate, butylbenzylphthalate, dibenzofuran, di-n-octylphthalate; and most of the polycyclic aromatic hydrocarbons (PAHs).

Vapor pressure is a chemical characteristic used to evaluate the tendency of organic chemicals to volatize. Chemicals with vapor pressure greater than 0.01 mmHg are likely to volatilize and, therefore, concentrations at the site are reduced over time; vapors of these chemicals are more likely to travel toward the atmosphere and not migrate towards groundwater. Acetone; benzyl alcohol; 2-butanone; sec-butylbenzene; carbon disulfide; chlorobenzene; chloroform; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 1,1-dichloroethane; 1,1-dichloroethene; 2,4-dimethylhenol;

ethylbenzene; 4-isopropyltoluene; methylene chloride; 2-methylnaphthalene; naphthalene; 1-propylbenzene; styrene; tetrachloroethene; toluene; 1,1,2-trichloro-1,2,2-trifluoroethane; trichloroethene; trimethylbenzenes; and xylenes have vapor pressures greater than 0.01 mmHg.

Chemicals with vapor pressures less than 0.000001 mm Hg are less likely to volatilize and, therefore, tend to remain immobile. Many of the PAHs, Aroclor-1254, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, carbazole, and di-n-octylphthalate detected in the DP Site Aggregate Area have vapor pressures less than 0.000001 mm Hg.

The K_{ow} is an indicator of a chemical's potential to bioaccumulate or bioconcentrate in the fatty tissues of living organisms. The unitless K_{ow} value is an indicator of water solubility, mobility, sorption and bioaccumulation. The higher the K_{ow} above 1000, the greater the affinity the chemical has for bioaccumulation/bioconcentration in the food chain, the greater the potential for sorption in the soil, and the lower the mobility (Ney 1995, 058210). Butylbenzene[sec-]; carbazole; carbon disulfide; chlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 1,1-dichloroethane; 1,1-dichloroethene; 2,4-dimethylhenol; ethylbenzene; 4-isopropyltoluene; 1-propylbenzene; PAHs; PCBs; phthalates; 1-propylbenzene; tetrachloroethene; toluene; 1,1,2-trichloro-1,2,2-trifluoroethane; trichloroethene; trimethylbenzenes; and xylenes all have a K_{ow} greater than 1000. A K_{ow} of less than 500 indicates high water solubility, mobility, little to no affinity for bioaccumulation, and degradability by microbes, plants, and animals. Acetone, benzoic acid, benzyl alcohol, 2-butanone, and methylene chloride all have a K_{ow} much less than 500.

The K_{oc} measures the tendency of a chemical to adsorb to organic carbon in soil. K_{oc} values above 500 cm^3/g indicate a strong tendency to adsorb to soil, leading to low mobility (NMED 2012, 219971). Most organic COPCs have K_{oc} values above 500 cm^3/g, indicating a very low potential to migrate toward groundwater. The organic COPCs with K_{oc} values less than 500 cm^3/g include acetone; benzoic acid; benzyl alcohol; 2-butanone; carbon disulfide; chlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; 1,1-dichloroethane; 1,1-dichloroethene; 2,4-dimethylhenol,di-n-butylphthalate; methylene chloride; tetrachloroethene; toluene; 1,1,2-trichloro-1,2,2-trifluoroethane; trichloroethene; and xylenes.

H-3.2.3 Radionuclides

Radionuclides are generally not highly soluble or mobile in the environment, particularly in the semiarid climate of the Laboratory. The physical and chemical factors that determine the distribution of radionuclides within soil and tuff are the K_d, the pH of the soil and other soil characteristics (e.g., sand or clay content), and the Eh. The interaction of these factors is complex, but K_d values provide a general assessment of the potential for migration through the subsurface: chemicals with higher K_d values are less likely to be mobile than those with lower values. Radionuclides with K_d values greater than 40 are very unlikely to migrate through soil towards the water table (Kincaid et al. 1998, 093270).

Table H-3.2-3 gives physical and chemical properties of the radionuclide COPCs identified at the DP Site Aggregate Area sites. Based on K_d values, americium-241, cesium-137, plutonium-238, and plutonium-239 have a very low potential to migrate towards groundwater at the sites within the DP Site Aggregate Area. The K_d values for strontium-90, tritium, uranium-234, uranium-235/236, and uranium-238 are less than 40 and indicate a potential to migrate towards groundwater.

A major portion of stable and radioactive strontium in soil dissolves in water, so it might move deeper into the subsurface. However, the K_d value of 35 indicates that strontium-90 is relatively immobile in the subsurface.

Uranium is a natural and commonly occurring radioactive element that is present in nearly all rock and soil. The mobility of uranium in soil and its vertical transport to groundwater depend on properties of the soil such as pH, Eh, concentration of complexing anions, porosity of the soil, soil-particle size, and sorption properties as well as the amount of water available. In general, the actinide nuclides form comparatively insoluble compounds in the environment and therefore are not considered biologically mobile. The actinides are transported in ecosystems mainly by physical and sometimes chemical processes. They tend to attach, sometimes strongly, to surfaces; and tend to accumulate in soil and sediment, which ultimately serve as strong reservoirs. Subsequent movement is largely associated with geological processes such as erosion and sometimes leaching.

Tritium's initial behavior in the environment is determined by the source. If it is released as a gas or vapor to the atmosphere, substantial dispersion can be expected, and the rapidity of deposition is dependent on climatic factors. If tritium is released in liquid form, it is diluted in surface water and is subject to physical dispersion, percolation, and evaporation (Whicker and Schultz 1982, 058209, p. 147). Tritium concentrations in the subsurface at the area of elevated radioactivity are low (<1 pCi/g), indicating the area of elevated radioactivity is not a significant source of tritium, although this radionuclide is relatively mobile. Because tritium migrates in association with moisture, the low moisture content of the subsurface limits the potential for tritium to migrate to groundwater.

H-3.3 Exposure Point Concentration Calculations

The exposure point concentrations (EPCs) represent upper bound concentrations of COPCs. For comparison to risk-screening levels, the upper confidence limit (UCL) of the arithmetic mean was calculated when possible and used as the EPC. The UCLs were calculated using all available decision-level data within the depth range of interest. If an appropriate UCL of the mean could not be calculated or if the UCL exceeded the maximum concentration, the maximum detected concentration of the COPC was used as the EPC (maximum detection limits were used as the EPCs for some inorganic COPCs). The summary statistics, including the EPC for each COPC for the human health and the ecological risk-screening assessments and the distribution used for the calculation, are presented in Tables H-2.3-1 to H-2.3-36.

The EPCs for the dioxin and furan congeners are the sums of the detected congeners weighted by the toxic equivalency factors (TEFs) (NMED 2012, 219971); the sum is expressed as the 2,3,7,8-TCDD equivalent concentration. The TEFs used are presented in Table H-3.3-1. The results of the TEF calculations for each site are presented in Attachment H-1, and the 2,3,7,8-TCDD equivalent concentrations (95% UCLs or maximum concentrations) for each site are presented in Tables H-2.3-1 to H-2.3-36.

The UCLs of the mean concentrations were calculated using the U.S. Environmental Protection Agency (EPA) ProUCL 5.0.00 software (EPA 2013, 251074), which is based on EPA guidance (EPA 2002, 085640). The ProUCL program calculates 95%, 97.5%, and 99% UCLs and recommends a distribution and UCL. The 95% UCL for the recommended calculation method was used as the EPC. The ProUCL software performs distributional tests on the data set for each COPC and calculates the most appropriate UCL based on the distribution of the data set. Environmental data may have a normal, lognormal, or gamma distribution but are often nonparametric (no definable shape to the distribution). The ProUCL documentation strongly recommends against using the maximum detected concentration for the EPC. The maximum detected concentration was used to represent the EPC for COPCs only when the detects were too few to calculate a UCL. Input and output data files for ProUCL calculations are provided on CD as Attachment H-2.

H-4.0 HUMAN HEALTH RISK-SCREENING ASSESSMENT RESULTS

The human health risk-screening assessments were conducted for each site where extent is defined within the DP Site Aggregate Area. All sites were screened for the construction worker and residential scenarios using data from 0.0–10.0 ft bgs. Sites were also screened for the industrial scenario using data from 0.0–1.0 ft bgs, where available. The human health risk-screening assessments compare either the 95% UCL of the mean concentration, the maximum detected concentration, or the maximum detection limit of each COPC with SSLs for chemicals and screening action levels (SALs) for radionuclides.

H-4.1 Human Health SSLs and SALs

Human health risk-screening assessments for chemicals were conducted using SSLs for the industrial, construction worker, and residential scenarios obtained from NMED guidance (NMED 2012, 219971). The NMED SSLs are based on a target noncarcinogenic hazard quotient (HQ) of 1 and a target cancer risk of 1×10^{-5} (NMED 2012, 219971). If SSLs were not available from NMED guidance, values from the May 2014 EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) were used. The EPA SSLs for carcinogens were multiplied by 10 to adjust from a 10^{-6} cancer risk level to the NMED target cancer risk level of 10^{-5}. EPA regional screening levels are not available for construction workers; therefore, when regional screening levels were used, the construction worker SSLs were calculated using toxicity values from the May 2014 EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and NMED exposure parameters and equation (NMED 2012, 219971). A surrogate SSL is used for some COPCs based on structural similarity or breakdown products. Exposure parameters used to calculate the industrial, construction worker, and residential SSLs are presented in Table H-4.1-1.

Radionuclide SALs are used for comparison with radionuclide COPC EPCs and were derived using the RESRAD model, Version 6.5 (LANL 2014, 600064). The SALs are based on a 25-mrem/yr dose as authorized by U.S. Department of Energy (DOE) Order 458.1. Exposure parameters used to calculate the SALs are presented in Tables H-4.1-2 and H-4.1-3.

H-4.2 Results of Human Health Risk-Screening Evaluation

The EPC of each COPC in soil was compared with the SSLs for the industrial, construction worker, and residential scenarios. For carcinogenic chemicals, the EPCs were divided by the SSL and multiplied by 1×10^{-5}. The sum of the carcinogenic risks was compared with the NMED target cancer risk level of 1×10^{-5}. For noncarcinogenic chemicals, an HQ was generated for each COPC by dividing the EPC by the SSL. The HQs were summed to generate a hazard index (HI). The HI was compared with the NMED target HI of 1. The radionuclide EPCs were divided by the SAL and multiplied by 25 mrem/yr. The total doses were compared with the DOE target level of 25 mrem/yr, as authorized by DOE Order 458.1. The human health risk-screening results are presented in Tables H-4.2-1 to H-4.2-123 and are described below for each SWMU, AOC, or consolidated unit evaluated.

H-4.2.1 Consolidated Unit 21-003-99 and SWMU 21-024(c)

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-1, H-4.2-2, and H-4.2-3. The total excess cancer risk for the industrial scenario is 3×10^{-6}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.06, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-4, H-4.2-5, and H-4.2-6. The total excess cancer risk for the construction worker scenario is 4×10^{-7}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.5, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.6 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-7, H-4.2-8, and H-4.2-9. The total excess cancer risk for the residential scenario is approximately 2×10^{-5}, which is slightly above the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from arsenic and PAHs. The residential HI is 0.6, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.2 SWMU 21-022(h)

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-10, H-4.2-11, and H-4.2-12. The total excess cancer risk for the industrial scenario for the entire site is approximately 2×10^{-5}, which is slightly above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 2, which is above the NMED target HI of 1 (NMED 2012, 219971). The elevated HI is from lead. The total dose is 2 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Risk/dose screening assessments under the industrial scenario for the mesa top were not conducted for SWMU 21-022(h) because samples were not collected from the 0.0–1.0 ft bgs depth interval on the mesa top.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-13, H-4.2-14, and H-4.2-15. The total excess cancer risk for the construction worker scenario is 9×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1 (NMED 2012, 219971). The total dose is 6 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the mesa top are presented in Tables H-4.2-16, H-4.2-17, and H-4.2-18. The total excess cancer risk for the construction worker is 4×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.3, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.6 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-19, H-4.2-20, and H-4.2-21. The total excess cancer risk for the residential scenario is 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from PAHs. The residential HI is approximately 2, which is above the NMED target HI of 1 (NMED 2012, 219971). The elevated HI is from lead. The total dose is 10 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the mesa top are presented in Tables H-4.2-22, H-4.2-23, and H-4.2-24. The total excess cancer risk for the residential scenario is 6×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential

HI is 0.2, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.9 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.3 Consolidated Unit 21-023(a)-99

Calcium was retained as a COPC because it was detected above background in soil and tuff; however, it does not have a published toxicity value. Calcium is among those elements identified in section 5.9.4 of EPA's Risk Assessment Guidance for Superfund (RAGS) (EPA 1989, 008021) as an essential macronutrient, which can be eliminated as a COPC on the basis of best professional judgment. As an essential nutrient, calcium may be compared with the recommended daily allowance (RDA) for adults and children. The RDA is 1200 mg/d of calcium for an adult and 800 mg/d for a child (National Research Council 1989, 064000). If all the daily incidental ingestion of soil were to occur at the location of the maximum detected concentration (42,700 mg/kg) at the EPA default adult soil ingestion rate of 100 mg/d of soil, an adult would ingest approximately 6.1 mg/d of calcium. At the intake level of 6.1 mg/d, the adult's ingestion of calcium is far less than the RDA for calcium of 1200 mg/d. If all the daily incidental ingestion of soil were to occur at the location of the maximum detected concentration at the EPA default child soil ingestion rate of 200 mg/d of soil, a child would ingest approximately 14.2 mg/d. At the intake level of 14.2 mg/d, the child's ingestion of calcium is far less than the RDA for calcium of 800 mg/d. Therefore, no adverse health effects are expected from calcium at 42,700 mg/kg, and calcium is eliminated as a COPC.

Risk/dose screening assessments for the industrial scenario for the entire site were not conducted for Consolidated Unit 21-023(a)-99 because samples were not collected from the 0.0–1.0 ft bgs depth interval.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-25, H-4.2-26, and H-4.2-27. The total excess cancer risk for the construction worker scenario is 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is approximately 0.4, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-28, H-4.2-29, and H-4.2-30. The total excess cancer risk for the residential scenario is 3×10^{-5}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from arsenic and PAHs. The residential HI is approximately 0.6, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.4 SWMU 21-024(b)

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-31, H-4.2-32, and H-4.2-33. The total excess cancer risk for the industrial scenario is 9×10^{-9}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.02, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 2 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

Risk/dose screening assessments under the industrial scenario for the mesa top only were not conducted for SWMU 21-024(b) because samples were not collected from the 0.0–1.0 ft bgs depth interval on the mesa top.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-34, H-4.2-35, and H-4.2-36. The total excess cancer risk for the construction worker scenario is 1×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.08, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 9 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the mesa top are presented in Tables H-4.2-37, H-4.2-38, and H-4.2-39. The total excess cancer risk for the construction worker scenario is 1×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.009, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 5 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-40, H-4.2-41, and H-4.2-42. The total excess cancer risk for the residential scenario is 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential HI is 0.1, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 14 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the mesa top are presented in Tables H-4.2-43, H-4.2-44, and H-4.2-45. The total excess cancer risk for the residential scenario is 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential HI is 0.04, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 7 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.5 SWMU 21-024(k)

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-46, H-4.2-47, and H-4.2-48. The total excess cancer risk for the industrial scenario is 3×10^{-7}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.005, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.7 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-49, H-4.2-50, and H-4.2-51. The total excess cancer risk for the construction worker scenario is 3×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.3, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-52, H-4.2-53, and H-4.2-54. The total excess cancer risk for the residential scenario is 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The residential HI is 0.3, which is less than NMED target HI of 1 (NMED 2012, 219971). The total dose is 1 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.6 Consolidated Unit 21-024(l)-99

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-55, H-4.2-56, and H-4.2-57. The total excess cancer risk for the industrial scenario is

2×10^{-6}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.03, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-58, H-4.2-59, and H-4.2-60. The total excess cancer risk for the construction worker scenario is 3×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.6, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-61, H-4.2-62, and H-4.2-63. The total excess cancer risk for the residential scenario is 5×10^{-5}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from PAHs. The residential HI is approximately 0.7, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.7 SWMU 21-024(n)

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-64, H-4.2-65, and H-4.2-66. The total excess cancer risk for the industrial scenario is 3×10^{-6}, which is less than the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The industrial HI is 0.1, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 0.3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-67, H-4.2-68, and H-4.2-69. The total excess cancer risk for the construction worker scenario is 5×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 1, which is equivalent to the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-70, H-4.2-71, and H-4.2-72. The total excess cancer risk for the residential scenario is 2×10^{-5}, which is slightly above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from arsenic and PAHs. The residential HI is 0.6, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 1 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.8 Consolidated Unit 21-026(a)-99

Calcium was retained as a COPC because it was detected above background in soil and tuff; however, it does not have a published toxicity value. Calcium is among those elements identified in section 5.9.4 of EPA's RAGS (EPA 1989, 008021) as an essential macronutrient, which can be eliminated as a COPC on the basis of best professional judgment. As an essential nutrient, calcium may be compared with the RDA for adults and children. The RDA is 1200 mg/d of calcium for an adult and 800 mg/d for a child (National Research Council 1989, 064000). If all the daily incidental ingestion of soil were to occur at the location of the maximum detected concentration (42,800 mg/kg) at the EPA default adult soil ingestion rate of 100 mg/d of soil, an adult would ingest approximately 6.1 mg/d of calcium. At the intake level of 6.1 mg/d, the adult's ingestion of calcium is far less than the RDA for calcium of 1200 mg/d. If all the daily incidental

ingestion of soil were to occur at the location of the maximum detected concentration at the EPA default child soil ingestion rate of 200 mg/d of soil, a child would ingest approximately 14.3 mg/d. At the intake level of 14.3 mg/d, the child's ingestion of calcium is far less than the RDA for calcium of 800 mg/d. Therefore, no adverse health effects are expected from calcium at 42,800 mg/kg, and calcium is eliminated as a COPC.

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-73, H-4.2-74, and H-4.2-75. The total excess cancer risk for the industrial scenario is 3×10^{-5}, which is above the NMED target risk of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from PAHs. The industrial HI is 0.1, which is less than the NMED target of 1 (NMED 2012, 219971). The total dose is 1 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the industrial scenario for the mesa top are presented in Tables H-4.2-76, H-4.2-77, and H-4.2-78. The total excess cancer risk for the industrial scenario is approximately 4×10^{-6}, which is less than the NMED target risk level of 1×10^{-5}. The industrial HI is approximately 0.002, which is less than the NMED target HI of 1. The total dose is approximately 0.2 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-79, H-4.2-80, and H-4.2-81. The total excess cancer risk for the construction worker scenario is 7×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.3, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 3 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the mesa top are presented in Tables H-4.2-82, H-4.2-83, and H-4.2-84. The total excess cancer risk for the construction worker scenario is approximately 5×10^{-8}, which is less than the NMED target risk level of 1×10^{-5}. The HI is approximately 0.2, which is less than the NMED target HI of 1. The total dose is approximately 0.5 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-85, H-4.2-86, and H-4.2-87. The total excess cancer risk for the residential scenario is 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from arsenic and PAHs. The residential HI is 0.5, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 5 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the mesa top are presented in Tables H-4.2-88, H-4.2-89, and H-4.2-90. The total excess cancer risk for the residential scenario is approximately 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5}. The HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 0.9 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.9 SWMU 21-027(a)

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-91, H-4.2-92, and H-4.2-93. The total excess cancer risk for the industrial scenario is 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from 2,3,7,8-TCDD. The industrial HI is 0.06, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 3 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

Risk/dose screening assessments under the industrial scenario for the mesa top were not conducted for SWMU 21-027(a) because samples were not collected from the 0.0–1.0 ft bgs depth interval on the mesa top.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-94, H-4.2-95, and H-4.2-96. The total excess cancer risk for the construction worker scenario is 4×10^{-7}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is approximately 2, which is above the NMED target HI of 1 (NMED 2012, 219971). The elevated HI is from 2,3,7,8-TCDD. The total dose is 13 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario on the mesa top are presented in Tables H-4.2-97, H-4.2-98, and H-4.2-99. The total excess cancer risk for the construction worker scenario is 5×10^{-9}, which is less than the NMED target risk level of 1×10^{-5}. The total excess HI is 0.2, which is less than the NMED target HI of 1. The total dose is 5 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-100, H-4.2-101, and H-4.2-102. The total excess cancer risk for the residential scenario is 2×10^{-4}, which is above the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The elevated cancer risk is from PAHs and 2,3,7,8-TCDD. The residential HI is 0.2, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 22 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the mesa top are presented in Tables H-4.2-103, H-4.2-104, and H-4.2-105. The total excess cancer risk for the residential scenario is approximately 2×10^{-5}, which is slightly above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from arsenic. The residential HI is 0.2, which is less than the NMED target HI of 1. The total dose is 8 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.2.10 AOC C-21-027

Calcium was retained as a COPC because it was detected above background in soil and tuff; however, it does not have a published toxicity value. Calcium is among those elements identified in section 5.9.4 of EPA's RAGS (EPA 1989, 008021) as an essential macronutrient, which can be eliminated as a COPC on the basis of best professional judgment. As an essential nutrient, calcium may be compared with the RDA for adults and children. The RDA is 1200 mg/d of calcium for an adult and 800 mg/d for a child (National Research Council 1989, 064000). If all the daily incidental ingestion of soil were to occur at the location of the maximum detected concentration (28,800 mg/kg) at the EPA default adult soil ingestion rate of 100 mg/d of soil, an adult would ingest approximately 4.1 mg/d of calcium. At the intake level of 4.1 mg/d, the adult's ingestion of calcium is far less than the RDA for calcium of 1200 mg/d. If all the daily incidental

ingestion of soil were to occur at the location of the maximum detected concentration at the EPA default child soil ingestion rate of 200 mg/d of soil, a child would ingest approximately 9.6 mg/d. At the intake level of 9.6 mg/d, the child's ingestion of calcium is far less than the RDA for calcium of 800 mg/d. Therefore, no adverse health effects are expected from calcium at 28,800 mg/kg, and calcium is eliminated as a COPC.

The results of the risk-screening assessment for the industrial scenario for the entire site are presented in Tables H-4.2-106, H-4.2-107, and H-4.2-108. The total excess cancer risk for the industrial scenario is approximately 3×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD. The industrial HI is approximately 0.05, which is less than the NMED target HI of 1. The total dose is approximately 4 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the industrial scenario for the mesa top are presented in Tables H-4.2-109, H-4.2-110, and H-4.2-111. The total excess cancer risk for the industrial scenario is approximately 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5}. The industrial HI is approximately 0.08, which is less than the NMED target HI of 1. The total dose is approximately 0.4 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the entire site are presented in Tables H-4.2-112, H-4.2-113, and H-4.2-114. The total excess cancer risk for the construction worker scenario is approximately 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1. The total dose is approximately 16 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the construction worker scenario for the mesa top are presented in Tables H-4.2-115, H-4.2-116, and H-4.2-117. The total excess cancer risk for the construction worker scenario is approximately 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 2 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario for the entire site are presented in Tables H-4.2-118, H-4.2-119, and H-4.2-120. The total excess cancer risk for the residential scenario is approximately 9×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD and PAHs. The residential HI is approximately 0.4, which is less than the NMED target HI of 1. The total dose is approximately 25 mrem/yr, which is equivalent to the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

The results of the risk-screening assessment for the residential scenario on the mesa top are presented in Tables H-4.2-121, H-4.2-122, and H-4.2-123. The total excess cancer risk for the residential scenario is approximately 2×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD and PAHs. The residential HI is approximately 0.5, which is less than the NMED target HI of 1. The total dose is approximately 3 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1.

H-4.3 Vapor Intrusion Pathway

The vapor intrusion pathway into buildings was evaluated for the residential scenario. Because TA-21 has undergone decontamination and decommissioning (D&D) beginning in 2009, almost all of the buildings have been removed to the foundations and some infrastructure has also been removed. The evaluation can be qualitative for a potentially complete pathway if the following criteria are met:

- Volatile and toxic compounds are minimally detected.
- Concentrations are below NMED's vapor intrusion screening levels for soil-gas and/or groundwater. There is no suspected source(s) for volatile and toxic compounds.
- Concentrations are decreasing with depth (for soil).

Because only bulk soil data are available, the vapor intrusion screening levels are not applicable for the evaluation. Residential soil screening values were calculated using the Johnson and Ettinger model (http://www.epa.gov/swerrims/riskassessment/airmodel/johnson_ettinger.htm) for subsurface vapor intrusion into buildings (EPA 2002, 094114). Because only soil data are available, the advanced soil model (SL-ADV-REV2-4.xls) was used to calculate risk-based soil concentrations for VOCs at sites. The maximum detected concentrations of VOC COPCs were initially compared with the risk-based concentration generated by the model for each site. If appropriate, 95% UCLs were subsequently calculated and compared with the risk-based concentrations. The model inputs and risk-based concentrations generated are provided on CD as Attachment H-3. HQs and HIs were calculated for noncarcinogenic COPCs and total excess cancer risks for carcinogenic COPCs. The NMED target risk level of 1×10^{-5} and NMED target HI of 1 were applied.

Consolidated Unit 21-003-99 and SWMU 21-024(c), Consolidated Units 21-006(c)-99 and 21-026(a)-99, SWMUs 21-022(h), 21-024(b), 21-024(d), 21-024(g), 21-024(k), 21-024(n), and 21-027(a), and AOC C-21-027 are partially located on the mesa top and partially located on the mesa edge or on the canyon slope, which is not suitable for placement of a structure. Therefore, only that part of the sites on the mesa top is evaluated for the vapor intrusion pathway. Consolidated Units 21-023(a)-99 and 21-024(l)-99 are entirely on the mesa top. No VOCs were detected at SWMU 21-022(j). Therefore, the vapor intrusion pathway was not evaluated for this site.

Most site descriptions indicated that solvents were not used, except at Consolidated Unit 21-003-99 where some solvents were previously stored. All the sites are inactive and some have been removed. Therefore, there are currently no suspected sources of VOCs at these sites.

H-4.3.1 Consolidated Unit 21-003-99 and SWMU 21-024(c)

Consolidated Unit 21-003-99 consists of SWMUs 21-003 and 21-013(f). SWMU 21-003 was a PCB container storage area inside former building 21-061, including the area immediately outside and east of the building. SWMU 21-013(f) was possibly a surface disposal area within the boundaries of SWMU 21-003. The site description indicates the use of kerosene and petroleum-based solvents at former building 21-061 for about 12 yr (1978 to 1989). SWMU 21-024(c) is an inactive septic system that formerly routed sewage from former buildings 21-054 and 21-061 through a septic tank. Because the site has been remediated and all structures have been removed, Consolidated Unit 21-003-99 and SWMU 21-024(c) are currently not sources of VOCs.

Five of 13 VOCs (chlorobenzene; 1,1-dichloroethene; methylene chloride; styrene; and tetrachloroethene) were minimally detected in mesa-top samples with 1 or 2 concentrations; concentrations of chlorobenzene; 1,1-dichloroethene; and styrene were less than EQLs. Concentrations of methylene

chloride and tetrachloroethene were detected in 1 sample each and decreased with depth. Acetone; 1,4-dichlorobenzene; ethylbenzene; 4-isopropyltoluene; toluene; trichloroethene; 1,2-xylene; and 1,3-xylene+1,4-xylene were detected in 3 to 12 samples. Ethylbenzene concentrations were below the EQLs.

Acetone concentrations decreased or did not change substantially with depth at four of six locations (only one depth was sampled at location 21-25704). Dichlorobenzene[1,4-] concentrations did not change substantially with depth at locations 21-25750 and 21-25751 (the concentrations were above the EQLs). Isopropyltoluene[4-] concentrations decreased with depth at location 21-25708; the concentrations were below the EQLs at the other locations. Toluene and trichloroethene concentrations decreased or did not change substantially with depth at all locations. Xylene[1,2-] concentrations decreased or did not change substantially with depth at locations 21-25706 and 21-25707; the concentrations were below the EQLs. Xylene[1,3-]+1,4-xylene concentrations decreased or did not change substantially with depth at all but one location; the concentrations were below the EQLs at four of five locations.

The results of the residential vapor intrusion screening assessments are presented in Tables H-4.3-1 and H-4.3-2. The HI is approximately 1 based on the maximum detected concentrations and 0.1 based on the 95% UCL for trichloroethene, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total excess cancer risk is approximately 1×10^{-5} based on the maximum detected concentrations and 7×10^{-7} based on the 95% UCL for 1,4-dichlorobenzene, which is less than the NMED target cancer risk level of 1×10^{-5} (NMED 2012, 219971). The results increase the HI to 0.7 and do not change the cancer risk using the 95% UCLs calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.2 Consolidated Unit 21-006(c)-99

Consolidated Unit 21-006(c)-99 consists of SWMUs 21-006(a), 21-006(b), 21-006(c), and 21-006(d). These SWMUs are inactive underground seepage pits associated with former buildings 21-002 and 21-003. In addition to a seepage pit, SWMU 21-006(b) also includes a drainline and an outfall from the seepage pit. The seepage pits are no longer used. Because site operations were discontinued decades ago and the buildings have been removed, Consolidated Unit 21-006(c)-99 is currently not a source of VOCs.

Four VOCs (tetrachloroethene; toluene; 1,2-xylene; and 1,3-xylene+1,4-xylene) were minimally detected in mesa-top samples with one concentration each. Only tetrachloroethene was detected above the EQLs and all concentrations decreased with depth.

The results of the residential vapor intrusion screening assessments are presented in Table H-4.3-3. The HI is approximately 0.0005, which is less than the NMED target HI of 1 (NMED 2012, 219971). No carcinogenic VOCs were detected. The result does not change the HI calculated as a result of exposure to soil presented in the Phase II report (LANL 2010, 110772.33, Appendix H).

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.3 SWMU 21-022(h)

No VOCs were detected on the mesa-top portion of this SWMU. Therefore, the vapor intrusion pathway is incomplete for this site on the mesa top.

H-4.3.4 Consolidated Unit 21-023(a)-99

Consolidated Unit 21-023(a)-99 consists of SWMU 21-023(a), a septic tank and drainlines that reportedly served a janitor's mop sink in former building 21-003; SWMU 21-023(b), a septic tank and drainlines that received wastewater from the shower room in former building 21-003; and SWMU 21-023(d), a septic tank and drainlines that received industrial waste and sewage from former building 21-003. Use of the septic tanks ended by 1966, and the building and tanks have been removed. The site description does not indicate a history of solvent use and the consolidated unit is not a source of VOCs.

Eight of 10 VOCs (acetone; ethylbenzene; 4-isopropyltoluene; 2-methylnaphthalene; naphthalene; styrene; 1,2-xylene; and 1,3-xylene +1,4-xylene) were minimally detected in mesa-top samples with one or two concentrations; concentrations of acetone, ethylbenzene, 4-isopropyltoluene, 2-methylnaphthalene, 1,2-xylene, and 1,3-xylene+1,4-xylene were below EQLs. The concentrations of naphthalene and styrene decreased with depth. Toluene was detected in three samples below the EQLs, and tetrachloroethene was detected in nine samples. Six of nine concentrations of tetrachloroethene were above the EQLs and decreased or did not change substantially at four of five locations.

The results of the residential vapor intrusion screening assessments are presented in Tables H-4.3-4 and H-4.3-5. The HI is approximately 0.008, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total excess cancer risk is approximately 8×10^{-7}, which is less than the NMED target cancer risk level of 1×10^{-5} (NMED 2012, 219971). The results do not change the HI and cancer risk calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.5 SWMU 21-024(b)

No VOCs were detected on the mesa-top portion of this SWMU. Therefore, the vapor intrusion pathway is incomplete for this site on the mesa top.

H-4.3.6 SWMU 21-024(d)

SWMU 21-024(d) is an inactive septic tank, pipelines, and associated outfall that routed sewage from an office building (former building 21-001) to the south rim of the mesa above Los Alamos Canyon. Use of the septic tank ended in the early 1960s, and the tank has been filled with pea gravel and left in place. The site description does not indicate a history of solvent use, and the SWMU is not a source of VOCs.

Three of four VOCs (1,2-dichlorobenzene, 1,3-dichlorobenzene, and toluene) were minimally detected in mesa-top samples with one concentration each; concentrations were below the EQLs. Methylene chloride was detected in four samples above the EQLs and did not change substantially with depth.

The result of the residential vapor intrusion screening assessments is presented in Table H-4.3-6. The HI is approximately 0.0003, which is less than the NMED target HI of 1 (NMED 2012, 219971). The result

does not change the HI calculated as a result of exposure to soil presented in the Phase II report (LANL 2010, 110772.33, Appendix H).

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.7 SWMU 21-024(g)

SWMU 21-024(g) is an inactive septic system that previously routed sewage from former building 21-031 (cold workshop/electronics) through pipelines and septic tank (structure 21-125) into two drainage ditches. Sewage from former building 21-007 (warehouse) was tied into the system. Subsequently, the drainage ditches were no longer used, and the septic tank was moved farther north outside of the fenced area to discharge on the surface of the north rim of DP Mesa. Additionally, a cut pipe visibly exits former building 21-031, directing flow into the 2-ft by 2-ft by 1-ft concrete storm drain now present in the paved parking area. Use of the septic tank ended in 1966, and the tank was left in place. The SWMU is not a source of VOCs.

Two of four VOCs (chloroform and 4-isopropyltoluene) were minimally detected in mesa-top samples with one sample each, and the concentrations were below the EQLs. Acetone was detected in six samples and toluene was detected in eight samples; four of six acetone concentrations and six of eight toluene concentrations were below the EQLs. Acetone concentrations decreased with depth at four of five locations and either decreased or did not change substantially with depth at all locations for toluene.

The results of the residential vapor intrusion screening assessments are presented in Tables H-4.3-7 and H-4.3-8. The HI is approximately 0.00009, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total excess cancer risk is approximately 7×10^{-9}, which is less than the NMED target cancer risk level of 1×10^{-5} (NMED 2012, 219971). The results do not change the HI and cancer risk calculated as a result of exposure to soil presented in the Phase II report (LANL 2010, 110772.33, Appendix H).

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.8 SWMU 21-024(k)

SWMU 21-024(k) is an inactive septic tank, tile leach field, pipelines, and associated outfall that received sewage from former building 21-209, a high-temperature chemistry building. Use of the septic tank ended in 1966 and the tank was left in place. The site description does not indicate a history of solvent use and the SWMU is not a source of VOCs.

Two VOCs (2-methylnaphthalene and naphthalene) were detected in three and four mesa-top samples, respectively. Two 2-methylnaphthalene concentrations and one naphthalene concentration were below the EQLs, and the concentrations did not change substantially with depth at either location.

The results of the residential vapor intrusion screening assessments are presented in Tables H-4.3-9 and H-4.3-10. The HI is approximately 0.02, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total excess cancer risk is approximately 6×10^{-6} based on the maximum detected concentrations and 2×10^{-6} based on the 95% UCL for naphthalene, which is less than the NMED target cancer risk level of 1×10^{-5} (NMED 2012, 219971). The results do not change the HI and increase the

cancer risk to 7×10^{-6} using the 95% UCL calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.9 Consolidated Unit 21-024(l)-99

Consolidated Unit 21-024(l)-99 consists of SWMU 21-022(a), a sump and associated lines; SWMU 21-024(l), an outfall; and AOC 21-004(a), an aboveground storage tank and associated lines. The site description does not indicate a history of solvent use, and the consolidated unit is not a source of VOCs.

Five of nine VOCs (chloroform; 1,4-dichlorobenzene; 4-isopropyltoluene; methylene chloride; and 1,3-xylene +1,4-xylene) were minimally detected in mesa-top samples with 1 or 2 concentrations; the concentrations were below the EQLs. Acetone was detected in 4 samples; naphthalene was detected in 12 samples; 2-methylnaphthalene was detected in 13 samples; toluene was detected in 15 samples; most concentrations were above the EQLs. Acetone concentrations decreased with depth at all locations, 2-methylnaphthalene and naphthalene concentrations decreased or did not change substantially with depth at all locations, except at location 21-27520 where only depth was sampled (concentrations were below the EQLs). Toluene concentrations decreased or did not change substantially with depth at 8 of 10 locations and were below EQLs at the other 2 locations.

The results of the residential vapor intrusion screening assessments are presented in Tables H-4.3-11 and H-4.3-12. The HI is approximately 0.1, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total excess cancer risk is approximately 3×10^{-5} based on the maximum detected concentrations and 2×10^{-6} based on the 95% UCL for naphthalene, which is less than the NMED target cancer risk level of 1×10^{-5} (NMED 2012, 219971). The results increase the HI to 0.8 and do not change the cancer risk using the 95% UCL calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.10 SWMU 21-024(n)

SWMU 21-024(n) originally consisted of a corrugated metal pipe that exited former building 21-155 and an outfall. Three additional pipelines and outfalls were identified in the same vicinity during a 2004 geophysical survey and/or from as-built engineering drawings. Building 21-155 has been removed so the SWMU is not a current source of VOCs.

Four of six VOCs (acetone, chloroform, 4-isopropyltoluene, and styrene) were minimally detected in mesa-top samples with one or two concentrations; acetone, chloroform, and styrene concentrations were below the EQLs. Xylene[1,3-]+1,4-xylene was detected in three samples and toluene was detected in nine samples; concentrations were below the EQLs.

The results of the residential vapor intrusion screening assessments are presented in Tables H-4.3-13 and H-4.3-14. The HI is approximately 0.0005, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total excess cancer risk is approximately 8×10^{-9}, which is less than the NMED target

cancer risk level of 1×10^{-5} (NMED 2012, 219971). The results do not change the HI and cancer risk calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.11 Consolidated Unit 21-026(a)-99

Consolidated Unit 21-026(a)-99 was a sewage treatment plant that consisted of SWMU 21-013(a), surface disposal area; SWMU 21-026(a), sewage treatment plant; SWMU 21-026(b), four sludge drying/sand filter beds; AOC 21-026(c), dosing siphon chamber; and AOC 21-026(d), an outfall that served the TA-21 facilities. Treatment operations ended in 1992. The site description does not indicate a history of solvent use and the consolidated unit is not a source of VOCs.

Two of four VOCs (chloroform and 1,2,4-trimethylbenzene) were minimally detected in mesa-top samples with two concentrations each; the concentrations were below the EQLs. Toluene was detected in five samples and 1,3-xylene+1,4-xylene was detected in four samples; three of five toluene concentrations (other concentration decreased with depth) and all four 1,3-xylene+1,4-xylene concentrations were below the EQLs.

The results of the residential vapor intrusion screening assessments are presented in Tables H-4.3-15 and H-4.3-16. The HI is approximately 0.0004, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total excess cancer risk is approximately 8×10^{-9}, which is less than the NMED target cancer risk level of 1×10^{-5} (NMED 2012, 219971). The results do not change the HI and cancer risk calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915) but no additional evaluation is necessary.

H-4.3.12 SWMU 21-027(a)

SWMU 21-027(a) consists of drainlines that received effluent from floor drains in former building 21-003, a surface drainage system, and an outfall that discharged to the mesa edge into Los Alamos Canyon. Building 21-003, the drains and the pipes beneath the surface, and the cooling tower were removed in 1994−1995. The site description does not indicate a history of solvent use, and the SWMU is not a source of VOCs.

Three of five VOCs (acetone, 2-butanone, and carbon disulfide) were minimally detected in mesa-top samples with one detected concentration each; acetone and 2-butanone concentrations were below the EQLs and carbon disulfide concentrations decreased with depth. Tetrachloroethene was detected in three samples and concentrations decreased with depth. Toluene was detected in four samples and concentrations decreased with depth at two of three locations (only one depth analyzed for VOCs at location 21-601225).

The result of the residential vapor intrusion screening assessments is presented in Table H-4.3-17. The HI is approximately 0.001, which is less than the NMED target HI of 1 (NMED 2012, 219971). The result does not change the HI calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.3.13 AOC C-21-027

AOC C-21-027 consists of a former cooling tower (chilled water recirculator), structure 21-143. The tower received water from former building 21-003, circulated it, and returned it to the building in a closed loop. The cooling tower was connected to an acid tank and also had a 3-in. cast-iron drain that discharged into Los Alamos Canyon to the south. Building 21-003, the drains and the pipes beneath the surface, and the cooling tower were removed in 1994−1995. The site description does not indicate a history of solvent use, and the AOC is not a source of VOCs.

Acetone was minimally detected in mesa-top samples with two concentrations; the concentrations were below the EQLs.

The result of the residential vapor intrusion screening assessments is presented in Table H-4.3-18. The HI is approximately 0.000002, which is less than the NMED target HI of 1 (NMED 2012, 219971). The result does not change the HI calculated as a result of exposure to soil presented in section H-4.2.

The screening of the bulk soil data using the Johnson and Ettinger model indicates that the soil has not been impacted. The vapor intrusion pathway is potentially complete based on NMED guidance (NMED 2015, 600915), but no additional evaluation is necessary.

H-4.4 Uncertainty Analysis

The human health risk-screening evaluations are subject to varying degrees and types of uncertainty. Aspects of data evaluation and COPC identification, exposure evaluation, toxicity evaluation, and the additive approach all contribute to uncertainties in the risk-evaluation process.

H-4.4.1 Data Evaluation and COPC Identification Process

A primary uncertainty associated with the COPC identification process is the possibility that a chemical may be inappropriately identified as a COPC when it is actually not a COPC or that a chemical may not be identified as a COPC when it actually should be identified as a COPC. All detected organic chemicals were retained for analysis. Inorganic chemicals were appropriately identified as COPCs because those either detected or with detection limits above background were retained for further analysis. However, background concentrations may not be representative of certain subunits of the Bandelier Tuff (e.g., fractured, clay-rich material) because such samples are not included in the background data set.

Other uncertainties may include errors in sampling, laboratory analysis, and data analysis. However, because concentrations used in the risk-screening evaluations include those detected less than estimated quantitation limits and nondetects above background values (BVs), data evaluation uncertainties are expected to have little effect on the risk-screening results.

H-4.4.2 Exposure Evaluation

The current and reasonably foreseeable future land use is industrial. To the degree actual activity patterns are not represented by those activities assumed by the industrial scenario, uncertainties are introduced in the assessment, and the evaluation presented in this assessment overestimates potential risk. An individual may be subject to exposures in a different manner than the exposure assumptions

used to derive the industrial and construction worker SSLs. For the sites evaluated, individuals might not be on-site at present or in the future for that frequency and duration. The industrial assumptions for the SSLs are that the potentially exposed individual is outside on-site for 8 h/d, 225 d/yr, and 25 yr (NMED 2012, 219971), while the construction worker SSLs are based on exposure of 8 h/d, 250 d/yr, and 1 yr (NMED 2012, 219971). The residential SSLs are based on exposure of 24 h/d, 350 d/yr, and 30 yr (NMED 2012, 219971). As a result, the industrial, construction worker, and residential scenarios evaluated at these sites likely overestimate the exposure and risk.

In addition, the exposure along the slope/cliff areas is not practical or feasible because of the lack of accessibility to, the absence of any trail or path for someone to traverse, if they were to gain access to the slope/cliff, and the major safety concerns regarding any activity on the slope/cliff. Therefore, there is no exposure to the contamination in those portions of the sites to any human receptor.

A number of assumptions are made relative to exposure pathways, including input parameters, completeness of a given pathway, the contaminated media to which an individual may be exposed, and intake rates for different routes of exposure. In the absence of site-specific data, the exposure assumptions used were consistent with default values (NMED 2012, 219971). When several upper-bound values (as are found in NMED 2012, 219971) are combined to estimate exposure for any one pathway, the resulting risk estimate can exceed the 99th percentile, and therefore, can exceed the range of risk that may be reasonably expected. Also, the assumption that residual concentrations of chemicals in the tuff are available and result in exposure in the same manner as if they were in soil overestimates the potential exposure and risk to receptors.

Uncertainty is introduced in the concentration aggregation of data for estimating the EPCs at a site. Risk from a single location or area with relatively high COPC concentrations may be underestimated by using a representative site-wide value. The use of a UCL is intended to provide a protective upper-bound (i.e., conservative) COPC concentration and is assumed to be representative of the average exposure to a COPC across the entire site. Potential risk and exposure from a single location or area with relatively high COPC concentrations may be overestimated if a representative site-wide value is used. The use of the maximum detected concentration for the EPC overestimates the exposure to contamination because receptors are not consistently exposed to the maximum detected concentration across the site. In addition, the maximum detection limit was used as the EPC for some inorganic COPCs with elevated detection limits above BVs.

Several sites within the DP Site Aggregate Area have potential risks or doses that exceed NMED or DOE target levels. The potential risks/doses may be overestimated because of uncertainties associated with the EPCs, the COPCs, and/or the scenarios at these sites.

Arsenic

The May 2014 EPA regional screening values for arsenic employ a relative bioavailability value of 60% in calculating the industrial and residential soil screening levels (http://www.epa.gov/risk/risk-based-screening-table-generic-tables). The EPA document “Compilation and Review of Data on Relative Bioavailability of Arsenic in Soil” (EPA 2012, 262543) provides supporting information and the EPA policy memorandum “Recommendations for Default Value for Relative Bioavailability of Arsenic in Soil” (EPA 2012, 262542) recommends using this value, recognizing the default value is an estimate not likely to be exceeded at most sites and is preferable to the assumption of a relative bioavailability equal to 100%.

The use of the EPA regional screening values for arsenic of 6.7 mg/kg (residential) and 30 mg/kg (industrial) changes the total excess cancer risk results for several DP Site Aggregate Area sites evaluated in this appendix. The changes are as follows:

- *Consolidated Unit 21-003-99 and SWMU 21-024(c)*—Industrial cancer risk becomes 2×10^{-6} and the residential cancer risk becomes 1×10^{-5}
- *Consolidated Unit 21-023(a)-99*—Residential cancer risk becomes 2×10^{-5}
- *SWMU 21-024(k)*—Residential cancer risk becomes 5×10^{-6}
- *SWMU 21-024(n)*—Industrial cancer risk becomes 2×10^{-6} and the residential cancer risk becomes 1×10^{-5}
- *Consolidated Unit 21-026(a)-99*—Industrial cancer risk becomes 1×10^{-5} and the residential cancer risk becomes 7×10^{-6} (the analysis is discussed below)

SWMU 21-022(h)

The industrial, construction worker, and residential HIs for the entire site are approximately 2, 1, and 2, respectively, and solely from lead, which has HQs of 2.2, 0.97, and 1.9. Because the lead SSL is based upon blood lead levels, lead is evaluated separately from the other noncarcinogenic COPCs. The lead EPCs (1783 mg/kg for industrial and 773 mg/kg for construction worker and residential) are equivalent to or above the respective SSLs (800 mg/kg and 400 mg/kg). Without lead, the HIs are reduced to approximately 0.03, 0.2, and 0.3, respectively. In addition, the lead EPC is driven by the maximum detected concentration (3940 mg/kg), which was detected at the outfall on the slope/cliff portion of the site. The location of this concentration precludes exposure under the industrial, construction worker, and residential scenarios because this area will not and could not be used for these types of activities. Therefore, the risk estimate is not representative of the exposure across the site, there is no potential risk from lead, and the HIs are less than the NMED target level of 1 on the mesa top where exposure is likely.

The total excess cancer risk for the industrial scenario for the entire site was approximately 2×10^{-5} (1.7×10^{-5}), which is slightly above the NMED target risk level of 1×10^{-5}. The risk was calculated using the maximum detected concentrations of some of the key COPCs because less than five detected concentrations were found in the 0.0–1.0-ft bgs depth interval. The primary COPCs contributing to the cancer risk were PAHs [benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene]. The maximum detected concentrations were used as EPCs for benzo(a)anthracene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene. If 95% UCLs are calculated for these PAHs, the EPCs become 1.83 mg/kg, 0.316 mg/kg, and 1.56 mg/kg, respectively. Using the 95% UCLs as the EPCs results in a total excess cancer risk of approximately 1×10^{-5} for the industrial scenario for the entire site, which is equivalent to the NMED target risk level.

In addition, the elevated PAH concentrations are located on the slope/cliff portion of the site. PAH concentrations on the mesa top are 2 orders of magnitude lower and are below 0.0–1.0 ft bgs (industrial scenario was not evaluated for the mesa top). The location of elevated PAH concentrations precludes exposure under the industrial, construction worker, and residential scenarios because this area will not and could not be used for these types of activities. Therefore, the risk estimate is not representative of the exposure across the site, there is no potential risk from PAHs, and the total excess cancer risks for the construction worker and residential scenarios for the mesa top are 4×10^{-8} and 6×10^{-6}, which are less than the NMED target level of 1×10^{-5}.

Consolidated Unit 21-026(a)-99

The total excess cancer risk for the industrial scenario for the entire site was approximately 3×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The risk was calculated using the maximum detected concentrations of some of the key COPCs because fewer than five detected concentrations were found in the depth interval of 0.0–1.0 ft bgs. The primary COPCs contributing to the cancer risk were PAHs [benzo(a)anthracene; benzo(a)pyrene; and dibenz(a,h)anthracene]. The maximum detected concentrations were used as EPCs for all three PAHs. If 95% UCLs are calculated for benzo(a)anthracene and benzo(a)pyrene (only two concentrations of dibenz(a,h)anthracene were detected so a 95% UCL is not possible), the EPCs become 1.13 mg/kg and 0.845 mg/kg, respectively. Using the 95% UCLs as the EPCs and the EPA regional screening value for arsenic (30 mg/kg) results in a total excess cancer risk for the entire site of approximately 1×10^{-5} for the industrial scenario, which is equivalent to the NMED target risk level. However, this risk estimate is still conservative and is not representative of the exposure because the dibenz(a,h)anthracene EPC and cancer risk are biased high by the detected concentrations [two detections (0.83 mg/kg and 0.84 mg/kg) out of 25 samples or 8% of the data]. Given this conservative risk estimate, it is concluded that the industrial cancer risk is at least equivalent to (but likely less than) the NMED target risk level. In addition, the elevated PAH concentrations are located on the slope/cliff portion of the site. PAHs on the mesa top were either not detected or detected at concentrations 2 orders of magnitude lower than on the slope/cliff. The location of the elevated PAH concentrations precludes exposure under the industrial, construction worker, and residential scenarios because this area will not and could not be used for these types of activities.

Similarly, the total excess cancer risk for the residential scenario for the mesa top can be reduced by using 95% UCLs for benzo(a)anthracene and benzo(a)pyrene (0.0417 mg/kg and 0.0349 mg/kg, respectively) and the EPA regional screening value for arsenic (6.7 mg/kg); individual cancer risks of 3×10^{-7}, 2×10^{-6}, and 4×10^{-6}, respectively, and a total risk of 7×10^{-6} for the mesa top. Therefore, there is no potential risk from PAHs, and the total excess cancer risk is less than the NMED target level of 1×10^{-5} for the mesa top.

SWMU 21-027(a)

The total excess cancer risk for the industrial scenario for the entire site was approximately 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5}. The risk is from dioxins and furans located on the slope/cliff portion of the site; no samples were collected from 0.0–1.0 ft bgs on the mesa-top portion of the site. Therefore, the risk estimate is conservative and is not representative of the exposure scenario (i.e., industrial receptors are not and will not be present on the slope/cliff portion of the site).

The total excess cancer risk for the residential scenario for the mesa top is approximately 2×10^{-5} (1.6×10^{-5}), which is slightly above the NMED target risk level. The cancer risk is primarily from arsenic (cancer risk is approximately 1.1×10^{-5}). However, arsenic was detected above the Qbt 2,3,4 BV (2.79 mg/kg) in only 1 of 16 tuff samples at a concentration of 4.2 mg/kg, which is below the maximum Qbt 2,3,4 background concentration (5 mg/kg). The quantile and slippage tests indicated the Qbt 3 site data for arsenic were not statistically different from the Qbt 2,3,4 arsenic background data (p-values = 0.19 and 1). Therefore, the total excess cancer risk for the mesa top under the residential scenario is approximately 4×10^{-6} (minus arsenic), which is less than the NMED target risk level.

AOC C-21-027

The total excess cancer risk for the industrial scenario for the entire site was approximately 3×10^{-5} (2.6×10^{-5}), which is above the NMED target risk level of 1×10^{-5}. The risk is from dioxin and furans and as shown by the evaluation of the mesa top, is primarily on the slope/cliff portion of the site (industrial

cancer risk for the mesa top is 2×10^{-6}). Similarly, the construction worker HI for the entire site is 1.46, which is primarily from dioxins and furans (HQ = 1.26), and the construction worker HI for the mesa top only is 0.5.

The total excess cancer risk for the residential scenario for the mesa top was approximately 2×10^{-5} from dioxins and furans as well as PAHs. The cancer risk was calculated using the maximum detected concentrations of the COPCs because fewer than five detected concentrations were reported. The primary COPCs contributing to the cancer risk were benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and 2,3,7,8-TCDD. It is not possible to calculate 95% UCLs for benzo(a)anthracene and benzo(a)pyrene because there are only one and two detected concentrations, respectively. However, benzo(b)fluoranthene has four detected concentrations and the 95% UCL is 0.171 mg/kg, which results in a cancer risk of 1×10^{-6}. Benzo(a)pyrene has one other detected concentration (0.0108 mg/kg), which is an order of magnitude lower than the maximum (0.16 mg/kg) and has a cancer risk of 7×10^{-7}. Therefore, the potential cancer risk from benzo(a)pyrene is within the range of the two detected concentrations and likely less than 1×10^{-5} cancer risk. If, for example, the maximum concentration of benzo(a)pyrene is reduced by 25% (0.12 mg/kg), the individual cancer risk becomes 8×10^{-6}, while if the mean of the two concentrations (0.0854 mg/kg) is used as the EPC the individual cancer risk is reduced to 6×10^{-6}. Combining the revised cancer risks for benzo(a)pyrene (using the mean of two detected concentrations) and benzo(b)fluoranthene (using the 95% UCL of four detected concentrations in eight samples) with the EPCs for the other COPCs results in the total excess cancer risk for the mesa top under the residential scenario of approximately 1×10^{-5}. However, this risk estimate is still conservative and is not representative of the exposure because the benzo(a)anthracene and 2,3,7,8-TCDD EPCs and cancer risks are based on the maximum detected concentrations (one detected concentration in eight samples and maximum of three detected concentrations, respectively).

H-4.4.3 Toxicity Evaluation

The primary uncertainty associated with the SSLs is related to the derivation of toxicity values used in their calculation. Toxicity values (reference doses [RfDs] and slope factors [SFs]) were used to derive the SSLs used in this risk-screening evaluation (NMED 2012, 219971). Uncertainties were identified in five areas with respect to the toxicity values: (1) extrapolation from other animals to humans, (2) interindividual variability in the human population, (3) the derivation of RfDs and SFs, (4) the chemical form of the COPC, and (5) the use of surrogate chemicals.

Extrapolation from Animals to Humans. 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 in chemical absorption, metabolism, excretion, and toxic responses between animals and humans. 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, resulting in the overestimation of potential risk.

Individual Variability in the Human Population. 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 evaluation; this factor of 10 is generally considered to result in a conservative estimate of risk to noncarcinogenic COPCs.

Derivation of RfDs and SFs. 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 the 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 classification indicates the likelihood that a contaminant is a human carcinogen. Toxicity values with high uncertainties may change as new information is evaluated.

Chemical Form of the COPC. COPCs may be bound to the environment matrix and not available for absorption into the human body. However, it is assumed the COPCs are bioavailable. This assumption can lead to an overestimation of the total risk.

Use of Surrogate Chemicals. The use of surrogates for some chemicals that do not have EPA-approved or provisional toxicity values also contributes to uncertainty in risk assessment. In this assessment, a surrogate was used to establish toxicity values based on structural similarity (NMED 2003, 081172) for acenaphthylene; benzo(g,h,i)perylene; 4-isopropyltoluene; and 1,3-xylene+1,4-xylene. The overall impact of surrogates on the risk assessment is minimal because these COPCs were detected at low concentrations and the HQs were less than 0.1.

Carbazole was detected in one or three samples at SWMUs 21-022(h) and 21-024(d) and Consolidated Unit 21-024(l)-99 but currently does not have SSLs for comparison. EPA's Provisional Peer Reviewed Toxicity Vales for Superfund web site (http://hhpprtv.ornl.gov/pprtv_user.html) indicates that no toxicity values for carbazole are available because of the lack of suitable oral or inhalation data in both humans and animals. The 2007 EPA Region 6 screening tables (EPA 2007, 099314) had residential and outdoor worker SSLs of 240 mg/kg and 960 mg/kg (corrected to a 10^{-5} risk), respectively. Given the infrequent detection and the concentrations 2 or more orders of magnitude below the old Region 6 SSLs, carbazole does not contribute substantially to the overall total excess cancer risk at either site.

H-4.4.4 Additive Approach

For noncarcinogens, the effects of exposure to multiple chemicals are generally not known, and possible interactions could be synergistic or antagonistic, resulting in either an overestimation or underestimation of the potential risk. 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 for individual COPCs that act by different mechanisms and on different target organs but are addressed additively.

H-4.5 Interpretation of Human Health Risk-Screening Results

H-4.5.1 Consolidated Unit 21-003-99 and SWMU 21-024(c)

Industrial Scenario

The total excess cancer risk for the industrial scenario is 3×10^{-6} (2×10^{-6} using the EPA regional screening value for arsenic), which is less than the NMED target risk level of 1×10^{-5}. The industrial HI is 0.06, which is less than the NMED target HI of 1. The total dose is 0.4 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 3×10^{-6}, based on a comparison with EPA's 2014 outdoor worker preliminary remediation goals (PRGs) for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 4×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is 0.5, which is less than the NMED target HI of 1.

The total dose is 0.6 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 3×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario is 2×10^{-5} (1×10^{-5} using the EPA regional screening value for arsenic), which is slightly above (or equivalent to) the NMED target risk level of 1×10^{-5}. The cancer risk is from arsenic and PAHs. The residential HI is 0.6 (0.7 including the vapor intrusion screening results), which is less than the NMED target HI of 1. The total dose is 3 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 9×10^{-6}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-4.5.2 SWMU 21-022(h)

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is approximately 1×10^{-5}, which is equivalent to the NMED target risk of 1×10^{-5} (see the uncertainty discussion in section H-4.2.2). The industrial HI is 2, which is above the NMED target of 1. The elevated HI is from lead. The total dose is 2 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Risk/dose screening assessments under the industrial scenario for the mesa top were not conducted for SWMU 21-022(h) because samples were not collected in the 0.0–1.0 ft bgs depth interval on the mesa top per the approved work plans.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 9×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1. The total dose is 6 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 4×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the construction worker scenario for the mesa top is 4×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.3, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.6 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-7}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from PAHs. The residential HI is approximately 2, which is above the NMED target HI of 1. The elevated HI is from lead. The total dose is

10 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-5}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the residential scenario for the mesa top is 6×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971).The residential HI is 0.2, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.9 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-6}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The industrial, construction worker, and residential HIs for the entire site are approximately 2, 1, and 2, respectively, and solely from lead, which has HQs of 2.2, 0.97, and 1.9. Because the lead SSL is based upon blood lead levels, lead is evaluated separately from the other noncarcinogenic COPCs. The lead EPCs (1783 mg/kg for industrial and 773 mg/kg for construction worker and residential) are equivalent to or above the respective SSLs (800 mg/kg and 400 mg/kg). Without lead, the HIs for the entire site are reduced to approximately 0.03, 0.2, and 0.3, respectively. In addition, the lead EPC is driven by the maximum detected concentration (3940 mg/kg), which was detected at the outfall on the slope/cliff portion of the site. The location of this concentration precludes exposure under the industrial, construction worker, and residential scenarios as this area will not and could not be used for these types of activities. Therefore, the risk estimate is not representative of the exposure across the site, there is no potential risk from lead because no human receptors are exposed to the lead concentration, and the HIs are less than the NMED target level of 1 on the mesa top.

In addition, the elevated PAH concentrations causing the potential unacceptable cancer risk for the entire site are located on the slope/cliff. PAH concentrations on the mesa top are 2 orders of magnitude lower and are below 0.0–1.0 ft bgs. The location of the elevated PAH concentrations precludes exposure under the industrial, construction worker, and residential scenarios as this area will not and could not be used for these types of activities. Therefore, the risk estimate is not representative of the exposure across the site, there is no potential risk from PAHs because no human receptors are exposed to the PAH concentrations, and the total excess cancer risks are less than the NMED target level of 1×10^{-5} for the mesa top.

H-4.5.3 Consolidated Unit 21-023(a)-99

Industrial Scenario

Risk and dose were not evaluated for the industrial scenario because no samples were collected from the 0.0–1.0 ft bgs depth interval per the approved work plans.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is 0.4, which is less than the NMED target HI of 1. The total dose is 0.4 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario is 3×10^{-5} (2×10^{-5} using the EPA regional screening value for arsenic), which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from arsenic and PAHs. The residential HI is 0.6, which is less than the NMED target HI of 1. The total dose is 4 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-4.5.4 SWMU 21-024(b)

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is 9×10^{-9}, which is less than the NMED target risk of 1×10^{-5}. The industrial HI is 0.02, which is less than the NMED target of 1. The total dose is 2 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Risk and dose were not evaluated for the industrial scenario for the mesa top because no samples were collected from the 0.0–1.0-ft bgs depth interval on the mesa top per the approved work plans.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 1×10^{-8}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is 0.08, which is less than the NMED target HI of 1. The total dose is 9 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 6×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the construction worker scenario for the mesa top is 1×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.009, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 5 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer for the residential scenario is approximately 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5}. The residential HI is 0.1, which is less than the NMED target HI of 1. The total dose is 14 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-5}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the residential scenario for the mesa top is 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971).The residential HI is 0.04, which is less than the

NMED target HI of 1 (NMED 2012, 219971). The total dose is 7 mrem/yr, which is less than the target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-4.5.5 SWMU 21-024(k)

Industrial Scenario

The total excess cancer risk for the industrial scenario is 3×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The industrial HI is 0.005, which is less than the NMED target HI of 1. The total dose is 0.7 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 9×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 3×10^{-8}, which is less than the NMED target risk level of 1×10^{-5} (NMED 2012, 219971). The construction worker HI is 0.3, which is less than the NMED target HI of 1 (NMED 2012, 219971). The total dose is 0.4 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 3×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario is approximately 1×10^{-5} (5×10^{-6} using the EPA regional screening value for arsenic and 7×10^{-6} including the vapor intrusion result), which is equivalent to (or less than) the NMED target risk level of 1×10^{-5}. The residential HI is 0.3, which is less than the NMED target HI of 1. The total dose is 1 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 6×10^{-6}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-4.5.6 Consolidated Unit 21-024(l)-99

Industrial Scenario

The total excess cancer risk for the industrial scenario is 2×10^{-6}, which is less than the NMED target risk of 1×10^{-5}. The industrial HI is 0.03, which is less than the NMED target of 1. The total dose is 0.3 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 3×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 3×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is 0.6, which is less than the NMED target HI of 1.

The total dose is 3 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario is 5×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from PAHs. The residential HI is 0.7 (0.8 including the vapor intrusion result), which is less than the NMED target HI of 1. The total dose is 4 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 5×10^{-6}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-rgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-4.5.7 SWMU 21-024(n)

Industrial Scenario

The total excess cancer risk for the industrial scenario is 3×10^{-6} (2×10^{-6} using the EPA regional screening value for arsenic), which is less than the NMED target risk of 1×10^{-5}. The industrial HI is 0.1, which is less than the NMED target of 1. The total dose is 0.3 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 3×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 5×10^{-8}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1. The total dose is 0.4 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario is 2×10^{-5} (1×10^{-5} using the EPA regional screening value for arsenic), which is slightly above (or equivalent to) the NMED target risk level of 1×10^{-5}. The cancer risk is from arsenic and PAHs. The residential HI is 0.6, which is less than the NMED target HI of 1. The total dose is 1 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 5×10^{-6}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-4.5.8 Consolidated Unit 21-026(a)-99

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is 1×10^{-5} (no change occurs when the EPA regional screening value is used for arsenic), which is equivalent to the NMED target risk

of 1×10^{-5} (see the uncertainty discussion in section H-4.4.2). However, this risk estimate is still conservative and is not representative of the exposure because the dibenz(a,h)anthracene EPC and cancer risk is based on the maximum detected concentration (2 detections out of 25 samples), and the EPC is biased by 8% of the data. Given this conservative risk estimate, it is concluded that the industrial cancer risk is at least equivalent to (but likely less than) the NMED target risk level. The industrial HI is 0.1, which is less than the NMED target of 1. The total dose is 1 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 8×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the industrial scenario for the mesa top is approximately 4×10^{-6} (2×10^{-6}) using the EPA regional screening value for arsenic), which is less than the NMED target risk level of 1×10^{-5}. The industrial HI is approximately 0.002, which is less than the NMED target HI of 1. The total dose is approximately 0.2 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 7×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is 0.3, which is less than the NMED target HI of 1. The total dose is 3 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 3×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the construction worker scenario for the mesa top is approximately 5×10^{-8}, which is less than the NMED target risk level of 1×10^{-5}. The HI is approximately 0.2, which is less than the NMED target HI of 1. The total dose is approximately 0.5 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 1×10^{-4} (no change occurs when the EPA regional screening value is used for arsenic), which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from arsenic and PAHs. The residential HI is 0.5, which is less than the NMED target HI of 1. The total dose is 5 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the residential scenario for the mesa top is approximately 7×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (see the uncertainty discussion in section H-4.4.2). The HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 0.9 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 3×10^{-6}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The elevated PAH concentrations are located on the slope/cliff portion of the site. PAH concentrations on the mesa top are 2 orders of magnitude lower. The location of the elevated PAH concentrations precludes exposure under the industrial, construction worker, and residential scenarios because this area will not and could not be used for these types of activities. Therefore, the risk estimate is not representative of the exposure across the site, there is no potential risk from PAHs because no human receptors are exposed to the PAH concentrations, and the total excess cancer risks are equivalent to or less than the NMED target level of 1×10^{-5} for the mesa top.

H-4.5.9 SWMU 21-027(a)

Industrial Scenario

The total excess cancer risk for the industrial scenario is 1×10^{-4}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD, which is detected on the slope/cliff portion of the site; no samples were collected from 0.0–1.0 ft on the mesa-top portion of the site. Therefore, the risk estimate is not representative of the exposure scenario (i.e., industrial receptors are not and will not be present on the slope/cliff portion of the site). The industrial HI is 0.06, which is less than the NMED target HI of 1. The total dose is 3 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Risk and dose were not evaluated for the industrial scenario for the mesa top because no samples were collected from the 0.0–1.0 ft bgs depth interval on the mesa top per the approved work plans.

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario is 4×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 2, which is above the NMED target HI of 1. The elevated HI is from 2,3,7,8-TCDD, which is located on the slope/cliff portion of the site where there is no exposure to a construction worker. The total dose is 13 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the construction worker scenario for the mesa top is 5×10^{-9}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is 0.2, which is less than the NMED target HI of 1. The total dose is 5 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 2×10^{-4} (no change using the EPA regional screening value for arsenic), which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD and PAHs, which are detected on the slope/cliff portion of the site where there is no exposure to a resident. The residential HI is 0.2, which is less than the NMED target HI of 1. The total dose is 22 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 4×10^{-5}, based on a

comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the residential scenario for the mesa top is 4×10^{-6}, which is less than the NMED target risk level of 1×10^{-5} (see uncertainty discussion in section H-4.4.2). The residential HI is 0.2, which is less than the NMED target HI of 1. The total dose is 8 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-5}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-4.5.10 AOC C-21-027

Industrial Scenario

The total excess cancer risk for the industrial scenario for the entire site is 3×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD, which is primarily detected on the slope/cliff portion of the site (industrial cancer risk for the mesa top is 2×10^{-6}). The industrial HI is 0.05, which is less than the NMED target HI of 1. The total dose is 4 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-5}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the industrial scenario for the mesa top is approximately 2×10^{-6}, which is less than the NMED target risk level of 1×10^{-5}. The industrial HI is approximately 0.08, which is less than the NMED target HI of 1. The total dose is approximately 0.4 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 2×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Construction Worker Scenario

The total excess cancer risk for the construction worker scenario for the entire site is 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 1, which is equivalent to the NMED target HI of 1. The HI is from 2,3,7,8-TCDD, which is primarily detected on the slope/cliff portion of the site (construction worker HI for the mesa top is 0.3). The total dose is 16 mrem/yr, which is less than the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 9×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the construction worker scenario for the mesa top is approximately 1×10^{-7}, which is less than the NMED target risk level of 1×10^{-5}. The construction worker HI is approximately 0.3, which is less than the NMED target HI of 1. The total dose is approximately 2 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 1×10^{-6}, based on a comparison with EPA's 2014 outdoor worker PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

Residential Scenario

The total excess cancer risk for the residential scenario for the entire site is 9×10^{-5}, which is above the NMED target risk level of 1×10^{-5}. The elevated cancer risk is from 2,3,7,8-TCDD and PAHs, which are primarily detected on the slope/cliff portion of the site (residential cancer risk for the mesa top is 1×10^{-5}).

The residential HI is 0.4, which is less than the NMED target HI of 1. The total dose is 25 mrem/yr, which is equivalent to the DOE target dose of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 4×10^{-5}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

The total excess cancer risk for the residential scenario for the mesa top is approximately 1×10^{-5}, which is equivalent to the NMED target risk level of 1×10^{-5} (see uncertainty discussion in section H-4.4.2). The residential HI is approximately 0.5, which is less than the NMED target HI of 1. The total dose is approximately 3 mrem/yr, which is less than the DOE target dose limit of 25 mrem/yr as authorized by DOE Order 458.1. The total dose is equivalent to a total risk of 4×10^{-6}, based on a comparison with EPA's 2014 residential PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls).

H-5.0 ECOLOGICAL RISK-SCREENING EVALUATIONS

The approach for conducting ecological evaluations is described in the "Screening Level Ecological Risk Evaluation Methods, Revision 3" (LANL 2012, 226715). The evaluation consists of four parts: a scoping evaluation, a screening evaluation, an uncertainty analysis, and an interpretation of the results.

H-5.1 Scoping Evaluation

The scoping evaluation establishes the breadth and focus of the screening evaluation. The ecological scoping checklist (Attachment H-4) is a useful tool for organizing existing ecological information. The information was used to determine whether ecological receptors may be affected, identify the types of receptors that may be present, and develop the ecological conceptual site model for DP Site Aggregate Area (Attachment H-4). Most of the area on the mesa top is developed and typically provides minimal potential habitat for ecological receptors. The quality of the habitat varies and, in some cases, includes minimal amounts of native grasses, forbs, and trees that can be suitable habitat for ecological receptors.

The scoping evaluation indicated that terrestrial receptors were appropriate for evaluating the concentrations of COPCs in soil and tuff. Exposure is assessed across a site to a depth of 0.0–5.0 ft bgs. Aquatic receptors were not evaluated because no aquatic communities and no aquatic habitat or perennial source of water exist at any of the sites. The depth of the regional aquifer (greater than 1000 ft bgs) and the semiarid climate limit contaminant transport to groundwater. The potential exposure pathways for terrestrial receptors in soil and tuff are root uptake, inhalation, soil ingestion, dermal contact, external irradiation, and food web transport (Attachment H-4). The weathering of tuff is the only viable natural process that may result in the exposure of receptors to contaminants in tuff. Because of the slow rate of weathering expected for tuff, exposure in tuff is negligible, although it is included in the assessment. Plant exposure in tuff is largely limited to fractures near the surface, which does not produce sufficient biomass to support an herbivore population. Consequently, the contaminants in tuff are unavailable to receptors.

The potential risk was evaluated in the risk-screening assessments for the following ecological receptors representing several trophic levels:

- a plant
- soil dwelling invertebrates (represented by the earthworm)
- the deer mouse (mammalian omnivore)
- the montane shrew (mammalian insectivore)

- desert cottontail (mammalian herbivore)
- red fox (mammalian carnivore)
- American robin (avian insectivore, avian omnivore, and avian herbivore)
- American kestrel (avian insectivore and avian carnivore [surrogate for threatened and endangered [T&E] species (primarily the Mexican spotted owl)])

The rationale for using these receptors is presented in "Screening Level Ecological Risk Evaluation Methods, Revision 3" (LANL 2012, 226715). The Mexican spotted owl is the T&E species known to frequent the Laboratory area. The owl's primary habitat is densely forested canyons, and it has not been observed roosting in DP and Los Alamos Canyons. However, the owl may use the canyons and surrounding areas to forage.

H-5.2 Assessment Endpoints

An assessment endpoint is an explicit expression of the environmental value to be protected. These endpoints are ecologically relevant and help sustain the natural structure, function, and biodiversity of an ecosystem or its components (EPA 1998, 062809). In a screening-level evaluation, assessment endpoints are any adverse effects on ecological receptors, where receptors are populations and communities (EPA 1997, 059370). The purpose of the ecological screening evaluation is to protect populations and communities of biota rather than individual organisms, except for listed or candidate T&E species or treaty-protected species (EPA 1999, 070086), because populations of protected species tend to be small and the loss of an individual adversely affects the species as a whole (EPA 1997, 059370).

In accordance with this guidance, the Laboratory developed generic assessment endpoints (LANL 1999, 064137) to ensure that values at all levels of ecological organization are considered in the ecological screening process. These general assessment endpoints can be measured using impacts on reproduction, growth, and survival to represent categories of effects that may adversely impact populations. In addition, specific receptor species were selected to represent each functional group. The receptor species were selected because of their presence at the site, their sensitivity to the COPCs, and their potential for exposure to those COPCs. These categories of effects and the chosen receptor species were used to select the types of effects seen in toxicity studies considered in the development of the toxicity reference values (TRVs). Toxicity studies used in the development of TRVs included only studies in which the adverse effect evaluated affected reproduction, survival, and/or growth.

The selection of receptors and assessment endpoints is designed to be protective of both the representative species used as screening receptors and the other species within their feeding guilds and the overall food web for the terrestrial and aquatic ecosystems. Focusing the assessment endpoints on the general characteristics of species that affect populations (rather than the biochemical and behavioral changes that may affect only the studied species) also ensures the applicability to the ecosystem of concern.

H-5.3 Ecological Risk-Screening Evaluation

The ecological screening evaluation identifies chemicals of potential ecological concern (COPECs) and is based on the comparison of EPCs (95% UCLs, maximum detected concentrations, or maximum detection limits) to ecological screening levels (ESLs). The EPCs used in the assessments for DP Site Aggregate Area are presented in Tables H-2.3-1 through Table H-2.3-36.

An ecological risk-screening assessment was not conducted for SWMU 21-022(j) because samples were collected from depths of 10 ft or greater and no complete exposure pathways to ecological receptors are present.

The ESLs were obtained from the ECORISK Database, Version 3.2 (LANL 2014, 262559) and are presented in Table H-5.3-1. The ESLs are based on similar species and are derived from experimentally determined NOAELs, lowest observed adverse effect levels (LOAELs), or doses determined lethal to 50% of the test population. Information relevant to the calculation of ESLs, including concentration equations, dose equations, bioconcentration factors, transfer factors, and TRVs, are presented in the ECORISK Database, Version 3.2 (LANL 2014, 262559).

The analysis begins with a comparison of the minimum ESL for a given COPC to the EPC. The HQ is defined as the ratio of the EPC to the concentration that has been determined to be acceptable to a given ecological receptor (i.e., the ESL). 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 0.3 are used to identify COPECs requiring additional evaluation (LANL 2012, 226715). Individual HQs for a receptor are summed to derive an HI; COPCs without ESLs are retained as COPECs and evaluated further in the uncertainty section. An HI greater than 1 indicates 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.

H-5.3.1 Consolidated Unit 21-003-99 and SWMU 21-024(c)

The results of the minimum ESL comparisons are presented in Table H-5.3-2. Arsenic, barium, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc, acenaphthene, Aroclor-1016, Aroclor-1248, Aroclor-1254, benzoic acid, bis(2-ethylhexyl)phthalate, and di-n-butylphthalate are retained as COPECs because the HQs were greater than 0.3.

Potential ecological risks associated with aluminum are based on soil pH. Aluminum is retained only in soil with a pH lower than 5.5, in accordance with EPA guidance (EPA 2003, 085645). Aluminum was eliminated as a COPEC and was not evaluated further because the mean soil pH for the DP Site Aggregate Area is 7.9 (Appendix G on CD).

Benzyl alcohol, sec-butylbenzene, chlorobenzene, ethylbenzene, 4-isopropyltoluene, nitrate, perchlorate, 1,2-xylene, and 1,3-xylene+1,4-xylene do not have ESLs, are retained as COPECs and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-3. The HI analysis indicates the robin (all feeding guilds), kestrel (intermediate carnivore), deer mouse, shrew, earthworm, and plant have HIs greater than 1, and the kestrel (top carnivore) and cottontail have HIs equivalent to 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.2 SWMU 21-022(h)

The results of the minimum ESL comparisons are presented in Table H-5.3-4. Barium, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, zinc, acenaphthene, Aroclor-1254, benzo(a)anthracene, bis(2-ethylhexyl)phthalate, chrysene, di-n-butylphthalate, fluoranthene, naphthalene, phenanthrene, pyrene, and 2,3,7,8-TCDD are retained as COPECs because the HQs were greater than 0.3.

Potential ecological risks associated with aluminum are based on soil pH. Aluminum is retained only in soil with a pH lower than 5.5, in accordance with EPA guidance (EPA 2003, 085645). Aluminum was eliminated as a COPEC and was not evaluated further because the mean soil pH for the DP Site Aggregate Area is 7.9 (Appendix G on CD).

Isopropyltoluene[4-], nitrate, and perchlorate do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-5. The HI analysis indicates all receptors, except for the red fox, have HIs greater than 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.3 Consolidated Unit 21-023(a)-99

The results of the minimum ESL comparisons are presented in Table H-5.3-6. Arsenic, barium, chromium, copper, lead, manganese, mercury, selenium, acenaphthene, benzo(a)anthracene, bis(2-ethylhexyl)phthalate, di-n-butylphthalate, and 2,3,7,8-TCDD are retained as COPECs because the HQs were greater than 0.3.

Calcium, ethylbenzene, 4-isopropyltoluene, nitrate, perchlorate, 1,2-xylene, and 1,3-xylene+1,4-xylene do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-7. The HI analysis indicates all receptors, except for the red fox, have HIs greater than 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.4 SWMU 21-024(b)

The results of the minimum ESL comparisons are presented in Table H-5.3-8. Barium, cyanide, lead, mercury, nickel, selenium, zinc, and bis(2-ethylhexyl)phthalate are retained as COPECs because the HQs were greater than 0.3.

Nitrate and perchlorate do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-9. The HI analysis indicates the robin (all feeding guilds), kestrel (intermediate carnivore), deer mouse, shrew, earthworm, and plant have HIs greater than 1, and the kestrel (top carnivore) and cottontail have HIs equivalent to 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.5 SWMU 21-024(k)

The results of the minimum ESL comparisons are presented in Table H-5.3-10. Arsenic, barium, beryllium, copper, cyanide, lead, mercury, nickel, selenium, zinc, and 2,3,7,8-TCDD are retained as COPECs because the HQs were greater than 0.3.

Potential ecological risks associated with aluminum are based on soil pH. Aluminum is retained only in soil with a pH lower than 5.5, in accordance with EPA guidance (EPA 2003, 085645). Aluminum was eliminated as a COPEC and was not evaluated further because the mean soil pH for the DP Site Aggregate Area is 7.9 (Appendix G on CD).

Nitrate and perchlorate do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-11. The HI analysis indicates the robin (all feeding guilds), kestrel (both feeding guilds), deer mouse, shrew, earthworm, and plant have HIs greater than 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.6 Consolidated Unit 21-024(l)-99

The results of the minimum ESL comparisons are presented in Table H-5.3-12. Barium, cadmium, chromium, copper, lead, lithium, mercury, selenium, zinc, acenaphthene, benzo(a)anthracene, and bis(2-ethylhexyl)phthalate are retained as COPECs because the HQs were greater than 0.3.

Potential ecological risks associated with aluminum are based on soil pH. Aluminum is retained only in soil with a pH lower than 5.5, in accordance with EPA guidance (EPA 2003, 085645). Aluminum was eliminated as a COPEC and was not evaluated further because the mean soil pH for the DP Site Aggregate Area is 7.9 (Appendix G on CD).

Nitrate, perchlorate, and 1,3-xylene+1,4-xylene do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-13. The HI analysis indicates robin (all feeding guilds), kestrel (intermediate carnivore), deer mouse, shrew, earthworm, and plant have HIs greater than 1, and the cottontail has an HI equivalent to 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.7 SWMU 21-024(n)

The results of the minimum ESL comparisons are presented in Table H-5.3-14. Antimony, arsenic, barium, cadmium, chromium, copper, cyanide, lead, manganese, mercury, nickel, selenium, vanadium, zinc, bis(2-ethylhexyl)phthalate, di-n-butylphthalate, hexachlorobenzene, and 2,3,7,8-TCDD are retained as COPECs because the HQs were greater than 0.3.

Potential ecological risks associated with aluminum are based on soil pH. Aluminum is retained only in soil with a pH lower than 5.5 in accordance with EPA guidance (EPA 2003, 085645). Aluminum was eliminated as a COPEC and was not evaluated further because the mean soil pH for the DP Site Aggregate Area is 7.9 (Appendix G on CD).

Ethylbenzene, 4-isopropyltoluene, nitrate, perchlorate, 1,1,2-trichloro-1,2,2-trifluoroethane, 1,2-xylene, and 1,3-xylene+1,4-xylene do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-15. The HI analysis indicates all the receptors, except the kestrel (top carnivore) and the red fox, have HIs greater than 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.8 Consolidated Unit 21-026(a)-99

The results of the minimum ESL comparisons are presented in Table H-5.3-16. Arsenic, barium, cadmium, chromium, copper, cyanide, lead, mercury, nickel, selenium, silver, zinc, acenaphthene,

benzo(a)anthracene, benzoic acid, bis(2-ethylhexyl)phthalate, di-n-butylphthalate, and phenanthrene are retained as COPECs because the HQs were greater than 0.3.

Potential ecological risks associated with aluminum are based on soil pH. Aluminum is retained only in soil with a pH lower than 5.5 in accordance with EPA guidance (EPA 2003, 085645). Aluminum was eliminated as a COPEC and was not evaluated further because the mean soil pH for the DP Site Aggregate Area is 7.9 (Appendix G on CD).

Calcium, 2,4-dimethylphenol, ethylbenzene, nitrate, perchlorate, and 1,2,4-trimethylbenzene do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-17. The HI analysis indicates all the receptors, except the red fox, have HIs greater than 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.9 SWMU 21-027(a)

The results of the minimum ESL comparisons are presented in Table H-5.3-18. Arsenic, barium, cadmium, chromium, copper, lead, mercury, selenium, zinc, Aroclor-1254, bis(2-ethylhexyl)phthalate, di-n-butylphthalate, and 2,3,7,8-TCDD are retained as COPECs because the HQs were greater than 0.3.

Nitrate and perchlorate do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-19. The HI analysis indicates the robin (all feeding guilds), kestrel (intermediate carnivore), red fox, cottontail, deer mouse, shrew, earthworm, and plant have HIs greater than 1, and the kestrel (top carnivore) has an HI equivalent to 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.3.10 AOC C-21-027

The results of the minimum ESL comparisons are presented in Table H-5.3-20. Antimony, barium, chromium, cyanide, lead, selenium, thallium, zinc, bis(2-ethylhexyl)phthalate, di-n-butylphthalate, and 2,3,7,8-TCDD are retained as COPECs because the HQs were greater than 0.3.

Nitrate and perchlorate do not have ESLs, are retained as COPECs, and are discussed in the uncertainty section.

The HQs and HIs for each COPEC and receptor combination are presented in Table H-5.3-21. The HI analysis indicates robin (all feeding guilds), kestrel (intermediate carnivore), red fox, cottontail, deer mouse, shrew, earthworm, and plant have HIs greater than 1, and the kestrel (top carnivore) has an HI equivalent to 1. The COPECs and receptors are discussed in the uncertainty section.

H-5.4 Uncertainty Analysis

The uncertainty analysis describes the key sources of uncertainty related to the screening evaluations. This analysis may result in either adding or removing chemicals from the list of COPECs for sites. The following discussion contains a qualitative uncertainty analysis of the issues relevant to evaluating the potential ecological risk at DP Site Aggregate Area sites.

H-5.4.1 Chemical Form

The assumptions used in the ESL derivations were 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. Most of these factors tend to result in conservative estimates of the ESLs, which may lead to an overestimation of the potential risk. The assumption of additive effects for multiple COPECs may result in an over- or underestimation of the potential risk to receptors.

The chemical form of the individual COPCs was not determined as part of the investigation, largely a limitation on analytical quantitation of individual chemical species. Toxicological data are typically based on the most toxic and bioavailable chemical species not likely found in the environment. The inorganic, organic, and radionuclide, COPECs are generally not 100% bioavailable to receptors in the natural environment because of 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. The ESLs were calculated to ensure a conservative indication of potential risk (LANL 2012, 226715), and the values were biased toward overestimating the potential risk to receptors.

H-5.4.2 Exposure Assumptions

The EPCs used in the calculations of HQs were the 95% UCL, the maximum detected concentration, or the maximum detection limit to a depth of 5.0 ft bgs, thereby conservatively estimating the exposure to each COPC. As a result, the exposure of individuals within a population was evaluated using this specific concentration, which was assumed constant throughout the exposure area. The sampling also focused on areas of known contamination, and receptors were assumed to ingest 100% of their food and spend 100% of their time at the site. The assumptions made regarding exposure for terrestrial receptors results in an overestimation of the potential exposure and risk because COPECs varied across the site and were infrequently detected.

H-5.4.3 Toxicity Values

The HQs were calculated using ESLs, which are based on NOAELs as threshold effect levels; actual risk for a given COPEC/receptor combination occurs at a higher level, somewhere between the NOAEL-based threshold and the threshold based on the LOAEL. The use of NOAELs leads to an overestimation of potential risk to ecological receptors. ESLs are based on laboratory studies requiring extrapolation to wildlife receptors. Laboratory studies are typically based on “artificial” and maintained populations with genetically similar individuals and are limited to single chemical exposures in isolated and controlled conditions using a single exposure pathway. Wild species are concomitantly exposed to a variety of chemical and environmental stressors, potentially rendering them more susceptible to chemical stress. On the other hand, wild populations are likely more genetically diverse than laboratory populations, making wild populations, as a whole, less sensitive to chemical exposure than laboratory populations. The uncertainties associated with the ESLs may result in an under- or overestimation of potential risk.

H-5.4.4 Area Use Factors

In addition to the direct comparison of the EPC with the ESLs, area use factors (AUFs) are used to account for the amount of time that a receptor is likely to spend within the contaminated areas based on the size of the receptor’s home range (HR). The AUFs for individual organisms were developed by dividing the size of the site by the HR for that receptor. Because T&E species must be assessed on an individual basis (EPA 1999, 070086), the AUF is used for the Mexican spotted owl based on an HR of

366 ha. The AUFs for the Mexican spotted owl are presented in Tables H-5.4-1 through H-5.4-10 for each site, where applicable. The kestrel (top carnivore) is used as the surrogate receptor for the Mexican spotted owl.

Eight sites had HIs for the kestrel (top carnivore) equivalent to or above 1 [Consolidated Unit 21-024(l)-99 and SWMU 21-024(n) had HIs less than 1]. Application of the AUFs for the Mexican spotted owl to the HIs for the kestrel (top carnivore) results in adjusted HIs ranging from 0.0001 to 0.005. Therefore, there are no potential adverse impacts to the Mexican spotted owl at any of the sites.

H-5.4.5 Population Area Use Factors

EPA guidance is to manage the ecological risk to populations rather than to individuals, with the exception of T&E species (EPA 1999, 070086). One approach to address the potential effects on populations at DP Site Aggregate Area is to estimate the spatial extent of the area inhabited by the local population that overlaps with the contaminated area. The population area for a receptor is based on the individual receptor HR and its dispersal distance. Bowman et al. (2002, 073475) estimate that the median dispersal distance for mammals is 7 times the linear dimension of the HR (i.e., the square root of the HR area). If only the dispersal distances for the mammals with HRs within the range of the screening receptors are used (Bowman et al. 2002, 073475), the median dispersal distance becomes 3.6 times the square root of the HR (R^2=0.91). If it is assumed that the receptors can disperse the same distance in any direction, the population area is circular and the dispersal distance is the radius of the circle. Therefore, the population area can be derived by $\pi(3.6\sqrt{HR})^2$ or approximately 40HR.

Consolidated Unit 21-003-99 and SWMU 21-024(c)

The area of Consolidated Unit 21-003-99 and SWMU 21-024(c) is approximately 0.4 ha. The population area use factors (PAUFs) are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-1). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for Consolidated Unit 21-003-99 and SWMU 21-024(c) are less than or equivalent to 1 for all receptors (Table H-5.4-11). The earthworm and plant have unadjusted HIs of 8 and 6, respectively (Table H-5.4-11).

SWMU 21-022(h)

The area of SWMU 21-022(h) is approximately 0.053 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-2). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for SWMU 21-022(h) are less than 1 for all receptors (Table H-5.4-12). The earthworm and plant had unadjusted HIs of 19 and 16, respectively (Table H-5.4-12).

Consolidated Unit 21-023(a)-99

The area of Consolidated Unit 21-023(a)-99 is approximately 0.063 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-3). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for Consolidated Unit 21-023(a)-99 are less than 1 for all receptors (Table H-5.4-13). The earthworm and plant had unadjusted HIs of 10 and 15, respectively (Table H-5.4-13).

SWMU 21-024(b)

The area of SWMU 21-024(b) is approximately 0.08 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-4). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for SWMU 21-024(b) are less than 1 for all receptors (Table H-5.4-14). The earthworm and plant have unadjusted HIs of 2 and 3, respectively (Table H-5.4-14).

SWMU 21-024(k)

The area of SWMU 21-024(k) is approximately 0.11 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-5). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for SWMU 21-024(k) are less than 1 for all receptors (Table H-5.4-15). The earthworm and plant have unadjusted HIs of 8 and 3, respectively (Table H-5.4-15).

Consolidated Unit 21-024(l)-99

The area of Consolidated Unit 21-024(l)-99 is approximately 0.2 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-6). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for Consolidated Unit 21-024(l)-99 are less than 1 for all receptors (Table H-5.4-16). The earthworm and plant have unadjusted HIs of 4 and 6, respectively (Table H-5.4-16).

SWMU 21-024(n)

The area of SWMU 21-024(n) is approximately 0.11 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-7). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for SWMU 21-024(n) are less than 1 for all receptors (Table H-5.4-17). The earthworm and plant have unadjusted HIs of 4 and 7, respectively (Table H-5.4-17).

Consolidated Unit 21-026(a)-99

The area of Consolidated Unit 21-026(a)-99 is approximately 0.12 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-8). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for Consolidated Unit 21-026(a)-99 are less than 1 for all receptors, except for the robin (insectivore), which has an HI of 2, and the robin (omnivore), which has an HI equivalent to 1 (Table H-5.4-18). The earthworm and plant have unadjusted HIs of 50 and 7, respectively (Table H-5.4-18).

SWMU 21-027(a)

The area of SWMU 21-027(a) is approximately 0.05 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-9). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for SWMU 21-027(a) are less than 1 for all receptors, except for the deer mouse and shrew, which had adjusted HIs of 25 and 9 (Table H-5.4-19). The earthworm and plant have unadjusted HIs of 6 and 5, respectively (Table H-5.4-19).

AOC C-21-027

The area of AOC C-21-027 is approximately 0.042 ha. The PAUFs are estimated by dividing the site area by the population area of each receptor population (Table H-5.4-10). The HQs and HIs are recalculated using the PAUFs. The HIs for the plant and earthworm are not adjusted by PAUFs because these receptors do not have HRs.

The adjusted HIs for AOC C-21-027 are less than 1 for all receptors, except for the deer mouse and shrew, which had adjusted HIs of 12 and 7 (Table H-5.4-20). The earthworm and plant have unadjusted HIs of 3 and 8, respectively (Table H-5.4-20).

H-5.4.6 LOAEL Analysis

Several sites have HIs greater than 1 for one or more receptors. To address the HIs and reduce the associated uncertainty, analyses were conducted using ESLs calculated based on a LOAEL rather than a NOAEL. The LOAEL-based ESLs were calculated based on toxicity information in the ECORISK Database, Release 3.2 (LANL 2014, 262559) and are presented in Table H-5.4-21. The analyses address some of the uncertainties and conservativeness of the ESLs used in the initial screening assessments. HI analyses and adjusted HI analyses were conducted using the LOAEL-based ESLs.

H-5.4.7 Site Discussions

Consolidated Unit 21-003-99 and SWMU 21-024(c)

The adjusted and unadjusted HIs for Consolidated Unit 21-003-99 and SWMU 21-024(c) are equivalent to 1 for the robin (insectivore) with mercury being the primary COPEC, and greater than 1 for the earthworm and plant, with arsenic, barium, mercury, selenium, zinc, and acenaphthene as the primary COPECs for one or both receptors (Table H-5.4-11). The HI analysis using LOAEL-based ESLs resulted in an HI of 2 for the robin (insectivore) and HIs less than 1 for the earthworm and plant (Table H-5.4-22). The adjusted HI analysis of the robin (insectivore) using the LOAEL-based ESL resulted in an HI of 0.01 (Table H-5.4-23).

SWMU 21-022(h)

The unadjusted HIs for SWMU 21-022(h) are greater than 1 for the earthworm and plant, with barium, copper, lead, mercury, selenium, zinc, acenaphthene, fluoranthene, naphthalene, phenanthrene, and pyrene as the primary COPECs for one or both receptors (Table H-5.4-12). The HI analyses using LOAEL-based ESLs resulted in HIs of approximately 2 for the earthworm and 3 for the plant (Table H-5.4-24).

The plant HI is primarily from lead and zinc (HI = 2), while the earthworm HI is primarily from mercury and zinc (HI = 1.7). The EPCs for lead and zinc are biased high by the maximum concentrations, which are an order of magnitude or more above the next highest concentrations. The majority of the lead, mercury, and zinc concentrations, including the highest concentrations, are within the outfall area; one zinc concentration, one mercury concentration, and six lead concentrations above BVs were detected beneath the line leading to the outfall. The mercury concentration is 0.108 mg/kg (BV = 0.1 mg/kg) and five of the six lead concentrations are less than the maximum Qbt 2,3,4 background concentration (15.5 mg/kg) (LANL 1998, 059730). Therefore, the contamination resulting in the elevated HIs is localized around the outfall (approximately 0.007 ha). The 95% UCLs without the maximums are 54.5 mg/kg, 0.278 mg/kg, and 49.1 mg/kg for lead, mercury, and zinc, respectively, and result in HQs less than 1 for mercury and less than 0.1 for lead and zinc. Therefore, the vast majority of the area does not present a potential risk to the earthworms and plants, and the limited area of contamination does not impact the soil invertebrate and plant communities as a whole. Therefore, the HIs do not indicate potential risks to the earthworm and plant.

In addition, field observations made during the site visit found no indication of adverse effects from COPECs on the plant community (Attachment H-4). In general, south-facing canyon walls are steep and usually have little or no soil material or vegetation; in contrast, the north-facing walls generally have areas of very shallow dark-colored soil and are more heavily vegetated. The observations and aerial photographs of the outfall area (Figures H-5.4-1 through H-5.4-5) support this general condition and depict the area in and around the outfall as being a 45- to 90-degree steep slope/cliff. This area consists of unstable, highly weathered, fractured bedrock with approximately 20% soil, filling fractures and voids between rocks. The limited amount of soil present, in turn, limits or prohibits the amount and type of vegetation present on the slope. As would be expected of a rocky landscape and limited soil, plants do not cover a large area, are confined to rocky crevices, and are limited to grasses and small shrubs. Because the limited amount of soil, the sparse vegetation, and the rocky landscape strongly affect the presence of soil invertebrates, particularly earthworms, the area has few, small, and intermittent places where these receptors could be present, if at all.

Consolidated Unit 21-023(a)-99

The unadjusted HIs for Consolidated Unit 21-023(a)-99 are greater than 1 for the earthworm and plant, with arsenic, barium, lead, manganese, mercury, selenium, zinc, and acenaphthene as the primary COPECs for one or both receptors (Table H-5.4-13). The HI analysis using LOAEL-based ESLs resulted in HIs of approximately 1 for the earthworm and 3 for the plant (Table H-5.4-25).

The plant HI is primarily from selenium (HQ = 1.7); the remaining COPECs have an HI of 0.96. The majority of the selenium detections are located in the northern portion of the consolidated unit, the area around the former septic tanks. This area constitutes approximately 0.025 ha or 40% of the site area (consisting of a 0.015 ha area on the east side of former building 21-003 and a 0.01 ha area on the west side of former building 21-003). The limited area of selenium contamination indicates the plant community as a whole is not impacted. In addition, the EPC for lead is overestimated and biased high by the maximum detected concentration (1270 mg/kg), which is also in the northern portion of the consolidated

unit. The lead EPC decreases to 14.5 mg/kg without the maximum concentration and has an HQ of 0.12, indicating the potential ecological risk to the plant is overestimated. The barium and manganese EPCs, ESLs, and LOAEL-based ESLs are similar to background; the maximum detected concentrations for both COPECs are within the range of soil and/or tuff background concentrations (maximum barium soil background concentration is 410 mg/kg; maximum manganese soil and tuff background concentrations are 1100 mg/kg and 752 mg/kg, respectively) (LANL 1998, 059730).

In addition, field observations made during the site visit found no indication of adverse effects from COPECs on the plant community (Attachment H-4). Field observations indicated the area within and around the site is paved with asphalt and provides little habitat for ecological receptors, including plants.

SWMU 21-024(b)

The unadjusted HIs for SWMU 21-024(b) are greater than 1 for the earthworm and plant, with mercury and zinc (earthworm) and barium and selenium (plant) as the primary COPECs (Table H-5.4-14). The HI analysis using LOAEL-based ESLs resulted in HIs of 0.1 for the earthworm and 0.6 for the plant (Table H-5.4-26).

SWMU 21-024(k)

The unadjusted HIs for SWMU 21-024(k) are greater than 1 for the earthworm and plant, with arsenic, mercury, and zinc (earthworm), and barium, beryllium, and selenium (plant) as the primary COPECs (Table H-5.4-15). The HI analysis using LOAEL-based ESLs resulted in HIs of 0.8 for the earthworm and 0.5 for the plant (Table H-5.4-27).

Consolidated Unit 21-024(l)-99

The unadjusted HIs for Consolidated Unit 21-024(l)-99 are greater than 1 for the earthworm and plant, with barium, lead, mercury, selenium, zinc, and acenaphthene as the primary COPECs for one or both receptors (Table H-5.4-16). The HI analysis using LOAEL-based ESLs resulted in HIs of 0.4 for the earthworm and 1 for the plant (Table H-5.4-28).

SWMU 21-024(n)

The unadjusted HIs for SWMU 21-024(n) are greater than 1 for the earthworm and plant, with arsenic, barium, copper, manganese, mercury, selenium, and zinc as the primary COPECs for one or both receptors (Table H-5.4-17). The HI analysis using LOAEL-based ESLs resulted in HIs of 0.4 for the earthworm and 1 for the plant (Table H-5.4-29).

Consolidated Unit 21-026(a)-99

The adjusted and unadjusted HIs for Consolidated Unit 21-026(a)-99 are equivalent to 1 for the robin (omnivore) and greater than 1 for the robin (insectivore) with mercury as the primary COPEC, the earthworm with arsenic, barium, copper, mercury, zinc, and phenanthrene as the primary COPECs, and the plant with barium, copper, lead, selenium, zinc, and acenaphthene as the primary COPECs (Table H-5.4-18). The HI analysis using LOAEL-based ESLs resulted in HIs of 18 for the robin (insectivore), 10 for the robin (omnivore), 5 for the earthworm, and 1 for the plant (Table H-5.4-30). The adjusted HI analysis using the LOAEL-based ESLs resulted in HIs of 0.1 for the robin (insectivore) and 0.07 for the robin (omnivore) (Table H-5.4-31).

The earthworm HI is primarily from mercury (HQ = 4.6). The mercury is confined to a small area on the slope north of the former wastewater treatment plant around locations 21-27576 and 21-27579. This area constitutes approximately 0.006 ha or 5% of the site area. The mercury EPC without the highest concentrations is 0.219 mg/kg, which results in an HQ of 0.4 based on the LOAEL-based ESL. The limited area of mercury contamination indicates the soil invertebrate community as a whole is not impacted.

SWMU 21-027(a)

The adjusted and unadjusted HIs for SWMU 21-027(a) are greater than 1 for the deer mouse and shrew with 2,3,7,8-TCDD as the primary COPEC, the earthworm with arsenic, copper, mercury, selenium, and zinc as the primary COPECs, and the plant with barium, copper, selenium, and zinc as the primary COPECs (Table H-5.4-19). The HI analysis using LOAEL-based ESLs resulted in HIs of 214 for the deer mouse, 438 for the shrew, 0.6 for the earthworm, and 0.8 for the plant (Table H-5.4-32). The adjusted HI analysis of the deer mouse and shrew using the LOAEL-based ESLs resulted in HIs of approximately 4 for the deer mouse and approximately 1 for the shrew (Table H-5.4-33).

The 2,3,7,8-TCDD EPC is biased high by the maximum equivalent concentration (0.00198 mg/kg), which is approximately an order of magnitude higher than the next highest equivalent concentration. This concentration is located at the outfall below the edge of the mesa on a steep slope/cliff, with 45- to 90-degree slopes consisting of unstable, highly weathered, fractured bedrock with approximately 15% soil, filling fractures and voids between rocks. The outlier test in ProUCL 5.0.00 indicated that the maximum equivalent concentration at the outfall is an outlier for the data set. The EPC without the maximum equivalent concentration is 0.00019 mg/kg (compared to 0.000883 mg/kg with the maximum), which is approximately 20% of the site EPC. The HI analysis of this EPC using LOAEL-based ESLs resulted in HIs of 49 for the deer mouse and 100 for the shrew. The adjusted HI analysis of the deer mouse and shrew using the LOAEL-based ESLs and PAUFs, minus the outfall area containing the maximum equivalent concentration [0.05 ha – 0.0056 ha = 0.044 ha; 0.044 ÷ 3 = 0.015 (deer mouse) and 0.044 ÷ 15.6 = 0.0028 (shrew)], resulted in HIs of approximately 0.7 for the deer mouse and approximately 0.3 for the shrew for 90% of the site. The maximum equivalent concentration (0.00198 mg/kg) is located in a 15 ft × 40 ft area at the outfall, which resulted in an area of 0.0056 ha. The HI analysis of the maximum using LOAEL-based ESLs resulted in HIs of 508 for the deer mouse and 1042 for the shrew. The adjusted HI analysis of the deer mouse and shrew using the LOAEL-based ESLs and PAUFs of the outfall area containing the maximum equivalent concentration [0.0056 ÷ 3 = 0.0018 (deer mouse) and 0.0056 ÷ 15.6 = 0.000368 (shrew)] resulted in HIs of approximately 1 for the deer mouse and approximately 0.4 for the shrew for 10% of the site.

In addition, the Laboratory has conducted small-mammal trapping and analysis of whole organisms as well as small-mammal community and population measurements related to dioxins and furans at several sites within the Laboratory (Fresquez 2011, 262506; Fresquez et al. 2013, 262507). Field mice and voles were collected at the sites and analyzed for dioxins and furans. Concentrations in whole body samples were well below the concentrations detected in the soil, had fewer congeners detected than in the soil samples, and were below the deer mouse ESL for 2,3,7,8-TCDD. The dioxin and furan data are similar to other dioxin/furan field-mouse uptake studies (Krouskop and Ayers 1991, 262513). No adverse effects were found on local small mammal populations based on species richness, capture rate, species diversity, sex ratios, and adult body weights (Bennett and Robinson 2011, 262508; Fresquez et al. 2013, 262507).

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, 262512). 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 (http://epa.gov/superfund/health/contaminants/dioxin/pdfs/Final_dioxin_RBA_Report_12_20_10.pdf). Abiotic constituents, compound aging, and other associated soil factors 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, 262512]). This relationship is supported by the lack of uptake and impacts to biota at sites 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 mammals are ubiquitous across the Pajarito Plateau. Small mammals typically captured in and around the Laboratory are the deer mouse, brush mouse, pinyon mouse, silky pocket mouse, western harvest mouse, white-throated woodrat, and the Mexican woodrat. The small mammal trapping and studies conducted by the Laboratory across the Pajarito Plateau include sites at TA-16, TA-39, TA-36, Los Alamos Canyon, Pueblo Canyon, Acid Canyon, Guaje Canyon, Mortandad Canyon, Sandia Canyon, and TA-54 Area G. The samples from these sites/areas consisted primarily of deer mouse and brush mouse at TA-16 (Fresquez et al. 2013, 262507); deer mouse, pinyon mouse, and western harvest mouse at TA-36 (Fresquez 2011, 262506); deer mouse at TA-39 (Fresquez 2011, 262506); deer mouse, brush mouse, and pinyon mouse in Los Alamos and Pueblo Canyons (Robinson and Bennett 2003, 082663); deer mouse and brush mouse in Acid Canyon and Guaje Canyon (Robinson and Bennett 2003, 082663); deer mouse and brush mouse in Mortandad Canyon (LANL 2006, 094161); deer mouse, brush mouse, and western harvest mouse in Sandia Canyon (LANL 2009, 107453); and deer mouse, pinyon mouse, and brush mouse at TA-54, Area G (Biggs et al. 1997, 062344; Fresquez et al. 2005, 601464). Other small mammals captured at some or all of these areas/sites also included woodrats, voles, and other mice included in the list above but less frequently. These capture data indicate the widespread occurrence of the small mammal species, particularly the deer mouse, pinyon mouse, and brush mouse, across the Pajarito Plateau, including DP Mesa and TA-21. Exposure pathways include direct contact with soil, food chain uptake, and incidental soil ingestion. The exposure pathways and receptors present at terrestrial sites are similar across the Laboratory.

The vegetation across the Pajarito Plateau transitions from ponderosa pine in the west to piñon-juniper to the east as elevations decrease. Among these predominant vegetation types are also some mixed conifer, shrubs, and grasses as well as developed areas within the Laboratory boundaries and the townsite. The dominant types of vegetation at the various sites and areas where small mammal trapping studies have been conducted include ponderosa pine, gambel oak, and grasses at TA-16; piñon-juniper with interspersed ponderosa pine and gambel oak at TA-36 and TA-39; ponderosa pine with a scattering of piñon-juniper in Pueblo Canyon; ponderosa pine, mixed conifer, and piñon-juniper along with gambel oak and shrubs in Mortandad and Sandia Canyons; ponderosa pine and mixed conifer with some piñon-juniper interspersed in Acid Canyon and Los Alamos Canyon; and ponderosa pine with juniper and grasses in Guaje Canyon. TA-21 is developed with large grassy areas and few trees, but includes ponderosa pine interspersed with piñon-juniper and gambel oak. Area G is similar in elevation and development to DP Mesa with vegetation consisting of a few ponderosa pines and grassy areas. Soil also varies across the Pajarito Plateau but has similar origins with the principal parent material being the Bandelier Tuff. As described in section 2.1.1 of the report, soil at TA-21 is typical of that across the Pajarito Plateau and is generally poorly developed, derived from Bandelier Tuff bedrock, shallow, well drained particularly on the mesa tops and south-facing slopes, and formed in a semiarid climate. The commonality of vegetation and soil along with climate and habitat contributes to the ubiquitous occurrence of the small mammals across the region, both on the mesa tops and in the canyons. The similarity of soil across the Pajarito Plateau also contributes to the widespread capability of the soil matrix to adsorb and tightly bind compounds over time, resulting in low bioavailability for uptake.

The 2,3,7,8-TCDD-equivalent concentrations in the soil at the open-burn site were similar to what was reported at SWMU 21-027(a), except for the maximum equivalent concentration. Concentrations at the open-burn site ranged from 0.000298 mg/kg to 0.0000000134 mg/kg (LANL 2013, 262541) and the concentrations at SWMU 21-027(a) (without the maximum) ranged from 0.000305 mg/kg to 0.000000000157 mg/kg. As noted above, the concentrations detected in whole-body samples were well below the concentrations detected in the soil and the deer mouse ESL for 2,3,7,8-TCDD (Fresquez 2011, 262506; Fresquez et al. 2013, 262507), and no adverse effects were found on local small mammal populations (Bennett and Robinson 2011, 262508; Fresquez et al. 2013, 262507). Because dioxins and furans have been present in the soil at SWMU 21-027(a) for over 20 yr (building 21-003, the drains, and the pipes beneath the surface, and the cooling tower were removed during demolition and decommissioning activities in 1994−1995), aging of the compounds has occurred, which enhances the binding of the dioxins and furans to the soil matrix, and has decreased the bioavailability in the soil. It is likely that the low bioavailability of dioxins and furans in soil mitigates the toxicity and potential impacts to biota and the dioxins and furans at this SWMU do not present a potential risk to small mammals.

AOC C-21-027

The adjusted and unadjusted HIs for AOC C-21-027 are greater than 1 for the deer mouse and shrew with 2,3,7,8-TCDD being the primary COPEC, the earthworm with zinc being the primary COPEC, and the plant with barium, selenium, thallium, and zinc being the primary COPECs (Table H-5.4-19). The HI analysis using LOAEL-based ESLs resulted in HIs of approximately 129 for the deer mouse, 264 for the shrew, 0.3 for the earthworm, and 1 for the plant (Table H-5.4-34). The adjusted HI analysis of the deer mouse and shrew using the LOAEL-based ESLs resulted in HIs of approximately 2 for the deer mouse and 0.7 for the shrew (Table H-5.4-35).

The deer mouse HI is based on the maximum 2,3,7,8-TCDD-equivalent concentration because only seven samples were collected in the 0.0–5.0 ft bgs depth interval. However, the maximum concentration overestimates the exposure and potential risk to receptors. Because ProUCL can calculate 95% UCLs that are more representative than the maximum based on the seven samples and seven 2,3,7,8-TCDD-equivalent concentrations, the 95% UCLs provided by ProUCL were included as part of the uncertainty analysis. These values included the 95% Chebyshev (MVUE) UCL (used because data appear lognormal at 5% significance level) of 0.00021 mg/kg and the 95% Chebyshev (Mean, Sd) UCL (nonparametric method) of 0.00039 mg/kg. The HI analysis using these 95% UCLs and the LOAEL-based ESLs resulted in HIs of approximately 54 and 100 for the deer mouse (Table H-5.4-36). The adjusted HI analysis resulted in HIs of approximately 0.8 and 1 for the deer mouse (Table H-5.4-37). Because ProUCL 5.0.00 indicates the data appear lognormal at 5% significance level, the 95% UCL derived by Chebyshev (MVUE) (0.00021 mg/kg) is the better EPC (HI = 0.8).

As noted above for SWMU 21-027(a), because dioxins and furans in the soil have been present for over 20 yr (building 21-003, the drains and the pipes beneath the surface, and the cooling tower were removed during D&D activities in 1994–1995), aging of the compounds has occurred, which enhances the binding of the dioxins and furans to the soil matrix, and has decreased the bioavailability in the soil. It is likely that the low bioavailability of dioxins and furans in soil mitigates the toxicity and potential impacts to biota, and the dioxins and furans at this SWMU do not present a potential risk to small mammals.

H-5.4.8 Chemicals without ESLs

Several COPECs do not have ESLs for any receptor in version 3.2 of the ECORISK Database (LANL 2014, 262559). In an effort to address this uncertainty and to provide a quantitative assessment of potential ecological risk, several online toxicity databases searches were conducted to determine if any

relevant toxicity information is available. The online searches of the following databases were conducted: EPA Ecotox Database, EPA Office of Pesticide Programs Aquatic Life Benchmarks, U.S. Army Corps of Engineers/EPA Environmental Residue-Effects, California Cal/Ecotox Database, Pesticide Action Network Pesticide Database, U.S. Army Wildlife Toxicity Assessment Program, U.S. Department of Agriculture Integrated Pesticide Management Database, American Bird Conservancy Pesticide Toxicity Database, and Oak Ridge National Laboratory Risk Assessment Information System. Although the COPECs listed did not have any relevant toxicity data in the online databases listed above, a search of the literature continues in an effort to determine if any relevant toxicity information exists.

In the absence of a chemical-specific ESL, COPEC concentrations can be compared with ESLs for a surrogate chemical. Comparison to surrogate ESLs provides an estimate of potential effects of a chemically related compound and a line of evidence to indicate the likelihood that ecological receptors are potentially impacted.

Some COPECs 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 COPECs are infrequently detected across the site. In these cases, comparisons to residential human health SSLs are presented as part of a qualitative assessment. The comparison of COPEC concentrations to residential human health SSLs is a viable alternative for several reasons. Animal studies are used to infer effects on humans and is the basic premise of modern toxicology (EPA 1989, 008021). In addition, toxicity values derived for the calculation of human health SSLs 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 that the toxicity values are protective (i.e., they are adjusted by uncertainty factors to values much lower than the study results). COPEC concentrations compared with these values are an order of magnitude or more below the SSLs, 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 COPC is likely to be low or very low to the receptor(s). The COPECs without ESLs were common to many of the sites and are discussed.

No ESLs are available for sec-butylbenzene; calcium; chlorobenzene; 2,4-dimethylphenol; ethylbenzene; iron; 4-isopropyltoluene; nitrate; perchlorate; 1,2,4-trimethylbenzene; 1,1,2-trichloro-1,2,2-trifluoroethane; 1,2-xylene; and 1,3-xylene+1,4-xylene. For calcium, iron, nitrate, perchlorate, and 1,1,2-trichloro-1,2,2-trifluoroethane, no surrogate or other toxicity information is available. For the other COPECs, surrogates with ESLs available are used based on structural similarity to evaluate the potential toxicity.

Butylbenzene[sec-] was detected in four samples at Consolidated Unit 21-003-99 and SWMU 21-024(c) from 0.0–5.0 ft bgs with a maximum concentration of 0.000485 mg/kg. The minimum ESL for benzene (24 mg/kg for the deer mouse) is used to screen the sec-butylbenzene concentration and results in a maximum HQ of 0.00002. Because the HQs are less than 0.3, sec-butylbenzene is not retained as a COPEC.

Calcium was detected above soil and Qbt 2,3,4 BVs (6120 mg/kg and 2200 mg/kg) in 29 soil samples and 125 tuff samples at 13 sites from 0.0–5.0 ft bgs, with a maximum concentration of 49,000 mg/kg. Only 12 calcium concentrations exceeded the maximum soil background concentration (14,000 mg/kg) scattered over 6 sites. As discussed in section H-4.2, calcium is an essential nutrient and at the maximum concentration is not a health issue for an adult or a child. (Note: In its later guidance [NMED 2015, 600915], NMED provides screening levels for essential nutrients, including calcium. The NMED residential screening level for calcium is 13,000,000 mg/kg, which indicates the levels detected in soil are not toxic.) Therefore, calcium is not retained as a COPEC at any site.

Chlorobenzene was detected in two samples at Consolidated Unit 21-003-99 and SWMU 21-024(c) from 0.0–5.0 ft bgs with a maximum concentration of 0.000443 mg/kg. The minimum ESL for benzene (24 mg/kg for the deer mouse) is used to screen the chlorobenzene concentration and results in a maximum HQ of 0.00002. Because the HQs are less than 0.3, chlorobenzene is not retained as a COPEC.

Dimethylphenol[2,4-] was detected in one sample at Consolidated Unit 21-026(a)-99 from 0.0–5.0 ft bgs at a concentration of 0.063 mg/kg. The minimum ESL for 2-methylphenol (0.67 mg/kg for the plant) is used to screen the 2,4-dimethylphenol concentration and results in an HQ of 0.09. Because this HQ is less than 0.3, 2,4-dimethylphenol is not retained as a COPEC.

Ethylbenzene was detected in nine samples at five sites from 0.0–5.0 ft bgs with a maximum concentration of 0.00248 mg/kg. The minimum ESL for benzene (24 mg/kg for the deer mouse) is used to screen the ethylbenzene concentrations and results in a maximum HQ of 0.0001. Because the HQs are less than 0.3, ethylbenzene is not retained as a COPEC at any site.

Iron was detected above soil and Qbt 2,3,4 BVs (21,500 mg/kg and 14,500 mg/kg) in two soil samples and six tuff samples at five sites from 0.0–5.0 ft bgs with a maximum concentration of 25,800 mg/kg. The concentrations did not exceed the maximum soil background concentration (36,000 mg/kg) at any site. Iron is an essential micronutrient for plants and animals. Consequently, organisms regulate its uptake. In well-aerated soil between pH 5 and 8 (mean soil pH for the DP Site Aggregate Area is 7.9), iron is not expected to be toxic to plants (EPA 2003, 111415). In addition, the NMED residential SSL for iron is 54,800 mg/kg, indicating that potential toxicity is very low. Because of the potential very low toxicity, the infrequent detection above BVs, and soil pH, iron is eliminated as a COPEC.

Isopropyltoluene[4-] was detected in 17 samples at 6 sites from 0.0–5.0 ft bgs with a maximum concentration of 0.0219 mg/kg. The minimum ESL for toluene (23 mg/kg for the shrew) is used to screen 4-isopropyltoluene and results in a maximum HQ of 0.001. Because the HQs are less than 0.3, 4-isopropyltoluene is not retained as a COPEC at any site.

Nitrate was detected at elevated concentrations in 30 samples at 7 sites from 0.0–5.0 ft bgs with a maximum concentration of 112 mg/kg. The vast majority (approximately 96%) of the nitrate concentrations reflect naturally occurring levels. The NMED residential SSL for nitrate is 125,000 mg/kg, indicating that potential toxicity is very low. Because of the infrequent detection at elevated concentrations and the potential very low toxicity, nitrate is eliminated as a COPEC.

Perchlorate was detected in 121 samples at 10 sites from 0.0–5.0 ft bgs with a maximum concentration of 0.0345 mg/kg. Only 5 results were of the same order of magnitude at 3 sites; the majority of the detected concentrations were an order or 2 orders of magnitude lower than the maximum. The NMED residential SSL for perchlorate is 54.5 mg/kg (approximately 100 times the maximum concentration), indicating that potential toxicity is low. Because of the very low concentrations and the potential low toxicity, perchlorate is eliminated as a COPEC.

Trichloro-1,2,2-trifluoroethane[1,1,2-] was detected in one sample at SWMU 21-024(n) from 0.0–5.0 ft bgs at a concentration of 0.00207 mg/kg, which is below the EQL. The NMED residential SSL for 1,1,2-trichloro-1,2,2-trifluoroethane is 72100 mg/kg, indicating that potential toxicity is very low. Because of the potential very low toxicity and the detection at a single very low concentration, 1,1,2-trichloro-1,2,2-trifluoroethane is eliminated as a COPEC.

Trimethylbenzene[1,2,4-] was detected in two samples at Consolidated Unit 21-026(a)-99 from 0.0–5.0 ft, with a maximum concentration of 0.00049 mg/kg. The minimum ESL for benzene (24 mg/kg for the deer

mouse) is used to screen 1,2,4-trimethylbenzene and results in a maximum HQ of 0.00002. Because the HQs are less than 0.3, 1,2,4-trimethylbenzene is not retained as a COPEC at any site.

Xylene[1,2-] was detected in six samples at three sites from 0.0–5.0 ft bgs with a maximum concentration of 0.00199 mg/kg, respectively. The minimum ESL for total xylene (1.4 mg/kg for the shrew) is used to screen the 1,2-xylene concentrations and results in a maximum HQ of 0.001. Because the HQs are less than 0.3, 1,2-xylene is not retained as a COPEC at any site.

Xylene[1,3-]+1,4-xylene was detected in 13 samples at four sites from 0.0–5.0 f bgs, with a maximum concentration of 0.00682 mg/kg. The minimum ESL for total xylene (1.4 mg/kg for the shrew) is used to screen 1,3-xylene+1,4-xylene and results in a maximum HQ of 0.005. Because the HQs are less than 0.3, 1,3-xylene+1,4-xylene is not retained as a COPEC at any site.

H-5.4.9 DOE Tier I Bioconcentration Guide

The DOE Tier I Biota Concentration Guide (BCG) (DOE 2002, 085637) has lower values for cesium-137 and strontium-90 (21.6 pCi/g) than the ECORISK Database final ESLs (1200 pCi/g and 340 pCi/g, respectively). Cesium-137 was a COPC at 10 sites and strontium-90 was a COPC at 3 sites. Using the EPCs for cesium-137 and strontium-90 for each of the sites and the DOE Tier I BCG, the HQs for these radionuclides are less than 0.1. These HQs are too small to impact the HIs for these sites and the radionuclides are not retained as COPECs. In addition, the DOE BCG incorporates bioaccumulation factors that are orders of magnitude higher than those in the ECORISK Database. Environmental surveillance and monitoring at the Laboratory indicate that bioaccumulation factors are not as high as those used by DOE (Bennett et al. 1996, 056035). Therefore, the ESL comparison is more representative than the BCG comparison.

H-5.5 Interpretation of Ecological Risk-Screening Results

H-5.5.1 Receptor Lines of Evidence

Based on the ecological risk-screening assessments, several COPECs (including COPECs without an ESL) were identified within the DP Site Aggregate Area. Receptors were evaluated using several lines of evidence: minimum ESL comparisons, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses.

Plant

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the plant, were less than 0.3.
- The HIs were greater than 1 for the plant at all sites.
- The HI analyses using the LOAEL-based ESL resulted in HIs less than or equivalent to 1 for Consolidated Unit 21-003-99 and SWMU 21-024(c), SWMUs 21-024(b), 21-024(k), 21-024(n), and 21-027(a), Consolidated Units 21-024(l)-99 and 21-026(a)-99, and AOC C-21-027.
- For SWMU 21-022(h), the contamination driving the potential risk is localized around the outfall so the vast majority of the area does not present a potential risk to the plant and the results indicate the potential ecological risks are overestimated. The limited area of contamination does not impact the plant community as a whole.

  Field observations made during the site visit found no indication of ecological adverse effects from COPECs. The area in and around the outfall is on a steep slope/cliff, with 45- to 90-degree

slopes and consists of unstable, highly weathered, fractured bedrock with approximately 20% soil, filling fractures and voids between rocks (Figures H-5.4-1 through H-5.4-5). Because of the rocky landscape and limited soil, plants are confined to rocky crevices, do not cover a large area, and are limited to pockets of grasses and small shrubs in the outfall area.

- For Consolidated Unit 21-023(a)-99, the majority of the selenium is located in the northern portion of the consolidated unit. This area constitutes approximately 0.025 ha or 40% of the site area (consisting of 0.015 ha area on the east side of former building 21-003 and 0.01 ha area on the west side of former building 21-003). The limited area of selenium contamination indicates the plant community as a whole is not impacted. In addition, the lead EPC is overestimated and biased high by the maximum detected concentration (1270 mg/kg), which is also in the northern portion of the consolidated unit, indicating the potential ecological risk to the plant community is overestimated. The barium and manganese EPCs, ESLs, and LOAEL-based ESLs are similar to background; the maximum detected concentrations for both COPECs are within the range of soil and/or tuff background concentrations (maximum barium soil background concentration is 410 mg/kg; maximum manganese soil and tuff background concentrations are 1100 mg/kg and 752 mg/kg, respectively), respectively (LANL 1998, 059730).

  Field observations found no indication of adverse effects from COPECs on the plant community. The area within and around the site is paved with asphalt and provides little habitat for ecological receptors, including plants.

These lines of evidence support the conclusion no potential ecological risk to the plant exists at the DP Site Aggregate Area.

Earthworm (Invertebrate)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the earthworm, were less than 0.3.
- The HIs were greater than 1 for the earthworm at all sites.
- The HI analyses using the LOAEL-based ESL resulted in HIs less than or equivalent to 1 for Consolidated Unit 21-003-99 and SWMU 21-024(c), Consolidated Units 21-023(a)-99 and 21-024(l)-99, SWMUs 21-024(b), 21-024(k), 21-024(n), and 21-027(a), and AOC C-21-027.
- For SWMU 21-022(h), the contamination driving the potential risk is localized around the outfall so the vast majority of the area does not present a potential risk to the earthworm. The HQs outside the outfall area are less than 1 for mercury and less than 0.1 for lead and zinc. The limited area of contamination does not impact the soil invertebrate community as a whole.
- Field observations made during the site visit found no indication of ecological adverse effects from COPECs. The area in and around the outfall is on a steep slope/cliff, with 45- to 90-degree slopes and consists of unstable, highly weathered, fractured bedrock with approximately 20% soil, filling fractures and voids between rocks (Figures H-5.4-1 through H-5.4-5). Because the limited amount of soil, sparse vegetation, and the rocky landscape strongly affect the presence of soil invertebrates, particularly earthworms, the area has few, small, and intermittent places where these receptors could be present, if at all. For Consolidated Unit 21-026(a)-99, the mercury contamination is confined to a small area on the slope north of the former wastewater treatment plant. This area constitutes approximately 0.006 ha or 5% of the site area. The limited area of mercury contamination indicates the soil invertebrate community as a whole is not impacted.

These lines of evidence support the conclusion no potential ecological risk to the earthworm exists at the DP Site Aggregate Area.

Montane Shrew (Insectivore)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the shrew, were less than 0.3.
- The HIs were greater than 1 for the shrew at all sites.
- The HIs were adjusted by the PAUFs, which is the ratio of the site area to the shrew's population area. The adjusted HIs were less than 1 for all sites, except at SWMU 21-027(a) and AOC C-21-027.
- The HI analyses using the LOAEL-based ESL resulted in HIs greater than 1 at SWMU 21-027(a) and AOC C-21-027.
- The LOAEL-based ESL analyses adjusted by the PAUF resulted in HIs less than or equivalent to 1 at SWMU 21-027(a) and AOC C-21-027.

These lines of evidence support the conclusion that no potential ecological risk to the montane shrew exists at the DP Site Aggregate Area.

Deer Mouse (Omnivore)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the deer mouse, were less than 0.3.
- The HIs were greater 1 for the deer mouse at all sites.
- The HIs were adjusted by the PAUFs, which is the ratio of the site area to the deer mouse's population area. The adjusted HIs were less than 1 at all sites, except at SWMU 21-027(a) and AOC C-21-027.
- The HI analyses using the LOAEL-based ESL resulted in HIs greater than 1 at SWMU 21-027(a) and AOC C-21-027.
- The LOAEL-based ESL analyses adjusted by the PAUF resulted in HIs greater than 1 at SWMU 21-027(a) and AOC C-21-027.
- For SWMU 21-027(a), the potential risk to the deer mouse is biased high by the maximum 2,3,7,8-TCDD-equivalent concentration, which is approximately an order of magnitude higher than the next highest equivalent concentration. This concentration is located at the outfall below the edge of the mesa on a steep cliff, with 45- to 90-degree slopes consisting of unstable, highly weathered, fractured bedrock with approximately 15% soil, filling fractures and voids between rocks. The EPC without the maximum equivalent concentration is approximately 20% of the site EPC. The adjusted HI analysis using LOAEL-based ESL results in an HI less than 1 for the deer mouse for 90% of the site. The maximum equivalent concentration is located in a small area around the outfall (0.0056 ha). The adjusted HI analysis using LOAEL-based ESL results in an HI of approximately 1 for the deer mouse around the outfall.

  As noted in section H-5.4.7, the Laboratory has conducted small-mammal trapping and analysis of whole organisms as well as small-mammal community and population measurements at other Laboratory sites (Fresquez 2011, 262506; Fresquez et al. 2013, 262507). Concentrations in whole-body samples were well below the concentrations detected in the soil, had fewer congeners detected than in the soil samples, and were below the deer mouse ESL for 2,3,7,8-TCDD. The dioxin and furan data are similar to other dioxin/furan field-mouse uptake studies (Krouskop and Ayers 1991, 262513). No adverse effects were found on local small-mammal populations based on species richness, capture rate, species diversity, sex ratios, and adult body weights (Bennett and

Robinson 2011, 262508; Fresquez et al. 2013, 262507).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, 262512). EPA reported that the relative bioavailability of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofuran congeners in soil is less than 100% compared with a lipid or organic solvent vehicle as the reference material (http://epa.gov/superfund/health/contaminants/dioxin/pdfs/Final_dioxin_RBA_Report_12_20_10.pdf). As discussed in section H-5.4.7, abiotic constituents, compound aging, and other associated soil factors may influence 2,3,7,8-TCDD 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, 262512). This condition is supported by the low uptake and lack of impacts to biota at sites 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. Because the low bioavailability of dioxins and furans in soil mitigates the toxicity and potential impacts to biota, the dioxins and furans at this SWMU do not present a potential risk to small mammals.

- For AOC C-21-027, the deer mouse HI is based on the maximum equivalent concentration of 2,3,7,8-TCDD. However, the maximum concentration overestimates the exposure and potential risk to receptors. Because ProUCL can calculate 95% UCLs using the available data, which are more representative than the maximum concentration, the 95% UCLs provided by ProUCL were included in the uncertainty analysis. The adjusted HI analysis using the 95% UCLs and the LOAEL-based ESL results in HIs of approximately 1 or less for the deer mouse (section H-5.4.7).

These lines of evidence support the conclusion that no potential ecological risk to the deer mouse exists at the DP Site Aggregate Area.

Desert Cottontail (Herbivore)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the cottontail, were less than 0.3.
- The HIs were equivalent to or greater than 1 for the cottontail at all sites, except SWMU 21-024(k) where the HI was less than 1.
- The HIs were adjusted by the PAUFs, which is the ratio of the site area to the cottontail's population area. The adjusted HIs were less than 1 for all sites.

These lines of evidence support the conclusion that no potential ecological risk to the cottontail exists at the DP Site Aggregate Area.

Red Fox (Carnivore)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the fox, were less than 0.3.
- The HIs were greater than 1 for the red fox at SWMU 21-027(a) and AOC C-21-027. The HIs were less than 1 for all other sites
- The HIs were adjusted by the PAUFs, which is the ratio of the site area to the red fox's population area. The adjusted HIs were less than 1 for all sites.

These lines of evidence support the conclusion that no potential ecological risk to the red fox exists at the DP Site Aggregate Area.

Robin (All Feeding Guilds)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the robin, were less than 0.3.
- The HIs were greater than 1 for the robin (all feeding guilds) at all sites.
- The HIs were adjusted by the PAUFs, which is the ratio of the site area to the robin's population area. The adjusted HIs were less than 1 at all sites, except at Consolidated Unit 21-003-99 and SWMU 21-024(c) for the insectivore feeding guild and Consolidated Unit 21-026(a)-99 for the insectivore and omnivore feeding guilds.
- The LOAEL-based ESL analyses adjusted by the PAUFs resulted in HIs less than 1 for the robin (insectivore and omnivore) at Consolidated Unit 21-003-99 and SWMU 21-024(c) and Consolidated Unit 21-026(a)-99.

These lines of evidence support the conclusion that no potential ecological risk to the robin (all feeding guilds) exists at the DP Site Aggregate Area.

Kestrel (Intermediate Carnivore)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the kestrel (intermediate carnivore), were less than 0.3.
- The HIs were greater than 1 for the kestrel (intermediate carnivore) at all sites.
- The HIs were adjusted by the PAUFs, which is the ratio of the site area to the kestrel's population area. The adjusted HIs were less than 1 for all sites.

These lines of evidence support the conclusion that no potential ecological risk to the kestrel (intermediate carnivore) exists at the DP Site Aggregate Area.

Kestrel (Top Carnivore)

- Initial screening using the minimum ESLs eliminated a number of COPECs because the HQs for all of the receptors, including the kestrel (top carnivore), were less than 0.3.
- The HIs were greater than or equivalent to 1 for the kestrel (top carnivore) at all sites, except at Consolidated Unit 21-024(l)-99 and SWMU 21-024(n), which had HIs less than 1.
- The HIs were adjusted by the PAUFs, which is the ratio of the site area to the kestrel's population area. The adjusted HIs were less than 1 for all sites.
- The kestrel (top carnivore) is a surrogate for the Mexican spotted owl. The HIs were adjusted by the owl's AUFs. The adjusted HIs were less than 1 at all sites.

These lines of evidence support the conclusion that no potential ecological risks to the kestrel (top carnivore) and the Mexican spotted owl exist at the DP Site Aggregate Area.

H-5.5.2 COPECs without ESLs

COPECs without ESLs were not evaluated for each receptor. All COPECs without ESLs were eliminated based on comparisons to surrogate ESLs, human health SSLs, or RDAs for adults and children. The analysis of COPECs without ESLs supports the conclusion that no potential ecological risk to receptors exists at the DP Site Aggregate Area.

H-5.5.3 Summary

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to ecological receptors exist at the sites evaluated within the DP Site Aggregate Area.

H-6.0 CONCLUSIONS

H-6.1 Human Health Risk

The human health risks for Consolidated Unit 21-006(c)-99 and SWMUs 21-024(d) and 21-024(g) were not reassessed because the Phase III sampling results did not affect the EPCs and therefore the risk/dose screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H). Based on the risk/dose screening assessment results in the Phase II report, no potential unacceptable risks or doses exist for the industrial, construction worker, and residential scenarios at these sites.

Complete exposure pathways to receptors are not present at SWMU 21-022(j), which is part of Consolidated Unit 21-022(h)-99, where the potential contamination is deeper than 10.0 ft. Therefore, human health risk-screening assessments were not conducted for this SWMU.

The human health risk-screening assessments were conducted on the entire site for the remaining consolidated units, SWMUs, and AOC as well as on the mesa-top portion of the site for Consolidated Unit 21-026(a)-99, SWMUs 21-022(h), 21-024(b), and 21-027(a), and AOC C-21-027. These five sites were evaluated using this approach because the slope/cliff portions of the sites do not result in exposure to human receptors (LANL 2011, 203659; NMED 2011, 203825). The bases for the no exposure condition are (1) the areas are on a steep slope/cliff, with 45- to 90-degree slopes; (2) the areas consist of unstable, highly weathered, fractured bedrock with approximately 15% to 30% soil, filling fractures and voids between rocks; (3) there is no access to the slope/cliff portions of the sites; (4) there is no trail or path for someone to traverse if he or she were to gain access to the slope/cliff; and (5) there are major safety concerns regarding any activity on the slope/cliff because of the steepness, the unstable bedrock, and the lack of any trail. AOC C-21-027 is also included because it is adjacent to SWMU 21-027(a) and has the same access restrictions and safety concerns for human exposure (Plate 1).

Industrial Scenario: There are no potential unacceptable risks or doses under the industrial scenario for the sites evaluated in this appendix [Consolidated Unit 21-023(a)-99 was not evaluated because no samples from 0.0-1.0 ft bgs were collected]. Although the HI at SWMU 21-022(h) and the total excess cancer risks at Consolidated Unit 21-026(a)-99, SWMUs 21-022(h) and 21-027(a), and AOC C-21-027 were above the NMED target risk levels, the contamination resulting in the potential risks was on the slope/cliff portions of the sites where there is no exposure to a worker (LANL 2011, 203659; NMED 2011, 203825). Lead at one location (the outfall) and PAHs at SWMU 21-022(h), PAHs at two locations (at and around the outfall) at Consolidated Unit 21-026(a)-99, and dioxins and furans at one location each (the outfalls) at SWMU 21-027(a) and AOC C-21-027 were the cause of the elevated HI and cancer risks. Concentrations were several orders of magnitude higher around the outfalls than elsewhere within the sites. The mesa-top portions of each of these sites did not pose a potential unacceptable risk or dose

under the industrial scenario [the industrial scenario was not evaluated for SWMUs 21-022(h), 21-024(b), and 21-027(a) because there are no data from the 0.0–1.0 ft bgs depth interval on the mesa top].

Construction Worker Scenario: There are no potential unacceptable risks or doses under the construction worker scenario for the sites evaluated in this appendix. Although the HI at SWMU 21-027(a) was above the NMED target risk level, the contamination causing the potential risk was on the slope/cliff portion of the site where there is no exposure to a construction worker (LANL 2011, 203659; NMED 2011, 203825). Dioxins and furans at one location (the outfall) at SWMU 21-027(a) was the cause for the elevated HI. The entire sites, except for SWMU 21-027(a) and/or the mesa-top portions of sites when evaluated, did not pose a potential unacceptable risk or dose under the construction worker scenario.

Residential Scenario: There are potential unacceptable risks for the entire site under the residential scenario at six sites evaluated in this appendix [SWMU 21-022(h), Consolidated Unit 21-023(a)-99, Consolidated Unit 21-024(l)-99, Consolidated Unit 21-026(a)-99, SWMU 21-027(a), and AOC C-21-027]. These sites had total excess cancer risks above the NMED target risk level. The primary contributors to the elevated cancer risks were arsenic and PAHs at Consolidated Units 21-023(a)-99, 21-024(l)-99, 21-026(a)-99; PAHs at SWMU 21-022(h); and PAHs and dioxins/furans at SWMU 21-027(a) and AOC C-21-027. There is also a potential unacceptable risk from lead at SWMU 21-022(h) for the entire site. However, when only the mesa-top portions of SWMU 21-022(h), Consolidated Unit 21-026(a)-99, SWMU 21-027(a), and AOC C-21-027 are evaluated, there are no potential unacceptable risks under the residential scenario. The contamination causing the potential risks is on the slope/cliff portion of the sites where there is no exposure to a resident. There are no potential unacceptable risks at SWMU 21-024(b), both for the entire site and for the mesa-top portion only, and at Consolidated Unit 21-003-99 along with SWMUs 21-024(c), 21-024(k), and 21-024(n) for the entire site. No potential unacceptable doses exist under the residential scenario at any site.

The total doses were below or equivalent to the DOE target dose limit of 25 mrem/yr for all three scenarios at each site. The total doses were equivalent to total risks for the entire site ranging from 1×10^{-6} to 4×10^{-5}, based on a comparison with EPA's 2014 PRGs for radionuclides (http://epa-prgs.ornl.gov/radionuclides/download/rad_master_prg_table_pci.xls). The total doses were equivalent to total risks for only the mesa-top portions of sites ranging from 2×10^{-7} to 4×10^{-6}. The maximum potential doses/equivalent risks for the entire site were at SWMU 21-027(a) and AOC C-21-027 and were primarily from plutonium-239/240 (50% and 87%). However, the potential risks for the mesa-top portions of SWMU 21-027(a) and AOC C-21-027 were 1×10^{-5} and 4×10^{-6}, respectively.

Sites at TA-21 are not accessible by the public and are not planned for release by DOE in the foreseeable future. Therefore, an as low as reasonably achievable (ALARA) evaluation for radiological exposure to the public is not currently required. Should DOE's plans for releasing these areas change, an ALARA evaluation will be conducted at that time. It should be noted that the Laboratory addresses considerations for radiation exposures to workers under the Laboratory's occupational radiological protection program in compliance with 10 Code of Federal Regulations 835. The Laboratory's radiation protection program implements ALARA and consists of the following elements: management commitment, training, design review, radiological work review, performance assessments, and documentation.

As noted above, the steep slope/cliff portions of the sites do not result in exposure to human receptors for several reasons, including the steepness of the slope/cliff, the unstable surface, the lack of safe and reasonable access, and the absence of any trail. In addition, fencing is in place to restrict access to these areas. Workers are not and will not be exposed to these areas because of the protection systems required for access and the access restrictions in place and because work is not planned nor is being conducted in these areas. The TA-21 site on DP Mesa remains DOE property and is fenced and posted with signage, including along the mesa edge above Los Alamos Canyon with access roads fenced and

gated to prevent access to the eastern end of DP Mesa. Therefore, access to and the likelihood of human exposure to contamination on the steep slope/cliff portions of the sites at TA-21 are very low.

H-6.2 Ecological Risk

The ecological risks for Consolidated Unit 21-006(c)-99 and SWMUs 21-024(d) and 21-024(g) were not reassessed because the results of the Phase III sampling did not affect the EPCs and therefore the risk-screening results presented in the Phase II report (LANL 2010, 110772.33, Appendix H). Based on the risk-screening assessment results presented in the Phase II report, no potential ecological risk exists at any of these sites.

Complete exposure pathways to receptors are not present at SWMU 21-022(j), which is part of Consolidated Unit 21-022(h)-99, where the potential contamination is deeper than 10.0 ft. Therefore, an ecological risk-screening assessment was not conducted for this SWMU.

Based on evaluations of the minimum ESLs, HI analyses, potential effects to populations (individuals for T&E species), and LOAEL analyses, no potential ecological risks to the earthworm, plant, American robin, American kestrel, deer mouse, montane shrew, desert cottontail, red fox, and Mexican spotted owl exist at the DP Site Aggregate Area sites evaluated in this appendix.

H-7.0 REFERENCES

The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID or ESH ID. This information is also included in text citations. ER IDs were assigned by the Environmental Programs Directorate's Records Processing Facility (IDs through 599999), and ESH IDs are assigned by the Environment, Safety, and Health (ESH) Directorate (IDs 600000 and above). IDs are used to locate documents in the Laboratory's Electronic Document Management System and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the ESH Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

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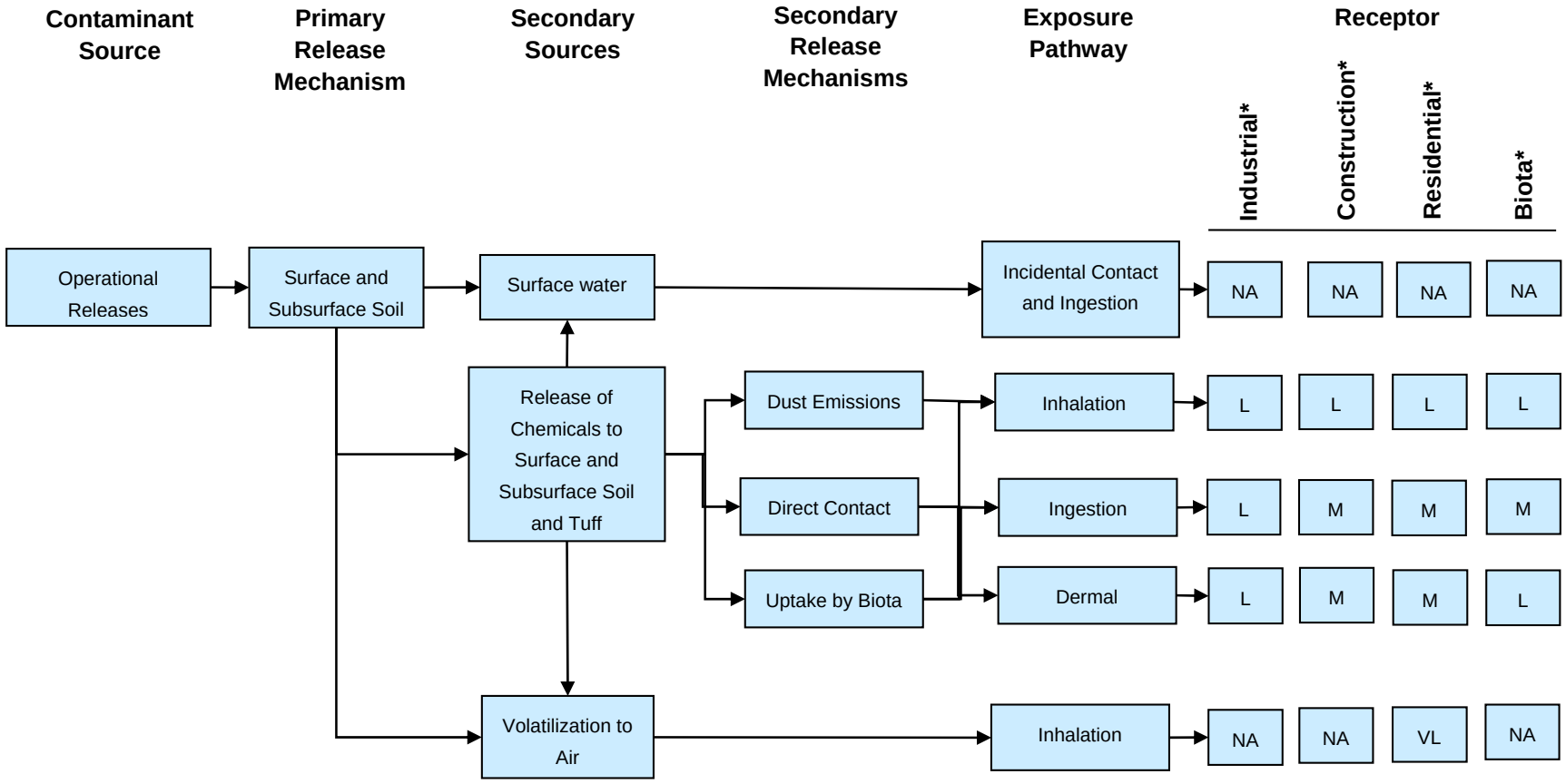
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* Very low (VL), low (L), and moderate (M) designations indicate the pathway is a potentially complete pathway and is evaluated in the risk assessments. Not applicable (NA) indicates the pathway is incomplete and is not evaluated in the risk assessments.

Figure H-3.1-1 Conceptual site model for DP Site Aggregate Area



Figure H-5.4-1 High aerial photograph of SWMU 21-022(h) outfall area (inside box)



Figure H-5.4-2 Slope/cliff face at the SWMU 21-022(h) outfall area (arrow)



Figure H-5.4-3 Slope/cliff face at the SWMU 21-022(h) outfall area (arrow) looking east



Figure H-5.4-4 Slope/cliff face at the SWMU 21-022(h) outfall area (arrow) looking west

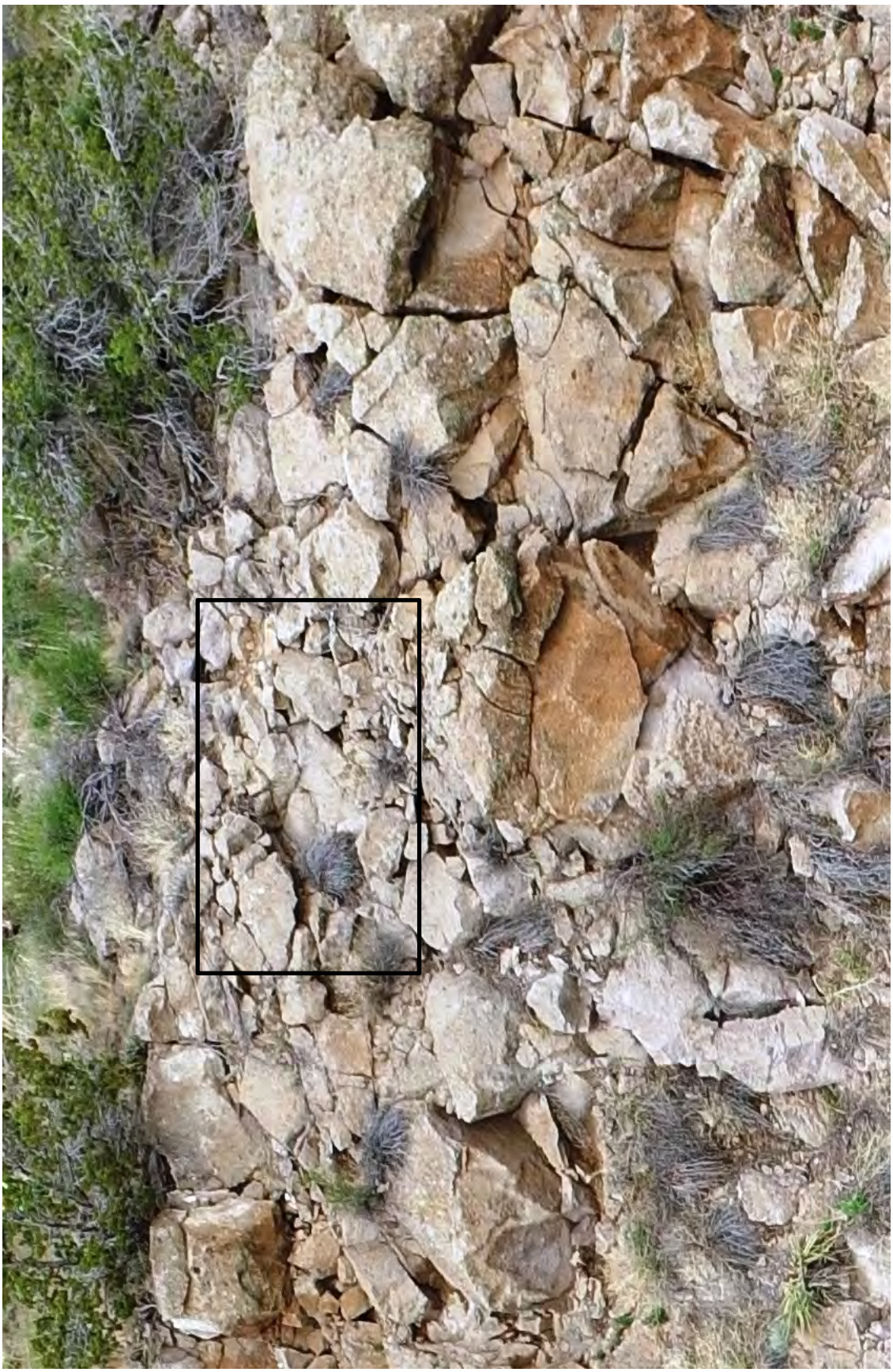


Figure H-5.4-5 Close up of slope/cliff face at the SWMU 21-022(h) outfall area (inside box)

Table H-2.3-1
EPCs for Consolidated Unit 21-003-99 and SWMU 21-024(c) for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Aluminum	71	71	557	30200	Nonparametric	12639	95% Chebyshev (Mean, Sd)
Arsenic	71	71	1.2	7.04	Normal	2.96	95% Student's-t
Barium	72	72	8.12	237	Normal	88.39	95% Student's-t
Beryllium	71	71	0.166	1.69	Gamma	0.694	95% Approximate gamma
Cadmium	71	43	0.108	1.15	Nonparametric	0.293	95% KM (Percentile Bootstrap)
Chromium	71	71	1.16	23.9	Gamma	9.488	95% Approximate gamma
Cobalt	71	70	0.262	4.34	Nonparametric	2.599	95% KM (t)
Copper	71	71	0.932	51.2	Gamma	9.858	95% Approximate gamma
Iron	71	71	2960	20000	Normal	9978	95% Student's-t
Lead	71	71	2.74	60.1	Gamma	16.3	95% Approximate gamma
Mercury	72	72	0.0035	3.77	Nonparametric	0.47	95% Chebyshev (Mean, Sd)
Nickel	65	65	2.19	11.4	Gamma	5.682	95% Approximate gamma
Nitrate	74	67	0.798	112	Nonparametric	15.77	95% KM (Chebyshev)
Perchlorate	71	25	0.000557	0.0038	Nonparametric	0.00125	95% KM (t)
Selenium	69	17	0.643	4.22	Nonparametric	1.219	95% KM (t)
Uranium	72	72	0.508	26.2	Nonparametric	4.486	95% Chebyshev (Mean, Sd)
Vanadium	71	71	1.07	30.1	Normal	15.36	95% Student's-t
Zinc	73	73	11.9	187	Nonparametric	60.14	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	71	3	0.0336 (U)	0.381	n/a[a]	0.381	Maximum detected concentration
Acetone	34	4	0.00353 (U)	0.146 (U)	n/a	0.0273[b]	Maximum detected concentration
Anthracene	71	2	0.00761	0.365 (U)	n/a	0.00863[b]	Maximum detected concentration
Aroclor-1242	254	2	0.00336	0.4 (U)	n/a	0.138[b]	Maximum detected concentration
Aroclor-1248	254	7	0.00336 (U)	0.4 (U)	Nonparametric	0.00979	95% KM (t)
Aroclor-1254	254	175	0.0017	0.59	Nonparametric	0.117	95% KM (BCA)

Table H-2.3-1 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Aroclor-1260	254	234	0.0019	0.95	Nonparametric	0.232	95% KM (Chebyshev)
Benzene	34	1	0.000662	0.00138 (U)	n/a	0.000662[b]	Maximum detected concentration
Benzo(a)anthracene	71	1	0.0336 (U)	0.365 (U)	n/a	0.0452[b]	Maximum detected concentration
Benzo(a)pyrene	71	2	0.0126	0.365 (U)	n/a	0.087[b]	Maximum detected concentration
Benzo(b)fluoranthene	71	1	0.0297	0.365 (U)	n/a	0.0297[b]	Maximum detected concentration
Benzoic acid	71	1	0.459	7.3 (U)	n/a	0.459[b]	Maximum detected concentration
Benzyl alcohol	71	1	0.232	3.65 (U)	n/a	0.232[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	71	1	0.168 (U)	1.82 (UJ)	n/a	0.231[b]	Maximum detected concentration
Butylbenzene[sec-]	34	2	0.000246	0.00138 (U)	n/a	0.000293[b]	Maximum detected concentration
Chrysene	71	5	0.0167	0.42	Nonparametric	0.037	95% KM (t)
Dichloroethene[1,1-]	34	6	0.000582	0.00138 (U)	Nonparametric	0.000908	95% KM (t)
Di-n-butylphthalate	71	1	0.0507	3.65 (U)	n/a	0.0507[b]	Maximum detected concentration
Ethylbenzene	34	4	0.000268	0.00248	n/a	0.00248	Maximum detected concentration
Fluoranthene	71	27	0.0154	0.905	Nonparametric	0.127	95% KM (t)
Isopropyltoluene[4-]	34	1	0.000465 (U)	0.0219	n/a	0.0219	Maximum detected concentration
Methylene chloride	34	2	0.00296	0.0132	n/a	0.0132	Maximum detected concentration
Phenanthrene	71	14	0.0105	0.365 (U)	Nonparametric	0.0234[b]	95% KM (t)
Pyrene	71	25	0.0111	0.753	Nonparametric	0.0576	95% KM (t)
Styrene	34	3	0.000326	0.00138 (U)	n/a	0.000538[b]	Maximum detected concentration
Tetrachloroethene	34	1	0.000978 (U)	0.00178	n/a	0.00178	Maximum detected concentration
Toluene	34	4	0.000365 (U)	0.007 (U)	n/a	0.00654[b]	Maximum detected concentration
Trichloroethene	34	6	0.000345	0.00381	Nonparametric	0.000926	95% KM (t)
Xylene[1,2-]	34	3	0.000309 (U)	0.00199	n/a	0.00199	Maximum detected concentration
Xylene[1,3-]+1,4-Xylene	34	5	0.000323 (U)	0.00682	Nonparametric	0.00121	95% KM (t)

Table H-2.3-1 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Radionuclides (pCi/g)							
Americium-241	71	34	-0.0433 (U)	0.386	Nonparametric	0.0577	95% KM (t)
Cesium-137	71	38	-0.0679 (U)	1.84	Nonparametric	0.338	95% KM (t)
Plutonium-238	71	14	-0.0573 (U)	0.0569	n/a	0.0569[c]	Maximum detected concentration
Plutonium-239/240	71	57	-0.046 (UJ)	3.53	Nonparametric	0.769	95% KM (Chebyshev)
Strontium-90	71	10	-0.0651 (U)	0.803	Nonparametric	0.0493	95% KM (Chebyshev)
Tritium	72	69	0.01078 (U)	1.59	Nonparametric	0.345	95% KM (Chebyshev)
Uranium-234	72	72	0.541	26.6	Nonparametric	3.611	95% Chebyshev (Mean, Sd)
Uranium-235/236	72	61	0.0152 (U)	2.29	Nonparametric	0.183	95% KM (BCA)
Uranium-238	72	72	0.489	14.4	Nonparametric	2.674	95% Chebyshev (Mean, Sd)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-2
EPCs for Consolidated Unit 21-003-99 and SWMU 21-024(c) for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Arsenic	124	124	0.75	7.04	Normal	2.803	95% Student's-t
Barium	125	125	2.71	237	Normal	80.97	95% Student's-t
Beryllium	124	124	0.117	2.29	Gamma	0.681	95% Approximate gamma
Cadmium	124	64	0.102	1.15	Nonparametric	0.26	95% KM (t)
Chromium	124	124	1.16	39.8	Nonparametric	11.63	95% Chebyshev (Mean, Sd)
Cobalt	125	120	0.222	22.3	Nonparametric	2.604	95% KM (BCA)
Copper	124	124	0.604	51.2	Gamma	8.05	95% Approximate gamma
Lead	124	124	1.64	60.1	Gamma	13.69	95% Approximate gamma
Mercury	125	123	0.0033	3.77	Nonparametric	0.32	95% KM (Chebyshev)
Nickel	114	114	0.541	16.3	Gamma	5.662	95% Approximate gamma
Selenium	116	26	0.643	4.22	Nonparametric	1.12	95% KM (t)
Uranium	125	125	0.402	26.2	Nonparametric	3.197	95% Chebyshev (Mean, Sd)
Vanadium	124	124	1.07	31.8	Normal	13.53	95% Student's-t
Zinc	126	126	9.79	187	Nonparametric	49.43	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	124	3	0.0336 (U)	0.381	n/a[a]	0.381	Maximum detected concentration
Acetone	88	8	0.00312 (U)	0.146 (U)	Nonparametric	0.00525	95% KM (t)
Anthracene	124	4	0.00737	0.365 (U)	n/a	0.0196[b]	Maximum detected concentration
Aroclor-1016	473	1	0.00336 (U)	0.43	n/a	0.43	Maximum detected concentration
Aroclor-1242	473	6	0.00336	0.4 (U)	Nonparametric	0.00558	95% KM (t)
Aroclor-1248	473	15	0.00336 (U)	0.4 (U)	Nonparametric	0.00852	95% KM (t)
Aroclor-1254	473	321	0.0017	0.59	Nonparametric	0.102	95% KM (Percentile Bootstrap)
Aroclor-1260	473	418	0.0019	0.95	Nonparametric	0.193	95% KM (Chebyshev)
Benzene	88	1	0.000662	0.00139 (U)	n/a	0.000662[b]	Maximum detected concentration
Benzo(a)anthracene	124	2	0.0108	0.365 (U)	n/a	0.0452[b]	Maximum detected concentration

Table H-2.3-2 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Benzo(a)pyrene	124	3	0.0126	0.365 (U)	n/a	0.087[b]	Maximum detected concentration
Benzo(b)fluoranthene	124	4	0.026	0.365 (U)	n/a	0.0439[b]	Maximum detected concentration
Benzo(k)fluoranthene	124	1	0.0317	0.365 (U)	n/a	0.0317[b]	Maximum detected concentration
Benzoic acid	124	1	0.459	7.3 (U)	n/a	0.459[b]	Maximum detected concentration
Benzyl alcohol	124	1	0.232	3.65 (U)	n/a	0.232[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	124	2	0.168 (U)	1.82 (UJ)	n/a	0.232[b]	Maximum detected concentration
Chlorobenzene	88	2	0.000394	0.00139 (U)	n/a	0.000443[b]	Maximum detected concentration
Chrysene	124	7	0.0167	0.42	Nonparametric	0.0346	95% KM (BCA)
Dichlorobenzene[1,4-]	88	3	0.000957 (U)	0.0248	n/a	0.0248	Maximum detected concentration
Dichloroethene[1,1-]	88	8	0.000411	0.00139 (U)	Nonparametric	0.000822	95% KM (t)
Di-n-butylphthalate	124	2	0.0507	3.65 (U)	n/a	0.0579[b]	Maximum detected concentration
Fluoranthene	124	38	0.0112	0.905	Nonparametric	0.0897	95% KM (BCA)
Methylene chloride	88	4	0.00296	0.0132	n/a	0.0132	Maximum detected concentration
Phenanthrene	124	16	0.0105	0.365 (U)	Nonparametric	0.0225	95% KM (t)
Pyrene	124	33	0.0111	0.753	Nonparametric	0.0438	95% KM (t)
Styrene	88	5	0.000326	0.00139 (U)	Nonparametric	0.000548	95% KM (t)
Tetrachloroethene	88	1	0.000957 (U)	0.00178	n/a	0.00178	Maximum detected concentration
Toluene	88	13	0.000298 (U)	0.0159	Nonparametric	0.00125	95% KM (t)
Trichloroethene	88	10	0.000345 (J)	0.0496	Nonparametric	0.00497	95% KM (Chebyshev)
TCDD[2,3,7,8-] equivalent	1	1	6.11E-08	6.11E-08	n/a	6.11E-08	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	124	39	-0.0433 (U)	0.386	Nonparametric	0.0204	95% KM (t)
Cesium-137	125	49	-0.0679 (U)	1.84	Nonparametric	0.278	95% KM (Chebyshev)
Plutonium-238	124	15	-0.0573 (U)	0.0569	n/a	0.0569[c]	Maximum detected concentration
Plutonium-239/240	124	92	-0.046 (UJ)	3.53	Nonparametric	0.488	95% KM (Chebyshev)
Strontium-90	124	10	-0.0846 (U)	0.803	n/a	0.803[c]	Maximum detected concentration

Table H-2.3-2 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Tritium	126	122	-1.88 (U)	1.696	Nonparametric	0.316	95% KM (Chebyshev)
Uranium-234	125	125	0.541	26.6	Nonparametric	2.603	95% Chebyshev (Mean, Sd)
Uranium-235/236	125	104	0.0152 (U)	2.29	Nonparametric	0.141	95% KM (BCA)
Uranium-238	125	125	0.489	14.4	Normal	1.647	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-3
EPCs for Consolidated Unit 21-003-99 and SWMU 21-024(c) for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Aluminum	126	126	491	34400	Nonparametric	11375	95% Chebyshev (Mean, Sd)
Arsenic	127	127	0.75	7.04	Normal	2.778	95% Student's-t
Barium	127	127	2.71	237	Nonparametric	91.25	95% Chebyshev (Mean, Sd)
Beryllium	126	126	0.117	2.29	Gamma	0.675	95% Approximate gamma
Cadmium	126	65	0.102	1.15	Nonparametric	0.263	95% KM (t)
Chromium	128	128	1.16	39.8	Nonparametric	12.2	95% Chebyshev (Mean, Sd)
Cobalt	130	125	0.222	22.3	Nonparametric	2.591	95% KM (BCA)
Copper	126	126	0.604	51.2	Gamma	8.034	95% Approximate gamma
Iron	126	126	1310	21600	Normal	9273	95% Student's-t
Lead	127	127	1.64	60.1	Gamma	13.57	95% Approximate gamma
Mercury	127	125	0.0033	3.77	Nonparametric	0.335	95% KM (Chebyshev)
Nickel	116	116	0.541	16.3	Gamma	5.733	95% Approximate gamma
Nitrate	128	108	0.535	112	Nonparametric	10.25	95% KM (Chebyshev)
Perchlorate	125	45	0.000557	0.0038	Nonparametric	0.00119	95% KM (t)
Selenium	118	26	0.51 (U)	4.22	Nonparametric	1.1	95% KM (t)
Silver	127	93	0.0412	1.1 (U)	Nonparametric	0.0891	95% KM (BCA)
Uranium	127	127	0.402	26.2	Nonparametric	3.263	95% Chebyshev (Mean, Sd)
Vanadium	126	126	1.07	31.8	Normal	13.42	95% Student's-t
Zinc	129	129	9.2	187	Nonparametric	49.18	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	125	3	0.0336 (U)	0.381	n/a[a]	0.381	Maximum detected concentration
Acetone	89	8	0.00312 (U)	0.146 (U)	Nonparametric	0.00523	95% KM (t)
Anthracene	125	4	0.00737	0.365 (U)	n/a	0.0196[b]	Maximum detected concentration
Aroclor-1016	483	1	0.00336 (U)	0.43	n/a	0.43	Maximum detected concentration
Aroclor-1242	483	6	0.00336	0.4 (U)	Nonparametric	0.00553	95% KM (t)

Table H-2.3-3 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Aroclor-1248	483	16	0.00336 (U)	0.4 (U)	Nonparametric	0.00841	95% KM (t)
Aroclor-1254	483	331	0.0017	0.59	Nonparametric	0.101	95% KM (Percentile Bootstrap)
Aroclor-1260	483	428	0.0019	0.95	Nonparametric	0.192	95% KM (Chebyshev)
Benzene	89	1	0.000662	0.00139 (U)	n/a	0.000662[b]	Maximum detected concentration
Benzo(a)anthracene	125	2	0.0108	0.365 (U)	n/a	0.0452[b]	Maximum detected concentration
Benzo(a)pyrene	125	3	0.0126	0.365 (U)	n/a	0.087[b]	Maximum detected concentration
Benzo(b)fluoranthene	125	4	0.026	0.365 (U)	n/a	0.0439[b]	Maximum detected concentration
Benzo(k)fluoranthene	125	1	0.0317	0.365 (U)	n/a	0.0317[b]	Maximum detected concentration
Benzoic acid	125	1	0.459	7.3 (U)	n/a	0.459[b]	Maximum detected concentration
Benzyl alcohol	125	1	0.232	3.65 (U)	n/a	0.232[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	125	2	0.168 (U)	1.82 (UJ)	n/a	0.232[b]	Maximum detected concentration
Butylbenzene[sec-]	89	4	0.000245	0.00139 (U)	n/a	0.000485[b]	Maximum detected concentration
Chlorobenzene	89	2	0.000394	0.00139 (U)	n/a	0.000443[b]	Maximum detected concentration
Chrysene	125	7	0.0167	0.42	Nonparametric	0.035	95% KM (BCA)
Dichlorobenzene[1,4-]	89	4	0.000957 (U)	0.0248	n/a	0.0248	Maximum detected concentration
Dichloroethene[1,1-]	89	8	0.000411	0.00139 (U)	Nonparametric	0.000821	95% KM (t)
Di-n-butylphthalate	125	2	0.0507	3.65 (U)	n/a	0.0579[b]	Maximum detected concentration
Ethylbenzene	89	6	0.000257 (U)	0.00248	Nonparametric	0.000412	95% KM (t)
Fluoranthene	125	39	0.0112	0.905	Nonparametric	0.0925	95% KM (BCA)
Isopropyltoluene[4-]	89	5	0.000465 (U)	0.0219	Nonparametric	0.00167	95% KM (t)
Methylene chloride	89	4	0.00296	0.0132	n/a	0.0132	Maximum detected concentration
Phenanthrene	125	16	0.0105	0.365 (U)	Nonparametric	0.0225	95% KM (t)
Pyrene	125	34	0.0111	0.753	Nonparametric	0.0435	95% KM (t)
Styrene	89	5	0.000326	0.00139 (U)	Nonparametric	0.000548	95% KM (t)
Tetrachloroethene	90	1	0.000957 (U)	0.0053 (U)	n/a	0.00178[b]	Maximum detected concentration
Toluene	89	14	0.000298 (U)	0.0159	Nonparametric	0.00129	95% KM (t)

Table H-2.3-3 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Trichloroethene	89	11	0.000345	0.0496	Nonparametric	0.00305	95% KM (t)
TCDD[2,3,7,8-] equivalent	1	1	6.11E-08	6.11E-08	n/a	6.11E-08	Maximum detected concentration
Xylene[1,2-]	89	4	0.000241 (U)	0.00199	n/a	0.00199	Maximum detected concentration
Xylene[1,3-]+1,4-Xylene	89	8	0.000297 (U)	0.00682	Nonparametric	0.000795	95% KM (t)
Radionuclides (pCi/g)							
Americium-241	125	39	-0.0433 (U)	0.386	Nonparametric	0.0199	95% KM (t)
Cesium-137	126	49	-0.0679 (U)	1.84	Nonparametric	0.278	95% KM (Chebyshev)
Plutonium-238	125	15	-0.0573 (U)	0.0569	n/a	0.0569[c]	Maximum detected concentration
Plutonium-239/240	125	93	-0.046 (UJ)	3.53	Nonparametric	0.486	95% KM (Chebyshev)
Strontium-90	125	10	-0.0846 (U)	0.803	n/a	0.803[c]	Maximum detected concentration
Tritium	127	123	-1.88 (U)	1.696	Nonparametric	0.314	95% KM (Chebyshev)
Uranium-234	126	126	0.541	26.6	Nonparametric	2.622	95% Chebyshev (Mean, Sd)
Uranium-235/236	126	105	0.0152 (U)	2.29	Nonparametric	0.143	95% KM (BCA)
Uranium-238	126	126	0.489	14.4	Normal	1.66	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-4
EPCs for SWMU 21-022(h) for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	12	10	0.056	0.52 (UJ)	Nonparametric	0.222	95% KM (t)
Cadmium	12	12	0.048	6	Gamma	2.717	95% Adjusted gamma
Chromium	12	12	0.49	356	Nonparametric	163.4	95% Chebyshev (Mean, Sd)
Copper	7	7	1.1	249	n/a[a]	249	Maximum detected concentration
Cyanide (Total)	12	6	0.12	0.54 (U)	Nonparametric	0.277	95% KM (t)
Lead	12	12	6.5	3940	Nonparametric	1783	95% Chebyshev (Mean, Sd)
Mercury	12	10	0.0278	1.92	Nonparametric	1.195	95% KM (Chebyshev)
Molybdenum	14	14	0.18	21.3	Normal	10.68	95% Student's-t
Nitrate	14	14	0.88	72	Nonparametric	41.38	95% Chebyshev (Mean, Sd)
Perchlorate	13	2	0.00221 (U)	0.015	n/a	0.015	Maximum detected concentration
Selenium	12	6	0.17	8.11 (U)	Nonparametric	0.483	95% KM (t)
Silver	12	12	0.032	47.3	Nonparametric	21.38	95% Chebyshev (Mean, Sd)
Zinc	7	7	15	1200	n/a	1200	Maximum detected concentration
Organic Chemicals (mg/kg)							
Acenaphthene	13	4	0.0387 (U)	2	n/a	2	Maximum detected concentration
Anthracene	13	4	0.0387 (U)	2.3	n/a	2.3	Maximum detected concentration
Benzo(a)anthracene	13	4	0.0387 (U)	5.5	n/a	5.5	Maximum detected concentration
Benzo(a)pyrene	13	5	0.0585	5.9	Nonparametric	1.773	95% KM (t)
Benzo(b)fluoranthene	13	8	0.0592	7.5	Nonparametric	2.407	95% KM (t)
Benzo(g,h,i)perylene	13	4	0.0387 (UJ)	6.4	n/a	6.4	Maximum detected concentration
Benzo(k)fluoranthene	13	5	0.0283	2.7	Nonparametric	0.951	95% KM (t)
Bis(2-ethylhexyl)phthalate	13	5	0.14	7.9	Nonparametric	2.357	95% KM (t)
Butylbenzylphthalate	13	2	0.15	3.67 (U)	n/a	0.51[b]	Maximum detected concentration
Chrysene	13	6	0.0387 (U)	6.1	Nonparametric	2.007	95% KM (t)
Dibenz(a,h)anthracene	13	3	0.12 (J)	0.87 (J)	n/a	0.87	Maximum detected concentration

Table H-2.3-4 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Dibenzofuran	13	2	0.34 (U)	3.67 (U)	n/a	1.1[b]	Maximum detected concentration
Di-n-butylphthalate	13	2	0.26	3.67 (U)	n/a	0.35[b]	Maximum detected concentration
Fluoranthene	13	9	0.11	14	Nonparametric	4.45	95% KM (t)
Fluorene	13	4	0.0387 (U)	1.6	n/a	1.6	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	13	3	0.0387 (UJ)	5	n/a	5	Maximum detected concentration
Methylnaphthalene[2-]	13	3	0.0387 (U)	0.74 (U)	n/a	0.51[b]	Maximum detected concentration
Naphthalene	13	3	0.0387 (U)	1.7	n/a	1.7	Maximum detected concentration
Phenanthrene	13	6	0.0821	12	Nonparametric	3.792	95% KM (t)
Pyrene	13	9	0.1	19	Nonparametric	5.845	95% KM (t)
Radionuclides (pCi/g)							
Americium-241	12	8	0.0033 (U)	4.64	Nonparametric	2.04	95% KM (t)
Cesium-137	12	12	0.149	1.16	Gamma	0.693	95% Adjusted gamma
Plutonium-238	13	9	-0.0009 (U)	42.2	Nonparametric	11.99	95% KM (BCA)
Plutonium-239/240	13	13	0.068	78.1	Gamma	35.51	95% Adjusted gamma
Strontium-90	12	2	-0.0622 (U)	0.377	n/a	0.377	Maximum detected concentration
Tritium	12	1	-0.008 (U)	0.1175 (U)	n/a	0.0344[b]	Maximum detected concentration
Uranium-235/236	12	8	0.031 (U)	0.114	Nonparametric	0.088	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-5
EPCs for SWMU 21-022(h) for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	26	14	0.056	0.62 (UJ)	Nonparametric	0.184	95% KM (t)
Barium	30	30	2.1	136	Gamma	65.54	95% Adjusted gamma
Cadmium	26	24	0.0061	6	Nonparametric	1.594	95% KM (Chebyshev)
Chromium	26	26	0.49	356	Lognormal	26.89	95% Chebyshev (MVUE)
Copper	16	16	0.41	249	Nonparametric	93.45	95% Chebyshev (Mean, Sd)
Cyanide (Total)	26	8	0.11	0.6 (UJ)	Nonparametric	0.231	95% KM (t)
Lead	26	26	2.3	3940	Nonparametric	831.1	95% Chebyshev (Mean, Sd)
Mercury	26	20	0.0121	1.92	Nonparametric	0.606	95% KM (Chebyshev)
Molybdenum	28	28	0.15	21.3	Gamma	7.802	95% Adjusted gamma
Nickel	26	26	0.5	14.9	Gamma	5.633	95% Adjusted gamma
Selenium	26	13	0.14	8.11 (U)	Nonparametric	0.407	95% KM (t)
Silver	26	24	0.022	47.3	Nonparametric	9.965	95% KM (Chebyshev)
Zinc	16	16	6.7	1200	Nonparametric	422.3	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	28	6	0.0202	2	Nonparametric	0.313	95% KM (t)
Anthracene	28	6	0.0287	2.3	Nonparametric	0.408	95% KM (t)
Aroclor-1254	1	1	0.0478	0.0478	n/a[a]	0.0478	Maximum detected concentration
Aroclor-1260	1	1	0.0211 (J)	0.0211 (J)	n/a	0.0211	Maximum detected concentration
Benzo(a)anthracene	28	8	0.0152	5.5	Nonparametric	0.873	95% KM (t)
Benzo(a)pyrene	28	7	0.0137 (U)	5.9	Nonparametric	0.836	95% KM (t)
Benzo(b)fluoranthene	28	12	0.0161	7.5	Nonparametric	1.181	95% KM (t)
Benzo(g,h,i)perylene	28	6	0.0349 (UJ)	6.4	Nonparametric	0.925	95% KM (t)
Benzo(k)fluoranthene	28	6	0.0283	2.7	Nonparametric	0.461	95% KM (t)
Bis(2-ethylhexyl)phthalate	28	11	0.0963	7.9	Nonparametric	1.171	95% KM (t)
Butylbenzylphthalate	28	2	0.15	3.67 (U)	n/a	0.51[b]	Maximum detected concentration

Table H-2.3-5 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Chrysene	28	10	0.0124	6.1	Nonparametric	0.972	95% KM (t)
Dibenz(a,h)anthracene	28	3	0.0349 (U)	0.87	n/a	0.87	Maximum detected concentration
Dibenzofuran	28	2	0.34 (U)	3.67 (U)	n/a	1.1[b]	Maximum detected concentration
Diethylphthalate	28	1	0.113 (J)	3.67 (U)	n/a	0.113[b]	Maximum detected concentration
Di-n-butylphthalate	28	2	0.26	3.67 (U)	n/a	0.35[b]	Maximum detected concentration
Fluoranthene	28	16	0.0165	14	Nonparametric	3.676	95% KM (Chebyshev)
Fluorene	28	6	0.0161	1.6	Nonparametric	0.257	95% KM (t)
Indeno(1,2,3-cd)pyrene	28	4	0.0349 (UJ)	5	n/a	5	Maximum detected concentration
Methylene chloride	14	1	0.0033	0.0061 (U)	n/a	0.0033[b]	Maximum detected concentration
Methylnaphthalene[2-]	28	3	0.0349 (U)	0.81 (U)	n/a	0.51[b]	Maximum detected concentration
Naphthalene	39	4	0.0051 (U)	1.7	n/a	1.7	Maximum detected concentration
Phenanthrene	28	10	0.0185	12	Nonparametric	1.825	95% KM (t)
Pyrene	28	14	0.014	19	Nonparametric	4.866	95% KM (Chebyshev)
TCDD[2,3,7,8-] equivalent	1	1	7.94E-07	7.94E-07	n/a	7.94E-07	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	26	14	0.0032 (U)	4.64	Nonparametric	1.044	95% KM (BCA)
Cesium-137	26	13	-0.07 (U)	1.16	Nonparametric	0.311	95% KM (t)
Plutonium-238	28	17	-0.0038 (U)	42.2	Nonparametric	10.26	95% KM (Chebyshev)
Plutonium-239/240	28	24	0.0011 (U)	78.1	Nonparametric	18.39	95% KM (Chebyshev)
Strontium-90	26	3	-0.0808 (U)	0.377	n/a	0.377	Maximum detected concentration
Tritium	26	1	-0.018 (U)	0.118 (U)	n/a	0.0344[b]	Maximum detected concentration
Uranium-235/236	26	13	0.01 (U)	0.128	Nonparametric	0.0634	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-6
EPCs for SWMU 21-022(h) for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Aluminum	28	28	400	15500	Gamma	5390	95% Adjusted gamma
Antimony	28	14	0.056	0.62 (UJ)	Nonparametric	0.179	95% KM (t)
Barium	33	33	2.1	136	Gamma	65.24	95% Adjusted gamma
Cadmium	28	24	0.0061	6	Nonparametric	1.495	95% KM (Chebyshev)
Chromium	28	28	0.49	356	Lognormal	29.29	95% Chebyshev (MVUE)
Copper	18	18	0.41	249	Nonparametric	84.25	95% Chebyshev (Mean, Sd)
Cyanide (Total)	28	8	0.11	0.6 (UJ)	Nonparametric	0.227	95% KM (t)
Lead	28	28	2.3	3940	Nonparametric	772.9	95% Chebyshev (Mean, Sd)
Mercury	28	22	0.0121	1.92	Nonparametric	0.569	95% KM (Chebyshev)
Molybdenum	30	30	0.15	21.3	Nonparametric	9.257	95% Chebyshev (Mean, Sd)
Nickel	28	28	0.5	14.9	Gamma	5.616	95% Adjusted gamma
Nitrate	30	23	0.21 (U)	72	Nonparametric	22.57	95% KM (Chebyshev)
Perchlorate	29	3	0.00208 (U)	0.015	n/a[a]	0.015	Maximum detected concentration
Selenium	28	14	0.14	8.11 (U)	Nonparametric	0.45	95% KM (t)
Silver	28	26	0.022	47.3	Nonparametric	9.526	95% KM (Chebyshev)
Zinc	18	18	6.7	1200	Nonparametric	381.1	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	30	7	0.0202	2	Normal	0.297	95% KM (t)
Anthracene	30	7	0.0287	2.3	Normal	0.388	95% KM (t)
Aroclor-1254	1	1	0.0478	0.0478	n/a	0.0478	Maximum detected concentration
Aroclor-1260	1	1	0.0211 (J)	0.0211 (J)	n/a	0.0211	Maximum detected concentration
Benzo(a)anthracene	30	10	0.0152	5.5	Nonparametric	0.833	95% KM (t)
Benzo(a)pyrene	30	7	0.0137 (U)	5.9	Nonparametric	0.777	95% KM (t)
Benzo(b)fluoranthene	30	14	0.0161	7.5	Nonparametric	1.11	95% KM (t)

Table H-2.3-6 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Benzo(g,h,i)perylene	30	7	0.0349 (UJ)	6.4	Nonparametric	0.88	95% KM (t)
Benzo(k)fluoranthene	30	7	0.0283	2.7	Nonparametric	0.444	95% KM (t)
Bis(2-ethylhexyl)phthalate	30	12	0.0963	7.9	Nonparametric	1.108	95% KM (t)
Butylbenzylphthalate	30	2	0.15	3.67 (U)	n/a	0.51[b]	Maximum detected concentration
Chrysene	30	12	0.0124	6.1	Nonparametric	0.924	95% KM (t)
Dibenz(a,h)anthracene	30	3	0.0349 (U)	0.87	n/a	0.87	Maximum detected concentration
Dibenzofuran	30	2	0.34 (U)	3.67 (U)	n/a	1.1[b]	Maximum detected concentration
Diethylphthalate	30	1	0.113 (J)	3.67 (U)	n/a	0.113[b]	Maximum detected concentration
Di-n-butylphthalate	30	2	0.26	3.67 (U)	n/a	0.35[b]	Maximum detected concentration
Fluoranthene	30	18	0.0165	14	Nonparametric	3.457	95% KM (Chebyshev)
Fluorene	30	7	0.0161	1.6	Nonparametric	0.245	95% KM (t)
Indeno(1,2,3-cd)pyrene	30	5	0.0349 (UJ)	5	Nonparametric	0.714	95% KM (t)
Isopropyltoluene[4-]	16	1	0.00105 (U)	0.0061 (U)	n/a	0.0019[b]	Maximum detected concentration
Methylene chloride	16	2	0.00263	0.0061 (U)	n/a	0.0033[b]	Maximum detected concentration
Methylnaphthalene[2-]	30	4	0.0296 (J)	0.81 (U)	n/a	0.51[b]	Maximum detected concentration
Naphthalene	41	5	0.0051 (U)	1.7	Nonparametric	0.159	95% KM (t)
Phenanthrene	30	12	0.0185	12	Nonparametric	1.717	95% KM (t)
Pyrene	30	16	0.014	19	Nonparametric	4.56	95% KM (Chebyshev)
TCDD[2,3,7,8-] equivalent	1	1	7.94E-07	7.94E-07	n/a	7.94E-07	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	28	15	0.0032 (U)	4.64	Nonparametric	0.974	95% KM (BCA)
Cesium-137	28	13	-0.07 (U)	1.16	Nonparametric	0.286	95% KM (t)
Plutonium-238	30	18	-0.0038 (U)	42.2	Nonparametric	9.601	95% KM (Chebyshev)
Plutonium-239/240	30	26	0.0011 (U)	78.1	Nonparametric	17.23	95% KM (Chebyshev)
Strontium-90	28	3	-0.0808 (U)	0.377	n/a	0.377	Maximum detected concentration

Table H-2.3-6 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Tritium	28	2	-0.018 (U)	0.1175 (U)	n/a	0.0545[b]	Maximum detected concentration
Uranium-235/236	28	15	0.01 (U)	0.128	Nonparametric	0.0641	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-7
EPCs for SWMU 21-022(h) Mesa Top 0.0–10.0 ft for Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Aluminum	3	3	2060	10200	n/a*	10200	Maximum detected concentration
Barium	3	3	14.8	49.3	n/a	49.3	Maximum detected concentration
Cadmium	3	1	0.256(J)	0.557(U)	n/a	0.256	Maximum detected concentration
Chromium	3	3	3.14	14.8	n/a	14.8	Maximum detected concentration
Copper	3	3	2.78	47.7	n/a	47.7	Maximum detected concentration
Lead	3	3	3.27	21.8	n/a	21.8	Maximum detected concentration
Mercury	3	3	0.0147(J+)	0.108(J+)	n/a	0.108	Maximum detected concentration
Molybdenum	3	3	0.996	1.57	n/a	1.57	Maximum detected concentration
Nitrate	3	2	1.04(U)	1.77	n/a	1.77	Maximum detected concentration
Selenium	3	1	0.866(J)	1.67(U)	n/a	0.866	Maximum detected concentration
Zinc	3	3	38.1(J)	104(J)	n/a	104	Maximum detected concentration
Organic Chemicals (mg/kg)							
Acenaphthene	3	1	0.0202(J)	0.0376(U)	n/a	0.0202	Maximum detected concentration
Anthracene	3	1	0.0287(J)	0.0376(U)	n/a	0.0287	Maximum detected concentration
Benzo(a)anthracene	3	3	0.0152(J)	0.0665	n/a	0.0665	Maximum detected concentration
Benzo(a)pyrene	3	1	0.0137(U)	0.0711	n/a	0.0711	Maximum detected concentration
Benzo(b)fluoranthene	3	3	0.0161(J)	0.0898	n/a	0.0898	Maximum detected concentration
Benzo(g,h,i)perylene	3	1	0.0349(U)	0.0464(J)	n/a	0.0464	Maximum detected concentration
Benzo(k)fluoranthene	3	1	0.0349(U)	0.042	n/a	0.042	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	3	2	0.0963(J)	0.27(J)	n/a	0.27	Maximum detected concentration
Chrysene	3	3	0.0124(J)	0.0781	n/a	0.0781	Maximum detected concentration
Fluoranthene	3	3	0.0253(J)	0.145	n/a	0.145	Maximum detected concentration

Table H-2.3-7 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Fluorene	3	1	0.0161(J)	0.0376(U)	n/a	0.0161	Maximum detected concentration
Naphthalene	3	1	0.0168(J)	0.0376(U)	n/a	0.0168	Maximum detected concentration
Phenanthrene	3	3	0.0185(J)	0.131	n/a	0.131	Maximum detected concentration
Pyrene	3	3	0.0284(J)	0.154	n/a	0.154	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	3	1	0.0436(U)	0.181	n/a	0.181	Maximum detected concentration
Plutonium-238	3	2	0.0083(U)	1.98	n/a	1.98	Maximum detected concentration
Plutonium-239/240	3	3	0.131	0.543	n/a	0.543	Maximum detected concentration
Tritium	3	1	0.00439(U)	0.0544	n/a	0.0544	Maximum detected concentration
Uranium-235/236	3	3	0.0656	0.128	n/a	0.128	Maximum detected concentration

*n/a = Not applicable.

Table H-2.3-8
EPCs for Consolidated Unit 21-023(a)-99 for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	20	6	0.128	0.948	Nonparametric	0.311	95% KM (t)
Arsenic	36	35	0.654	7.78	Nonparametric	3.665	95% KM (BCA)
Barium	36	36	5.12	334	Gamma	91.15	95% Adjusted gamma
Chromium	36	36	1.63	48.8	Nonparametric	11.54	95% Chebyshev (Mean, Sd)
Copper	36	36	0.811	19	Gamma	5.257	95% Adjusted gamma
Lead	36	36	3.33	1270	Nonparametric	199.2	95% Chebyshev (Mean, Sd)
Manganese	36	36	73.1	714	Normal	237.1	95% Student's-t
Mercury	36	34	0.0025	2.16	Nonparametric	0.379	95% KM (Chebyshev)
Selenium	36	28	0.582	22.5	Nonparametric	5.64	95% KM (BCA)
Organic Chemicals (mg/kg)							
Acenaphthene	36	2	0.0171	0.11	n/a[a]	0.11	Maximum detected concentration
Acetone	36	1	0.00333 (U)	0.0114	n/a	0.0114	Maximum detected concentration
Anthracene	36	6	0.00952	0.191	Nonparametric	0.0307	95% KM (t)
Aroclor-1254	1	1	0.0069	0.0069	n/a	0.0069	Maximum detected concentration
Benzo(a)anthracene	36	4	0.0282	1.97	n/a	1.97	Maximum detected concentration
Benzo(a)pyrene	36	8	0.0124	1.65	Nonparametric	0.275	95% KM (Chebyshev)
Benzo(b)fluoranthene	36	11	0.0141	2.57	Nonparametric	0.245	95% KM (BCA)
Benzo(g,h,i)perylene	36	2	0.0176	0.562	n/a	0.562	Maximum detected concentration
Benzo(k)fluoranthene	36	3	0.0128	0.0403 (U)	n/a	0.0324[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	36	2	0.0942	2.12	n/a	2.12	Maximum detected concentration
Chrysene	36	11	0.0122	1.81	Nonparametric	0.172	95% KM (BCA)
Di-n-butylphthalate	36	7	0.0395	0.402 (U)	Nonparametric	0.0918[b]	95% KM (t)
Fluoranthene	36	13	0.0183	2.14	Nonparametric	0.213	95% KM (BCA)
Fluorene	36	2	0.0122	0.0403 (U)	n/a	0.0261[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	36	2	0.0189	0.52	n/a	0.52	Maximum detected concentration

Table H-2.3-8 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Methylnaphthalene[2-]	36	1	0.0213	0.0403 (U)	n/a	0.0213[b]	Maximum detected concentration
Naphthalene	36	1	0.0344 (U)	0.0609	n/a	0.0609	Maximum detected concentration
Phenanthrene	36	10	0.011 (U)	0.506	Nonparametric	0.0622	95% KM (t)
Pyrene	36	13	0.0138	2.63	Nonparametric	0.25	95% KM (BCA)
Tetrachloroethene	36	8	0.000243	0.00616	Nonparametric	0.00145	95% KM (t)
Toluene	36	2	0.00035	0.00121 (U)	n/a	0.000401[b]	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	1	1	8.65E-07	8.65E-07	n/a	8.65E-07	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	36	14	-0.00605 (U)	1.75	Nonparametric	0.307	95% KM (Chebyshev)
Cesium-137	35	1	-0.0534 (U)	0.133	n/a	0.133	Maximum detected concentration
Plutonium-238	36	7	-0.00666 (U)	0.253	Nonparametric	0.0342	95% KM (t)
Plutonium-239/240	36	32	-0.00111 (U)	2.88	Nonparametric	0.891	95% KM (Chebyshev)
Strontium-90	36	2	-0.147 (U)	1.95	n/a	1.95	Maximum detected concentration
Tritium	36	33	0.00882(U)	4.624	Nonparametric	0.919	95% KM (Chebyshev)
Uranium-234	36	36	0.723	7.95	Normal	1.617	95% Student's-t
Uranium-235/236	36	14	0.0168 (U)	0.457	Nonparametric	0.0761	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-9
EPCs for Consolidated Unit 21-023(a)-99 for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	37	6	0.128	0.948	Nonparametric	0.27	95% KM (t)
Arsenic	56	55	0.654	7.78	Nonparametric	3.225	95% KM (BCA)
Barium	56	56	5.12	334	Lognormal	87.07	95% Chebyshev (MVUE)
Chromium	56	56	1.63	48.8	Nonparametric	9.167	95% Chebyshev (Mean, Sd)
Copper	56	56	0.811	19	Nonparametric	4.184	95% Approximate gamma
Lead	56	56	2.94	1270	Nonparametric	169.9	95% Chebyshev (Mean, Sd)
Manganese	56	56	73.1	714	Gamma	222.8	95% Approximate gamma
Mercury	56	52	0.0025	2.16	Nonparametric	0.255	95% KM (Chebyshev)
Nitrate	56	25	1.03 (U)	11.6	Nonparametric	2.038	95% KM (t)
Perchlorate	56	10	0.000534	0.00649	Nonparametric	0.00142	95% KM (t)
Selenium	56	34	0.582	22.5	Nonparametric	4.214	95% KM (Percentile Bootstrap)
Vanadium	56	56	0.977	28.3	Gamma	10.45	95% Approximate gamma
Organic Chemicals (mg/kg)							
Acenaphthene	57	3	0.0171	0.39 (U)	n/a[a]	0.11[b]	Maximum detected concentration
Acetone	56	1	0.00312 (U)	0.0626 (UJ)	n/a	0.0114[b]	Maximum detected concentration
Anthracene	57	7	0.00952	0.39 (U)	Nonparametric	0.0272	95% KM (t)
Aroclor-1254	1	1	0.0069	0.0069	n/a	0.0069	Maximum detected concentration
Benzo(a)anthracene	57	6	0.018	1.97	Nonparametric	0.226	95% KM (Chebyshev)
Benzo(a)pyrene	57	9	0.0124	1.65	Nonparametric	0.184	95% KM (Chebyshev)
Benzo(b)fluoranthene	57	14	0.0141	2.57	Nonparametric	0.168	95% KM (BCA)
Benzo(g,h,i)perylene	57	3	0.0176	0.562	n/a	0.562	Maximum detected concentration
Benzo(k)fluoranthene	57	3	0.0128	0.39 (UJ)	n/a	0.0324[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	57	2	0.0942	2.12	n/a	2.12	Maximum detected concentration
Chrysene	57	14	0.0122	1.81	Nonparametric	0.118	95% KM (BCA)
Di-n-butylphthalate	57	9	0.0395	0.402 (U)	Nonparametric	0.0834	95% KM (t)

Table H-2.3-9 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Ethylbenzene	56	1	0.000565	0.0125 (U)	n/a	0.000565[b]	Maximum detected concentration
Fluoranthene	57	19	0.0141	2.14	Nonparametric	0.153	95% KM (BCA)
Fluorene	57	3	0.0122	0.39 (U)	n/a	0.0261[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	57	3	0.0189	0.52	n/a	0.52	Maximum detected concentration
Isopropyltoluene[4-]	56	2	0.000297	0.0125 (U)	n/a	0.000399[b]	Maximum detected concentration
Methylnaphthalene[2-]	57	1	0.0213	0.39 (U)	n/a	0.0213[b]	Maximum detected concentration
Naphthalene	57	1	0.0342 (U)	0.39 (U)	n/a	0.0609[b]	Maximum detected concentration
Phenanthrene	57	12	0.011 (U)	0.506	Nonparametric	0.0537	95% KM (t)
Pyrene	57	18	0.0134	2.63	Nonparametric	0.167	95% KM (BCA)
Tetrachloroethene	56	9	0.000243	0.0125 (U)	Nonparametric	0.00126	95% KM (t)
Toluene	56	2	0.00035	0.0125 (U)	n/a	0.000401[b]	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	1	1	8.65E-07	8.65E-07	n/a	8.65E-07	Maximum detected concentration
Xylene[1,2-]	56	1	0.00101	0.0125 (U)	n/a	0.00101[b]	Maximum detected concentration
Xylene[1,3-]+1,4-Xylene	56	1	0.00203	0.025 (U)	n/a	0.00203[b]	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	56	18	-0.00605 (U)	2.3	Nonparametric	0.328	95% KM (Chebyshev)
Cesium-137	55	1	-0.0682 (U)	0.133	n/a	0.133	Maximum detected concentration
Plutonium-238	58	10	-0.00666 (U)	0.289	Nonparametric	0.0279	95% KM (t)
Plutonium-239/240	58	51	-0.00111 (U)	3.77	Nonparametric	0.838	95% KM (Chebyshev)
Strontium-90	56	2	-0.147 (U)	1.95	n/a	1.95	Maximum detected concentration
Tritium	56	47	-0.00317 (U)	4.624	Nonparametric	0.621	95% KM (Chebyshev)
Uranium-234	56	56	0.601	7.95	Normal	1.45	95% Student's-t
Uranium-235/236	56	26	0.0092 (U)	0.457	Nonparametric	0.0692	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-10
EPCs for SWMU 21-024(b) for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Barium	9	9	16.9	90.7	Normal	65.07	95% Student's-t
Cyanide (Total)	9	3	0.0958 (U)	0.945	n/a[a]	0.945	Maximum detected concentration
Lead	9	9	4.62	16.6	Normal	14.53	95% Student's-t
Mercury	9	9	0.0052	0.138	Gamma	0.0853	95% Adjusted gamma
Nitrate	10	9	1.39	43.5	Nonparametric	26.5	95% Chebyshev
Perchlorate	9	3	0.000807	0.00631	n/a	0.00631	Maximum detected concentration
Selenium	9	5	0.671	1.51 (U)	Nonparametric	1.195	95% KM (t)
Zinc	9	9	25.8	96.7	Normal	60.99	95% Student's-t
Organic Chemicals (mg/kg)							
Benzo(b)fluoranthene	9	2	0.0129	0.0358 (UJ)	n/a	0.0203[b]	Maximum detected concentration
Chrysene	9	2	0.0117	0.0358 (UJ)	n/a	0.0146[b]	Maximum detected concentration
Fluoranthene	9	5	0.0145	0.0358 (U)	Nonparametric	0.0268	95% KM (t)
Phenanthrene	9	2	0.0126	0.0358 (U)	n/a	0.016[b]	Maximum detected concentration
Pyrene	9	5	0.016	0.0358 (UJ)	Nonparametric	0.0234	95% KM (t)
Radionuclides (pCi/g)							
Americium-241	11	9	0.00816 (U)	3.4	Nonparametric	1.598	95% KM (t)
Cesium-137	8	8	0.136	1.13	Normal	0.772	95% Student's-t
Plutonium-238	11	5	0.00302 (U)	0.642	Nonparametric	0.288	95% KM (t)
Plutonium-239/240	11	11	0.231	76.3	Gamma	72.23	95% Adjusted gamma
Tritium	9	3	0.000376 (U)	0.0184 (U)	n/a	0.0129[b]	Maximum detected concentration
Uranium-234	9	9	1.01	2.8	Normal	2.055	95% Student's-t
Uranium-235/236	9	9	0.0656	0.199	Normal	0.146	95% Student's-t
Uranium-238	9	9	0.985	2.87	Normal	1.873	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-11
EPCs for SWMU 21-024(b) for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Barium	18	18	2.11	179	Normal	61.45	95% Student's-t
Chromium	18	18	1.41	15.7	Normal	6.994	95% Student's-t
Cyanide (total)	18	5	0.0958 (U)	0.945	Nonparametric	0.28	95% KM (t)
Lead	18	18	2.11	16.6	Normal	10.91	95% Student's-t
Mercury	18	12	0.0052	0.138	Nonparametric	0.0455	95% KM (BCA)
Nickel	18	18	0.352	16.3	Normal	4.913	95% Student's-t
Selenium	18	8	0.671	1.51 (U)	Nonparametric	1.103	95% KM (t)
Zinc	18	18	18.9	96.7	Normal	48.14	95% Student's-t
Organic Chemicals (mg/kg)							
Benzo(b)fluoranthene	18	2	0.0129	0.0378 (U)	n/a[a]	0.0203[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	18	1	0.0764	0.189 (U)	n/a	0.0764[b]	Maximum detected concentration
Chrysene	18	2	0.0117	0.0378 (U)	n/a	0.0146[b]	Maximum detected concentration
Fluoranthene	18	5	0.0145	0.0378 (U)	Nonparametric	0.0248	95% KM (t)
Phenanthrene	18	2	0.0126	0.0378 (U)	n/a	0.016[b]	Maximum detected concentration
Pyrene	18	5	0.016	0.0378 (U)	Nonparametric	0.0232	95% KM (t)
Toluene	9	3	0.00079	0.00114	n/a	0.00114	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	22	14	-0.00573 (U)	3.4	Nonparametric	1.043	95% KM (BCA)
Cesium-137	16	8	-0.0764 (U)	1.13	Nonparametric	0.398	95% KM (t)
Plutonium-238	22	8	-0.00591 (U)	0.666	Nonparametric	0.196	95% KM (t)
Plutonium-239/240	22	20	0.00709 (U)	131	Nonparametric	51.11	95% KM (Chebyshev)
Tritium	18	8	0.000376 (U)	0.0797	Nonparametric	0.0201	95% KM (t)
Uranium-234	18	18	0.855	2.8	Normal	1.586	95% Student's-t

Table H-2.3-11 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Uranium-235/236	18	16	0.0149 (U)	0.199	Nonparametric	0.114	95% KM (t)
Uranium-238	18	18	0.784	2.87	Normal	1.473	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-12
EPCs for SWMU 21-024(b) for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Barium	25	25	2.11	179	Normal	54.67	95% Student's-t
Chromium	25	25	1.41	16	Normal	7.816	95% Student's-t
Cobalt	25	24	0.271	4.5	Nonparametric	1.809	95% KM (t)
Copper	25	25	0.806	16	Gamma	6.186	95% Adjusted gamma
Cyanide (Total)	25	6	0.0958 (U)	0.945	Nonparametric	0.246	95% KM (t)
Lead	25	25	2.11	19.1	Normal	10.55	95% Student's-t
Mercury	25	18	0.0052	0.385	Nonparametric	0.126	95% KM (Chebyshev)
Nickel	25	25	0.352	16.3	Gamma	4.684	95% Adjusted gamma
Nitrate	26	22	1.01 (U)	67.2	Nonparametric	24.66	95% KM (Chebyshev)
Perchlorate	25	10	0.000807	0.0139	Nonparametric	0.00375	95% KM (t)
Selenium	25	9	0.671	1.67 (U)	Nonparametric	1.097	95% KM (t)
Silver	25	18	0.0428	5.81	Nonparametric	1.357	95% KM (Chebyshev)
Strontium	6	6	1.05	17.6	n/a[a]	17.6	Maximum detected concentration
Zinc	25	25	18.9	96.7	Gamma	46.26	95% Adjusted gamma
Organic Chemicals (mg/kg)							
Benzo(a)pyrene	25	1	0.0109 (U)	0.0378 (U)	n/a	0.0263[b]	Maximum detected concentration
Benzo(b)fluoranthene	25	4	0.0118	0.0378 (U)	n/a	0.0336[b]	Maximum detected concentration
Benzo(g,h,i)perylene	25	1	0.0165	0.0378 (UJ)	n/a	0.0165[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	25	2	0.0764	0.189 (U)	n/a	0.0964[b]	Maximum detected concentration
Chrysene	25	3	0.0117	0.0378 (U)	n/a	0.0243[b]	Maximum detected concentration
Fluoranthene	25	8	0.0114	0.0481	Nonparametric	0.0234	95% KM (t)
Phenanthrene	25	2	0.0126	0.0378 (U)	n/a	0.016[b]	Maximum detected concentration
Pyrene	25	7	0.0131	0.0378 (U)	Nonparametric	0.0237	95% KM (t)
Toluene	16	4	0.00064	0.00114	n/a	0.00114	Maximum detected concentration

Table H-2.3-12 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Radionuclides (pCi/g)							
Americium-241	29	19	-0.0112 (U)	4.68	Nonparametric	1.176	95% KM (BCA)
Cesium-137	22	8	-0.0764 (U)	1.13	Nonparametric	0.276	95% KM (t)
Plutonium-238	30	11	-0.00591 (U)	0.666	Nonparametric	0.165	95% KM (t)
Plutonium-239/240	30	28	0.00709 (U)	131	Nonparametric	39.51	95% KM (Chebyshev)
Tritium	25	12	0.000376 (U)	0.915 (U)	Nonparametric	0.02	95% KM (t)
Uranium-234	25	25	0.749	2.8	Normal	1.484	95% Student's-t
Uranium-235/236	25	23	0.0149 (U)	0.199	Nonparametric	0.109	95% KM (BCA)
Uranium-238	25	25	0.761	2.87	Normal	1.329	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-13
EPCs for SWMU 21-024(b) Mesa Top 0.0–10.0 ft for Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Cadmium	6	1	0.122(J)	0.555(U)	n/a*	0.122	Maximum detected concentration
Chromium	6	6	4.08	13.3	n/a	13.3	Maximum detected concentration
Copper	6	6	1.06	16(J)	n/a	16	Maximum detected concentration
Mercury	6	5	0.00995(U)	0.16(J+)	n/a	0.16	Maximum detected concentration
Nitrate	6	6	1.3	6.67	n/a	6.67	Maximum detected concentration
Perchlorate	6	1	0.00088(J)	0.0022(U)	n/a	0.00088	Maximum detected concentration
Selenium	6	0	1.44(U)	1.67 (U)	n/a	1.67(U)	Maximum detection limit
Silver	6	4	0.0518(J)	5.81	n/a	5.81	Maximum detected concentration
Strontium	6	6	1.05	17.6	n/a	17.6	Maximum detected concentration
Zinc	6	6	28.7	58.4	n/a	58.4	Maximum detected concentration
Organic Chemicals (mg/kg)							
Benzo(a)pyrene	6	1	0.0263(J)	0.0377(U)	n/a	0.0263	Maximum detected concentration
Benzo(b)fluoranthene	6	2	0.0118(J)	0.0367(U)	n/a	0.0336	Maximum detected concentration
Benzo(g,h,i)perylene	6	1	0.0165(J)	0.0377(U)	n/a	0.0165	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	6	1	0.0964(J)	0.183(UJ)	n/a	0.0964	Maximum detected concentration
Chrysene	6	1	0.0243(J)	0.0377(U)	n/a	0.0243	Maximum detected concentration
Fluoranthene	6	3	0.0114(J)	0.048	n/a	0.048	Maximum detected concentration
Pyrene	6	2	0.0131(J)	0.0367(U)	n/a	0.0336	Maximum detected concentration

Table H-2.3-13 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Radionuclides (pCi/g)							
Americium-241	6	4	-0.0112(U)	4.68	n/a	4.68	Maximum detected concentration
Plutonium-238	7	3	-0.0000548(U)	0.32	n/a	0.32	Maximum detected concentration
Plutonium-239/240	7	7	0.259	17.4	n/a	17.4	Maximum detected concentration
Tritium	6	3	0.0135(U)	0.915(U)	n/a	0.0424	Maximum detected concentration
Uranium-234	6	6	0.749	2.03	n/a	2.03	Maximum detected concentration
Uranium-235/236	6	6	0.0661	0.16	n/a	0.16	Maximum detected concentration

*n/a = Not applicable.

Table H-2.3-14
EPCs for SWMU 21-024(k) for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Barium	14	14	24.4	92.6	Normal	57.45	95% Student's-t
Cyanide (Total)	14	7	0.174	0.62	Nonparametric	0.342	95% KM (t)
Lithium	14	14	4.95	11.6	Normal	7.966	95% Student's-t
Nitrate	14	14	1.01	4.76	Normal	3.163	95% Student's-t
Perchlorate	14	3	0.000537	0.414 (U)	n/a[a]	0.00492[b]	Maximum detected concentration
Selenium	14	11	0.51	1.59 (U)	Nonparametric	0.888	95% KM (t)
Strontium	14	14	6.26	33.1	Normal	22.25	95% Student's-t
Zinc	14	14	17.3	132	Normal	56.94	95% Student's-t
Organic Chemicals (mg/kg)							
Acenaphthene	14	1	0.0336 (U)	0.0587	n/a	0.0587	Maximum detected concentration
Anthracene	14	2	0.0106	0.0873	n/a	0.0873	Maximum detected concentration
Aroclor-1254	2	2	0.0065	0.0094	n/a	0.0094	Maximum detected concentration
Aroclor-1260	2	2	0.006	0.0097	n/a	0.0097	Maximum detected concentration
Benzo(a)anthracene	14	1	0.0336 (U)	0.186	n/a	0.186	Maximum detected concentration
Benzo(a)pyrene	14	1	0.015 (U)	0.224 (U)	n/a	0.0349[b]	Maximum detected concentration
Benzo(b)fluoranthene	14	5	0.0267	0.261	Nonparametric	0.0778	95% KM (t)
Benzo(g,h,i)perylene	14	1	0.0336 (U)	0.216	n/a	0.216	Maximum detected concentration
Chrysene	14	7	0.0141	0.199	Nonparametric	0.0599	95% KM (t)
Fluoranthene	14	13	0.0107	0.516	Nonparametric	0.22	95% KM (Chebyshev)
Fluorene	14	1	0.0336 (U)	0.0405	n/a	0.0405	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	14	1	0.0336 (U)	0.186	n/a	0.186	Maximum detected concentration
Methylnaphthalene[2-]	14	1	0.00858	0.0361 (U)	n/a	0.00858[b]	Maximum detected concentration
Phenanthrene	14	10	0.0113	0.377	Nonparametric	0.0982	95% KM (BCA)
Pyrene	14	11	0.0137	0.485	Nonparametric	0.129	95% KM (BCA)

Table H-2.3-14 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Radionuclides (pCi/g)							
Americium-241	14	10	0.0121 (U)	0.205	Nonparametric	0.097	95% KM (t)
Cesium-137	12	12	0.195	1.78	Normal	0.991	95% Student's-t
Plutonium-238	14	3	-0.00159 (U)	0.096	n/a	0.096	Maximum detected concentration
Plutonium-239/240	14	14	0.0278	1.13	Gamma	0.571	95% Adjusted gamma
Tritium	14	9	-2.19 (U)	0.0296	n/a	0.0296[c]	Maximum detected concentration
Uranium-234	14	14	0.857	4.92	Gamma	2.445	95% Adjusted gamma
Uranium-235/236	14	11	0.0398 (U)	0.182	Nonparametric	0.111	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-15
EPCs for SWMU 21-024(k) for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Arsenic	30	28	0.715	6.85	Nonparametric	3.092	95% KM (Chebyshev)
Barium	30	30	5.98	104	Normal	52.91	95% Student's-t
Beryllium	30	30	0.176	2.65	Lognormal	0.828	95% Chebyshev (MVUE)
Chromium	30	30	2.01	17.5	Gamma	6.403	95% Adjusted gamma
Cobalt	30	30	0.215	4.83	Normal	1.843	95% Student's-t
Copper	30	30	0.805	15.7	Gamma	6.471	95% Adjusted gamma
Cyanide (Total)	30	9	0.0733	0.62	Nonparametric	0.248	95% KM (t)
Lead	30	30	4.3	38.5	Gamma	13.14	95% Adjusted gamma
Lithium	30	30	3.46	18.3	Normal	8.69	95% Student's-t
Mercury	30	30	0.0025	1.74	Nonparametric	0.333	95% Chebyshev (Mean, Sd)
Nickel	30	30	0.731	18.4	Gamma	5.227	95% Adjusted gamma
Selenium	30	20	0.51	1.8	Nonparametric	0.971	95% KM (t)
Strontium	30	30	0.661	46.7	Normal	20.08	95% Student's-t
Zinc	30	30	17.3	132	Normal	41.66	95% Student's-t
Organic Chemicals (mg/kg)							
Acenaphthene	30	2	0.0123	0.0587	n/a[a]	0.0587	Maximum detected concentration
Acetone	16	5	0.00419	0.0146	Nonparametric	0.0081	95% KM (t)
Anthracene	30	3	0.0106	0.0873	n/a	0.0873	Maximum detected concentration
Aroclor-1254	4	3	0.0012	0.0094	n/a	0.0094	Maximum detected concentration
Aroclor-1260	4	2	0.00336 (UJ)	0.0097	n/a	0.0097	Maximum detected concentration
Benzo(a)anthracene	30	1	0.0335 (U)	0.186	n/a	0.186	Maximum detected concentration
Benzo(a)pyrene	30	2	0.0149	0.224 (U)	n/a	0.0349[b]	Maximum detected concentration
Benzo(b)fluoranthene	30	8	0.0118	0.261	Nonparametric	0.0465	95% KM (t)
Benzo(g,h,i)perylene	30	2	0.0164	0.216	n/a	0.216	Maximum detected concentration
Benzo(k)fluoranthene	30	1	0.0194	0.119 (U)	n/a	0.0194[b]	Maximum detected concentration

Table H-2.3-15 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Chrysene	30	9	0.0141	0.199	Nonparametric	0.0401	95% KM (t)
Fluoranthene	30	15	0.0107	0.516	Nonparametric	0.0745	95% KM (t)
Fluorene	30	1	0.0335 (U)	0.0405	n/a	0.0405	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	30	2	0.0117	0.186	n/a	0.186	Maximum detected concentration
Methylnaphthalene[2-]	30	1	0.00858	0.0386 (U)	n/a	0.00858[b]	Maximum detected concentration
Phenanthrene	30	12	0.0113	0.377	Nonparametric	0.0548	95% KM (t)
Pyrene	30	13	0.0137	0.485	Nonparametric	0.0706	95% KM (t)
Toluene	16	4	0.000394	0.00114 (U)	n/a	0.000857[b]	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	1	1	2.66E-07	2.66E-07	n/a	2.66E-07	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	30	10	-0.0057 (U)	0.205	Nonparametric	0.0444	95% KM (t)
Cesium-137	24	14	-0.0103 (U)	1.78	Nonparametric	0.561	95% KM (t)
Plutonium-238	30	3	-0.0128 (U)	0.096	n/a	0.096	Maximum detected concentration
Plutonium-239/240	30	19	-0.00817 (U)	2.45	Nonparametric	0.422	95% km (BCA)
Tritium	30	20	-2.19 (U)	0.203	n/a	0.203[c]	Maximum detected concentration
Uranium-234	30	30	0.773	4.92	Normal	1.831	95% Student's-t
Uranium-235/236	30	21	0.0286 (U)	0.191	Nonparametric	0.091	95% KM (BCA)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-16
EPCs for SWMU 21-024(k) the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Aluminum	50	50	272	14000	Gamma	4421	95% Approximate gamma
Antimony	36	4	0.136	1.54	n/a[a]	1.54	Maximum detected concentration
Arsenic	50	48	0.674	6.85	Nonparametric	3.437	95% KM (Chebyshev)
Barium	50	50	5.98	162	Normal	53.54	95% Student's-t
Beryllium	50	50	0.159	2.65	Nonparametric	0.943	95% Chebyshev (Mean, Sd)
Chromium	50	50	1.71	38.6	Nonparametric	11.51	95% Chebyshev (Mean, Sd)
Cobalt	50	50	0.215	4.83	Normal	1.849	95% Student’s-t
Copper	50	50	0.805	15.7	Gamma	6.07	95% Approximate gamma
Cyanide (Total)	50	11	0.0733	0.63	Nonparametric	0.221	95% KM (t)
Lead	50	50	3.61	38.5	Gamma	11.93	95% Approximate gamma
Lithium	44	44	2.74	28.8	Gamma	10.05	95% Adjusted gamma
Mercury	50	47	0.0025	1.74	Nonparametric	0.214	95% KM (Chebyshev)
Nickel	50	50	0.731	18.4	Gamma	5.694	95% Approximate gamma
Nitrate	50	46	1.01	39.5	Nonparametric	8.693	95% KM (Chebyshev)
Perchlorate	50	15	0.000537	0.414 (U)	Nonparametric	0.00348	95% KM (t)
Selenium	50	24	0.51	1.8	Nonparametric	0.956	95% KM (t)
Strontium	44	44	0.661	98.7	Gamma	21.67	95% Adjusted gamma
Zinc	50	50	17.3	132	Normal	38.58	95% Student's-t
Organic Chemicals (mg/kg)							
Acenaphthene	50	6	0.0123	0.136	Nonparametric	0.0261	95% KM (t)
Acetone	36	5	0.00419	0.0146	Nonparametric	0.00602	95% KM (t)
Anthracene	50	9	0.00905	0.259	Nonparametric	0.0359	95% KM (t)
Aroclor-1254	4	3	0.0012	0.0094	n/a	0.0094	Maximum detected concentration
Aroclor-1260	4	2	0.00336 (UJ)	0.0097	n/a	0.0097	Maximum detected concentration
Benzo(a)anthracene	50	8	0.0105	0.332	Nonparametric	0.0463	95% KM (t)
Benzo(a)pyrene	50	10	0.0149	0.284	Nonparametric	0.0496	95% KM (t)

Table H-2.3-16 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Benzo(b)fluoranthene	50	15	0.0118	0.344	Nonparametric	0.0574	95% KM (t)
Benzo(g,h,i)perylene	50	7	0.0148	0.216	Nonparametric	0.0347	95% KM (t)
Benzo(k)fluoranthene	50	5	0.0194	0.143	Nonparametric	0.0299	95% KM (t)
Bis(2-ethylhexyl)phthalate	50	1	0.0924	0.378 (U)	n/a	0.0924[b]	Maximum detected concentration
Chrysene	50	16	0.0141	0.317	Nonparametric	0.0509	95% km (BCA)
Di-n-butylphthalate	50	1	0.158	0.406 (U)	n/a	0.158[b]	Maximum detected concentration
Dibenzofuran	50	1	0.0936	0.406 (U)	n/a	0.0936[b]	Maximum detected concentration
Fluoranthene	50	26	0.0107	0.854	Nonparametric	0.124	95% km (BCA)
Fluorene	50	5	0.0226	0.155	Nonparametric	0.0316	95% KM (t)
Indeno(1,2,3-cd)pyrene	50	11	0.0117	0.186	Nonparametric	0.0331	95% KM (t)
Isopropyltoluene[4-]	36	1	0.000969	0.00122 (U)	n/a	0.000969[b]	Maximum detected concentration
Methylnaphthalene[2-]	50	4	0.00858	0.0552	n/a	0.0552	Maximum detected concentration
Naphthalene	50	4	0.0206 (U)	0.235	n/a	0.235	Maximum detected concentration
Phenanthrene	50	20	0.0113	0.933	Nonparametric	0.104	95% KM (BCA)
Pyrene	50	22	0.0128	0.942	Nonparametric	0.12	95% KM (BCA)
Toluene	36	5	0.000394	0.00123	Nonparametric	0.000768	95% KM (t)
TCDD[2,3,7,8-] equivalent	1	1	2.66E-07	2.66E-07	n/a	2.66E-07	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	50	10	-0.0106 (U)	0.205	Nonparametric	0.0214	95% KM (t)
Cesium-137	44	15	-0.0454 (U)	1.78	Nonparametric	0.295	95% KM (t)
Plutonium-238	50	3	-0.0128 (U)	0.096	n/a	0.096	Maximum detected concentration
Plutonium-239/240	50	28	-0.00817 (U)	2.45	Nonparametric	0.4	95% KM (Chebyshev)
Tritium	50	40	-2.19 (U)	2.092	Nonparametric	0.461	95% KM (Chebyshev)
Uranium-234	50	50	0.773	4.92	Normal	1.536	95% Student's-t
Uranium-235/236	50	33	0.0286 (U)	0.191	Nonparametric	0.0796	95% KM (BCA)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-17
EPCs for Consolidated Unit 21-024(l)-99 for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Barium	15	15	48.7	202	Normal	115	95% Student's-t
Cadmium	15	3	0.132	0.565 (U)	n/a[a]	0.449[b]	Maximum detected concentration
Chromium	15	15	4.67	11.3	Normal	9.956	95% Student's-t
Copper	14	14	5.99	14.2	Normal	10.72	95% Student's-t
Lead	16	16	9.6	38	Normal	21.45	95% Student's-t
Lithium	15	15	5.1	15.3	Normal	12.21	95% Student's-t
Nitrate	15	9	0.918 (UJ)	2.27	Nonparametric	1.629	95% KM (t)
Perchlorate	15	4	0.000628	0.00232 (U)	n/a	0.00154[b]	Maximum detected concentration
Selenium	17	14	0.045 (U)	1.55 (U)	Nonparametric	1.065	95% KM (t)
Zinc	16	16	25	91.5	Normal	57.98	95% Student's-t
Organic Chemicals (mg/kg)							
Acenaphthene	16	8	0.0161	0.68 (U)	Nonparametric	0.0665	95% KM (t)
Anthracene	16	10	0.00773	0.68 (U)	Nonparametric	0.118	95% KM (BCA)
Benzo(a)anthracene	16	13	0.0242	1.13	Nonparametric	0.347	95% KM (t)
Benzo(a)pyrene	16	11	0.0107 (U)	1.15 (U)	Normal	0.202	95% KM (t)
Benzo(b)fluoranthene	16	15	0.0163	1.66	Nonparametric	0.821	95% KM (Chebyshev)
Benzo(g,h,i)perylene	16	14	0.018	0.704	Nonparametric	0.219	95% KM (t)
Benzo(k)fluoranthene	16	8	0.0189	0.532	Nonparametric	0.153	95% KM (t)
Bis(2-ethylhexyl)phthalate	16	2	0.0876	0.25	n/a	0.25	Maximum detected concentration
Chrysene	16	15	0.0187	1.22	Nonparametric	0.575	95% KM (Chebyshev)
Dibenzofuran	16	1	0.117	0.68 (U)	n/a	0.117[b]	Maximum detected concentration
Fluoranthene	16	15	0.0268	2.67	Nonparametric	1.281	95% KM (Chebyshev)
Fluorene	16	8	0.0114	0.68 (U)	Nonparametric	0.0595	95% KM (t)
Indeno(1,2,3-cd)pyrene	16	14	0.0188	0.667	Nonparametric	0.318	95% KM (Chebyshev)
Methylene chloride	2	1	0.00411	0.00543 (U)	n/a	0.00411	Maximum detected concentration

Table H-2.3-17 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Methylnaphthalene[2-]	16	1	0.034 (UJ)	0.68 (U)	n/a	0.0534[b]	Maximum detected concentration
Naphthalene	16	1	0.0112 (U)	0.68 (U)	n/a	0.16[b]	Maximum detected concentration
Phenanthrene	16	13	0.0206	1.85	Nonparametric	0.841	95% KM (Chebyshev)
Pyrene	16	15	0.0246	2.75	Nonparametric	1.235	95% KM (Chebyshev)
Radionuclides (pCi/g)							
Americium-241	19	15	0.000443 (U)	0.375	Nonparametric	0.13	95% KM (BCA)
Cesium-137	14	9	-0.0236 (U)	0.624	Nonparametric	0.282	95% KM (t)
Plutonium-238	20	10	-0.00396 (U)	4.9	Nonparametric	1.366	95% KM (Chebyshev)
Plutonium-239/240	20	19	0.0138 (U)	6.23	Nonparametric	2.146	95% KM (Chebyshev)
Tritium	15	7	0.00498 (U)	0.1938	Nonparametric	0.061	95% KM (t)
Uranium-234	15	15	0.649	3.72	Nonparametric	2.307	95% Chebyshev (Mean, Sd)
Uranium-235/236	15	10	0.0174 (U)	0.276	Nonparametric	0.11	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-18
EPCs for Consolidated Unit 21-024(l)-99 for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Barium	48	48	14.3	236	Normal	116	95% Student's-t
Cadmium	48	6	0.112	0.991	Nonparametric	0.344	95% KM (t)
Chromium	48	48	4.4	16.8	Normal	10.39	95% Student's-t
Cobalt	48	48	0.387	8.46	Normal	3.88	95% Student's-t
Copper	42	42	2.48	36.4	Gamma	10.44	95% Adjusted gamma
Lead	49	49	2.72	970	Nonparametric	154	95% Chebyshev (Mean, Sd)
Lithium	48	48	2.3	17.8	Normal	11.63	95% Student's-t
Mercury	49	49	0.004	0.628	Nonparametric	0.101	95% Chebyshev (Mean, Sd)
Selenium	50	38	0.045 (U)	1.79	Nonparametric	1.083	95% KM (t)
Zinc	49	49	25	552	Nonparametric	124.5	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	49	19	0.0124	0.68 (U)	Nonparametric	0.0792	95% KM (BCA)
Acenaphthylene	49	1	0.0122	0.68 (U)	n/a[a]	0.0122[b]	Maximum detected concentration
Acetone	35	4	0.00522 (U)	0.35	n/a	0.35	Maximum detected concentration
Anthracene	49	28	0.00773	0.871	Nonparametric	0.226	95% KM (Chebyshev)
Benzo(a)anthracene	49	30	0.0146	1.87	Nonparametric	0.373	95% KM (BCA)
Benzo(a)pyrene	49	30	0.0107 (U)	1.83 (U)	Nonparametric	0.417	95% KM (Chebyshev)
Benzo(b)fluoranthene	49	39	0.0135	2.75	Nonparametric	0.817	95% KM (Chebyshev)
Benzo(g,h,i)perylene	49	30	0.0147	1.11	Nonparametric	0.213	95% KM (BCA)
Benzo(k)fluoranthene	49	23	0.0124	1.02	Nonparametric	0.185	95% KM (t)
Bis(2-ethylhexyl)phthalate	49	2	0.0876	0.25	n/a	0.25	Maximum detected concentration
Chloroform	35	1	0.000215	0.00125 (U)	n/a	0.000215[b]	Maximum detected concentration
Chrysene	49	38	0.014	1.94	Nonparametric	0.591	95% KM (Chebyshev)
Dibenzofuran	49	6	0.0754	0.68 (U)	Nonparametric	0.203	95% KM (t)
Dichlorobenzene[1,4-]	35	1	0.000316	0.00125 (U)	n/a	0.000316[b]	Maximum detected concentration

Table H-2.3-18 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Fluoranthene	49	40	0.0118	4.69	Nonparametric	1.374	95% KM (Chebyshev)
Fluorene	49	19	0.0109	0.68 (U)	Nonparametric	0.0785	95% KM (BCA)
Indeno(1,2,3-cd)pyrene	49	31	0.0123	1.07	Nonparametric	0.216	95% KM (BCA)
Methylene chloride	35	1	0.00411	0.00625 (U)	n/a	0.00411[b]	Maximum detected concentration
Methylnaphthalene[2-]	49	9	0.00778	0.68 (U)	Nonparametric	0.0293	95% KM (t)
Naphthalene	49	7	0.0112 (U)	0.68 (U)	Nonparametric	0.0631	95% KM (t)
Phenanthrene	49	34	0.0182	4.19	Nonparametric	1.017	95% KM (Chebyshev)
Pyrene	49	39	0.0162	4.66	Nonparametric	1.231	95% KM (Chebyshev)
Toluene	35	10	0.000411	0.0038	Nonparametric	0.0013	95% KM (t)
Radionuclides (pCi/g)							
Americium-241	52	24	-0.00569 (U)	3.44	Nonparametric	0.471	95% KM (Chebyshev)
Cesium-137	43	11	-0.0238 (U)	0.701	Nonparametric	0.112	95% KM (t)
Plutonium-238	53	15	-0.0101 (U)	4.9	Nonparametric	0.529	95% KM (Chebyshev)
Plutonium-239/240	53	49	0.0138 (U)	103	Nonparametric	13.83	95% KM (Chebyshev)
Tritium	48	33	0.00446 (U)	0.6798	Nonparametric	0.16	95% KM (Chebyshev)
Uranium-234	48	48	0.504	3.72	Normal	1.188	95% Student's-t
Uranium-235/236	48	29	0.0174 (U)	0.276	Nonparametric	0.0736	95% KM (BCA)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-19
EPCs for Consolidated Unit 21-024(l)-99 for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Aluminum	63	63	577	46800	Gamma	10324	95% Approximate gamma
Barium	63	63	14.3	342	Normal	114	95% Student's-t
Cadmium	63	9	0.112	2.74 (U)	Nonparametric	0.316	95% KM (t)
Chromium	63	63	1.35	24.9	Normal	10.47	95% Student's-t
Cobalt	63	63	0.387	8.46	Normal	3.687	95% Student's-t
Copper	52	52	2.15	36.4	Gamma	9.422	95% Approximate gamma
Lead	66	66	2.72	970	Nonparametric	119.5	95% Chebyshev (Mean, Sd)
Lithium	63	63	2.3	17.8	Normal	11.24	95% Student's-t
Mercury	66	66	0.004	0.628	Nonparametric	0.0811	95% Chebyshev (Mean, Sd)
Nitrate	61	36	0.694	6.1	Nonparametric	1.437	95% KM (t)
Perchlorate	63	22	0.000609	0.00632	Nonparametric	0.00169	95% KM (t)
Selenium	65	46	0.045 (U)	8.22 (U)	Nonparametric	1.081	95% KM (t)
Zinc	69	69	16	949	nonparametric	151.1	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	65	24	0.0124	1.51	Lognormal	0.119	95% KM (BCA)
Acenaphthylene	65	1	0.0122	0.68 (U)	n/a[a]	0.0122[b]	Maximum detected concentration
Acetone	50	4	0.00522 (U)	0.35	n/a	0.35	Maximum detected concentration
Anthracene	65	38	0.00773	2.38	Nonparametric	0.306	95% KM (Chebyshev)
Benzo(a)anthracene	65	36	0.0146	3.88	Nonparametric	0.414	95% KM (BCA)
Benzo(a)pyrene	65	39	0.0107 (U)	3.92	Nonparametric	0.536	95% KM (Chebyshev)
Benzo(b)fluoranthene	65	49	0.0135	4.6	Nonparametric	0.843	95% KM (Chebyshev)
Benzo(g,h,i)perylene	65	38	0.0147	2.11	Nonparametric	0.244	95% KM (BCA)
Benzo(k)fluoranthene	65	28	0.0124	1.8	Nonparametric	0.199	95% KM (t)
Bis(2-ethylhexyl)phthalate	65	2	0.0876	0.37 (U)	n/a	0.25[b]	Maximum detected concentration
Chloroform	50	1	0.000215	0.00125 (U)	n/a	0.000215[b]	Maximum detected concentration

Table H-2.3-19 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Chrysene	65	48	0.014	3.76	Nonparametric	0.638	95% KM (Chebyshev)
Dibenzofuran	65	7	0.0754	0.694	Nonparametric	0.212	95% KM (t)
Dichlorobenzene[1,4-]	50	1	0.000316	0.00125 (U)	n/a	0.000316[b]	Maximum detected concentration
Fluoranthene	65	51	0.0115	10.5	Nonparametric	1.59	95% KM (Chebyshev)
Fluorene	65	24	0.0109	1.2	Nonparametric	0.104	95% KM (t)
Indeno(1,2,3-cd)pyrene	65	40	0.0123	2.03	Nonparametric	0.34	95% KM (Chebyshev)
Isopropyltoluene[4-]	50	2	0.000443	0.00125 (U)	n/a	0.000463[b]	Maximum detected concentration
Methylene chloride	50	1	0.00411	0.00625 (U)	n/a	0.00411[b]	Maximum detected concentration
Methylnaphthalene[2-]	65	12	0.00778	0.68 (U)	Nonparametric	0.037	95% KM (t)
Naphthalene	65	11	0.0112 (U)	1.22	Nonparametric	0.0908	95% KM (t)
Phenanthrene	65	44	0.0182	9.28	Nonparametric	1.275	95% KM (Chebyshev)
Pyrene	65	49	0.0162	7.26	Nonparametric	1.281	95% KM (Chebyshev)
Toluene	50	15	0.000337 (U)	0.00515	Nonparametric	0.00125	95% KM (t)
Xylene[1,3-]+1,4-Xylene	50	1	0.000381	0.0025 (U)	n/a	0.000381[b]	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	70	27	-0.0152 (U)	3.44	Nonparametric	0.362	95% KM (Chebyshev)
Cesium-137	62	11	-0.102 (U)	0.701	Nonparametric	0.0126	95% KM (t)
Plutonium-238	71	16	-0.0101 (U)	4.9	Nonparametric	0.394	95% KM (Chebyshev)
Plutonium-239/240	71	65	0.0039 (UJ)	103	Nonparametric	11.23	95% KM (Chebyshev)
Tritium	63	46	0.00446 (U)	2.062	Nonparametric	0.302	95% KM (Chebyshev)
Uranium-234	63	63	0.504	3.72	Normal	1.112	95% Student's-t
Uranium-235/236	63	38	-0.0206 (U)	0.276	Nonparametric	0.0741	95% KM (Chebyshev)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-20
EPCs for SWMU 21-024(n) for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Inorganic Chemicals (mg/kg)							
Antimony	41	8	0.115	26.1	Nonparametric	3.69	95% KM (Chebyshev)
Arsenic	48	48	1.32	11.1	Gamma	3.612	95% Adjusted gamma
Cadmium	48	8	0.115	3.9	Nonparametric	0.458	95% KM (t)
Chromium	49	49	3.73	289	Nonparametric	55.06	95% Chebyshev (Mean, Sd)
Cobalt	48	48	1.19	15.1	Gamma	4.41	95% Adjusted gamma
Copper	49	49	4.66	438	Nonparametric	73.06	95% Chebyshev (Mean, Sd)
Cyanide (Total)	48	30	0.0738	0.663	Nonparametric	0.227	95% KM (Percentile Bootstrap)
Lead	49	49	4.6	369	Nonparametric	56.89	95% Chebyshev (Mean, Sd)
Manganese	48	48	111	1280	Gamma	344.3	95% Adjusted gamma
Mercury	48	48	0.0043	0.207	Nonparametric	0.0674	95% Chebyshev (Mean, Sd)
Nickel	48	48	1.83	17	Gamma	7.137	95% Adjusted gamma
Nitrate	48	30	0.904	9.68	Nonparametric	2.17	95% KM (BCA)
Perchlorate	48	6	0.000526	0.00247 (U)	Nonparametric	0.000799	95% KM (t)
Selenium	48	25	0.677	1.82 (U)	Nonparametric	1.096	95% KM (t)
Silver	48	43	0.0473	1.17	Nonparametric	0.251	95% KM (Chebyshev)
Zinc	50	50	16.2	915	Nonparametric	202.3	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	47	2	0.0186	0.939 (U)	n/a[a]	0.0186[b]	Maximum detected concentration
Anthracene	47	13	0.00776	0.939 (U)	Nonparametric	0.0231	95% KM (t)
Benzo(a)anthracene	47	18	0.0171	0.753	Nonparametric	0.125	95% KM (BCA)
Benzo(a)pyrene	47	16	0.0166	0.792 (U)	Nonparametric	0.0693	95% KM (t)
Benzo(b)fluoranthene	47	33	0.0109	1.28	Nonparametric	0.358	95% KM (Chebyshev)
Benzo(g,h,i)perylene	47	15	0.0113	0.939 (UJ)	Nonparametric	0.0813	95% KM (t)
Benzo(k)fluoranthene	47	7	0.0145	0.939 (UJ)	Nonparametric	0.0626	95% KM (t)
Bis(2-ethylhexyl)phthalate	47	3	0.171 (U)	4.69 (U)	n/a	0.409[b]	Maximum detected concentration

Table H-2.3-20 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Chrysene	47	30	0.0152	0.995	Nonparametric	0.252	95% km (Chebyshev)
Di-n-butylphthalate	47	2	0.0513	9.39 (U)	n/a	0.0799[b]	Maximum detected concentration
Fluoranthene	47	37	0.0118	1.09	Nonparametric	0.307	95% km (Chebyshev)
Fluorene	47	2	0.0162	0.939 (U)	n/a	0.0177[b]	Maximum detected concentration
Hexachlorobenzene	47	1	0.0962	9.39 (U)	n/a	0.0962[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	47	14	0.014	0.939 (UJ)	Nonparametric	0.0748	95% KM (t)
Phenanthrene	47	29	0.0113	0.539	Nonparametric	0.143	95% KM (Chebyshev)
Pyrene	47	38	0.0113	1.82	Nonparametric	0.447	95% KM (Chebyshev)
Radionuclides (pCi/g)							
Americium-241	50	32	0.00657 (U)	0.268	Nonparametric	0.069	95% KM (Percentile Bootstrap)
Cesium-137	40	28	0.0137 (U)	0.758	Nonparametric	0.236	95% KM (Percentile Bootstrap)
Plutonium-238	53	7	-0.0138 (U)	0.038	n/a	0.038[c]	Maximum detected concentration
Plutonium-239/240	53	52	0.0165 (U)	4.58	Nonparametric	1.253	95% KM (Chebyshev)
Tritium	48	47	0.009338	5.64	Nonparametric	0.726	95% KM (Chebyshev)
Uranium-234	50	50	0.472	8.95	Nonparametric	2.709	95% Chebyshev (Mean, Sd)
Uranium-235/236	50	45	0.0301 (U)	0.563	Nonparametric	0.124	95% KM (BCA)
Uranium-238	50	50	0.415	2.58	Normal	1.088	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-21
EPCs for SWMU 21-024(n) for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Inorganic Chemicals (mg/kg)							
Antimony	90	10	0.115	26.1	Nonparametric	1.74	95% KM (Chebyshev)
Arsenic	106	104	0.904	16.6	Nonparametric	3.324	95% KM (BCA)
Barium	106	106	12.4	247	Normal	80.06	95% Student's-t
Cadmium	106	12	0.115	3.9	Nonparametric	0.326	95% KM (BCA)
Chromium	108	108	2.81	341	Nonparametric	45.13	95% Chebyshev (Mean, Sd)
Cobalt	106	106	0.377	15.1	Gamma	3.31	95% Approximate gamma
Copper	108	108	0.976	438	Nonparametric	40.1	95% Chebyshev (Mean, Sd)
Cyanide (Total)	106	44	0.0738	0.663	Nonparametric	0.182	95% KM (t)
Lead	108	108	2.1	369	Nonparametric	32.58	95% Chebyshev (Mean, Sd)
Manganese	106	106	81.5	1280	Gamma	307.9	95% Approximate gamma
Mercury	106	105	0.002	0.207	Nonparametric	0.0363	95% KM (BCA)
Nickel	106	106	1.62	17	Gamma	5.977	95% Approximate gamma
Selenium	106	53	0.624	2.83	Nonparametric	1.07	95% KM (t)
Silver	106	85	0.0455	1.17	Nonparametric	0.138	95% KM (BCA)
Vanadium	106	106	1.76	35.6	Normal	15.84	95% Student's-t
Zinc	109	109	16.2	915	Nonparametric	123.6	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	105	3	0.0186	0.939 (U)	n/a[a]	0.0448[b]	Maximum detected concentration
Acetone	57	4	0.00332	0.0189 (U)	n/a	0.0113[b]	Maximum detected concentration
Anthracene	105	23	0.00765	0.939 (U)	Nonparametric	0.0238	95% KM (t)
Aroclor-1254	1	1	0.0065	0.0065	n/a	0.0065	Maximum detected concentration
Benzo(a)anthracene	105	25	0.0171	1.12	Nonparametric	0.109	95% KM (BCA)
Benzo(a)pyrene	105	24	0.0131 (U)	1.46 (U)	Nonparametric	0.048	95% KM (t)
Benzo(b)fluoranthene	105	48	0.0109	2.45	Nonparametric	0.205	95% KM (BCA)

Table H-2.3-21 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Benzo(g,h,i)perylene	105	24	0.0113	1.2	Nonparametric	0.0869	95% KM (BCA)
Benzo(k)fluoranthene	105	9	0.0145	0.939 (UJ)	Nonparametric	0.0785	95% KM (Chebyshev)
Bis(2-ethylhexyl)phthalate	105	6	0.122	4.69 (U)	Nonparametric	0.167	95% KM (t)
Butylbenzylphthalate	105	1	0.342 (U)	9.39 (U)	n/a	0.759[b]	Maximum detected concentration
Chloroform	57	3	0.000253	0.00125 (U)	n/a	0.00052[b]	Maximum detected concentration
Chrysene	105	44	0.0152	1.62	Nonparametric	0.146	95% km (BCA)
Di-n-butylphthalate	105	3	0.0513	9.39 (U)	n/a	0.27[b]	Maximum detected concentration
Fluoranthene	105	57	0.0117	2.04	Nonparametric	0.254	95% km (Chebyshev)
Fluorene	105	3	0.0162	0.939 (U)	n/a	0.0506[b]	Maximum detected concentration
Hexachlorobenzene	105	1	0.0962	9.39 (U)	n/a	0.0962[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	105	23	0.014	0.939 (UJ)	Nonparametric	0.0778	95% km (BCA)
Methylene chloride	57	1	0.00232	0.00626 (U)	n/a	0.00232[b]	Maximum detected concentration
Naphthalene	105	1	0.0145	0.939 (U)	n/a	0.0145[b]	Maximum detected concentration
Phenanthrene	105	44	0.0113	0.995	Nonparametric	0.0904	95% km (BCA)
Pyrene	105	58	0.0113	3.56	Nonparametric	0.408	95% km (Chebyshev)
Styrene	57	1	0.000566	0.00125 (U)	n/a	0.000566[b]	Maximum detected concentration
Toluene	57	19	0.000364	0.00647	Nonparametric	0.00106	95% KM (t)
TCDD[2,3,7,8-] equivalent	1	1	5.49E-06	5.49E-06	n/a	5.49E-06	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	109	37	-0.0153 (U)	0.268	Nonparametric	0.0385	95% KM (Chebyshev)
Cesium-137	95	35	-0.0555 (U)	1.08	Nonparametric	0.154	95% KM (Chebyshev)
Plutonium-238	111	7	-0.0138 (U)	0.038	n/a	0.038[c]	Maximum detected concentration
Plutonium-239/240	111	88	-0.00403 (U)	4.58	Nonparametric	0.71	95% KM (Chebyshev)
Tritium	106	104	0.009338	18.68	Nonparametric	1.192	95% KM (Chebyshev)
Uranium-234	109	109	0.472	8.95	Nonparametric	2.4	95% Chebyshev (Mean, Sd)

Table H-2.3-21 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Uranium-235/236	109	93	0.03 (U)	0.76	Nonparametric	0.122	95% KM (BCA)
Uranium-238	109	109	0.415	2.58	Normal	1.019	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-22
EPCs for SWMU 21-024(n) for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Inorganic Chemicals (mg/kg)							
Aluminum	121	121	542	25800	Nonparametric	6115	95% Chebyshev (Mean, Sd)
Antimony	103	10	0.115	26.1	Nonparametric	1.537	95% KM (Chebyshev)
Arsenic	121	118	0.824	16.6	Nonparametric	3.133	95% KM (BCA)
Barium	121	121	10.9	247	Gamma	75.07	95% Approximate gamma
Cadmium	121	12	0.115	3.9	Nonparametric	0.313	95% KM (BCA)
Chromium	125	125	2.81	341	Nonparametric	41.6	95% Chebyshev (Mean, Sd)
Cobalt	121	121	0.377	15.1	Gamma	3.036	95% Approximate gamma
Copper	124	124	0.976	438	Nonparametric	35.79	95% Chebyshev (Mean, Sd)
Cyanide (Total)	121	46	0.0738	2.52	Nonparametric	0.214	95% KM (t)
Lead	124	124	2.1	369	Nonparametric	30.96	95% Chebyshev (Mean, Sd)
Manganese	121	121	81.5	1280	Gamma	300.6	95% Approximate gamma
Mercury	121	120	0.0019	0.207	Nonparametric	0.0341	95% KM (BCA)
Nickel	121	121	1.62	17	Gamma	5.72	95% Approximate gamma
Nitrate	121	51	0.658	20.7	Nonparametric	1.756	95% KM (t)
Perchlorate	121	15	0.000526	0.00249 (U)	Nonparametric	0.000882	95% KM (t)
Selenium	121	57	0.624	2.83	Nonparametric	1.076	95% KM (t)
Silver	121	97	0.0455	1.17	Nonparametric	0.127	95% KM (BCA)
Vanadium	121	121	1.41	35.6	Nonparametric	16.6	95% Chebyshev (Mean, Sd)
Zinc	124	124	16.2	915	Nonparametric	115.7	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acenaphthene	124	4	0.0186	0.939 (U)	n/a[a]	0.115[b]	Maximum detected concentration
Acetone	72	5	0.00332	0.0231	Nonparametric	0.0055	95% KM (t)
Anthracene	124	25	0.00765	0.939 (U)	Nonparametric	0.0281	95% km (BCA)
Aroclor-1254	1	1	0.0065	0.0065	n/a	0.0065	Maximum detected concentration
Benzo(a)anthracene	124	28	0.0171	1.12	Nonparametric	0.104	95% KM (BCA)

Table H-2.3-22 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Benzo(a)pyrene	124	26	0.0131 (U)	1.46 (U)	Nonparametric	0.0454	95% KM (t)
Benzo(b)fluoranthene	124	52	0.0109	2.45	Nonparametric	0.202	95% KM (BCA)
Benzo(g,h,i)perylene	124	27	0.0113	1.2	Nonparametric	0.0786	95% KM (BCA)
Benzo(k)fluoranthene	124	9	0.0145	0.939 (UJ)	Nonparametric	0.07	95% KM (Chebyshev)
Bis(2-ethylhexyl)phthalate	124	7	0.122	4.69 (U)	Nonparametric	0.176	95% KM (t)
Butylbenzylphthalate	124	2	0.182	9.39 (U)	n/a	0.759[b]	Maximum detected concentration
Chloroform	73	3	0.000253	0.0057 (U)	n/a	0.00052[b]	Maximum detected concentration
Chrysene	124	48	0.0152	1.62	Nonparametric	0.14	95% km (BCA)
Di-n-butylphthalate	124	3	0.0513	9.39 (U)	n/a	0.27[b]	Maximum detected concentration
Ethylbenzene	73	1	0.00027	0.0057 (U)	n/a	0.00027[b]	Maximum detected concentration
Fluoranthene	124	61	0.0117	2.32	Nonparametric	0.177	95% km (BCA)
Fluorene	124	4	0.0162	0.939 (U)	n/a	0.112[b]	Maximum detected concentration
Hexachlorobenzene	124	1	0.0962	9.39 (U)	n/a	0.0962[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	124	25	0.014	0.939 (UJ)	Nonparametric	0.0781	95% km (BCA)
Isopropyltoluene[4-]	73	8	0.000283	0.0127	Nonparametric	0.00118	95% KM (t)
Methylene chloride	73	1	0.00232	0.00626 (U)	n/a	0.00232[b]	Maximum detected concentration
Naphthalene	125	1	0.0057 (U)	0.939 (U)	n/a	0.0145[b]	Maximum detected concentration
Phenanthrene	124	48	0.0113	1.64	Nonparametric	0.105	95% km (BCA)
Pyrene	124	62	0.0113	3.56	Nonparametric	0.271	95% km (BCA)
Styrene	73	1	0.000566	0.0057 (U)	n/a	0.000566[b]	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	1	1	5.49E-06	5.49E-06	n/a	5.49E-06	Maximum detected concentration
Toluene	73	21	0.000364	0.00672	Nonparametric	0.00108	95% KM (t)
Trichloro-1,2,2-trifluoroethane[1,1,2-]	72	1	0.00207	0.00626 (U)	n/a	0.00207[b]	Maximum detected concentration
Trimethylbenzene[1,2,4-]	73	1	0.000262	0.0057 (U)	n/a	0.000262[b]	Maximum detected concentration
Xylene[1,2-]	73	2	0.000318	0.0057 (U)	n/a	0.00085[b]	Maximum detected concentration
Xylene[1,3-]+1,4-Xylene	73	5	0.00034	0.0057 (U)	Nonparametric	0.000739	95% KM (t)

Table H-2.3-22 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Radionuclides (pCi/g)							
Americium-241	124	37	-0.0153 (U)	0.268	Nonparametric	0.0323	95% KM (Chebyshev)
Cesium-137	109	35	-0.0555 (U)	1.08	Nonparametric	0.129	95% KM (Chebyshev)
Plutonium-238	127	7	-0.0138 (U)	0.038	n/a	0.038[c]	Maximum detected concentration
Plutonium-239/240	127	92	-0.00403 (U)	4.58	Nonparametric	0.627	95% KM (Chebyshev)
Tritium	121	119	0.009338	18.68	Nonparametric	1.389	95% KM (Chebyshev)
Uranium-234	125	125	0.472	13	Nonparametric	2.462	95% Chebyshev (Mean, Sd)
Uranium-235/236	125	102	0.03 (U)	0.965	Nonparametric	0.13	95% KM (BCA)
Uranium-238	125	125	0.415	2.58	Normal	1.01	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-23
EPCs for Consolidated Unit 21-026(a)-99 for Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	24	7	0.067 (J-)	1.5 (J-)	Nonparametric	0.323	95% KM (BCA)
Arsenic	24	23	0.83 (J)	11.9	Nonparametric	4.395	95% KM (Chebyshev)
Barium	23	22	2.2 (U)	708	Nonparametric	229.8	95% KM (Chebyshev)
Cadmium	24	13	0.023 (J)	12.1	Nonparametric	3.145	95% KM (Chebyshev)
Chromium	24	23	1.1 (U)	252	Nonparametric	69.39	95% KM (Chebyshev)
Copper	24	23	1 (J)	556	Nonparametric	151.4	95% KM (Chebyshev)
Cyanide (Total)	25	3	0.104 (U)	2.7 (J)	n/a[a]	2.7	Maximum detected concentration
Lead	24	23	0.33 (U)	249	Nonparametric	70.01	95% KM (Chebyshev)
Mercury	24	23	0.0071 (J)	14.7	Nonparametric	4.623	95% KM (Chebyshev)
Nickel	24	24	0.3	62.6	Nonparametric	19.24	95% Chebyshev (Mean, Sd)
Nitrate	24	20	0.2 (U)	9.8 (J)	Nonparametric	4.074	95% KM (Chebyshev)
Perchlorate	24	1	0.000991 (J)	0.0064 (UJ)	n/a	0.000991	Maximum detected concentration
Selenium	24	9	0.16 (J)	1.9 (U)	Nonparametric	0.677	95% KM (t)
Silver	25	24	0.055 (J)	42.2	Nonparametric	13.51	95% KM (Chebyshev)
Uranium	25	24	0.11 (U)	19.2	Nonparametric	5.7	95% KM (Chebyshev)
Zinc	24	23	2.2 (U)	1640	Nonparametric	423	95% KM (Chebyshev)
Organic Chemicals (mg/kg)							
Acenaphthene	25	2	0.0322 (U)	0.42 (U)	n/a	0.24[b]	Maximum detected concentration
Anthracene	25	2	0.0322 (U)	0.65	n/a	0.65	Maximum detected concentration
Benzo(a)anthracene	25	3	0.0322 (U)	5.9	n/a	5.9	Maximum detected concentration
Benzo(a)pyrene	25	4	0.0322 (U)	4.4 (J)	n/a	4.4	Maximum detected concentration
Benzo(b)fluoranthene	25	7	0.0123 (J)	6 (J)	Nonparametric	1.078	95% KM (t)
Benzo(g,h,i)perylene	25	3	0.0322 (U)	2.1 (J)	n/a	2.1	Maximum detected concentration
Benzo(k)fluoranthene	25	4	0.0322 (U)	4.6 (J)	n/a	4.6	Maximum detected concentration
Benzoic acid	25	3	0.388 (U)	2 (U)	n/a	0.501[b]	Maximum detected concentration

Table H-2.3-23 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Bis(2-ethylhexyl)phthalate	25	5	0.078 (J)	4.2	Nonparametric	0.736	95% KM (t)
Butylbenzylphthalate	25	2	0.322 (U)	1.2	n/a	1.2	Maximum detected concentration
Chrysene	25	5	0.0322 (U)	6	Nonparametric	1.136	95% KM (t)
Dibenz(a,h)anthracene	25	2	0.0322 (U)	0.84 (J)	n/a	0.84	Maximum detected concentration
Dibenzofuran	25	1	0.055 (J)	0.42 (U)	n/a	0.055	Maximum detected concentration
Dichlorobenzene[1,4-]	25	1	0.064 (J)	0.42 (U)	n/a	0.064	Maximum detected concentration
Dimethylphenol[2,4-]	25	1	0.063 (J)	0.42 (U)	n/a	0.063	Maximum detected concentration
Di-n-butylphthalate	25	4	0.04 (J)	0.85	n/a	0.85	Maximum detected concentration
Di-n-octylphthalate	25	1	0.1 (J)	0.42 (U)	n/a	0.1	Maximum detected concentration
Fluoranthene	25	6	0.0137 (J)	6.7	Nonparametric	2.173	95% KM (Chebyshev)
Fluorene	25	2	0.0322 (U)	0.42 (U)	n/a	0.17[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	25	3	0.0322 (U)	2.2 (J)	n/a	2.2	Maximum detected concentration
Phenanthrene	25	2	0.0322 (UJ)	2.2	n/a	2.2	Maximum detected concentration
Pyrene	25	6	0.0114 (J)	6	Nonparametric	1.055	95% KM (t)
Radionuclides (pCi/g)							
Americium-241	24	10	-0.0112 (U)	58.1	Nonparametric	13.76	95% KM (Chebyshev)
Cesium-137	23	11	-0.0055 (U)	0.785	Nonparametric	0.268	95% KM (t)
Plutonium-238	24	6	-0.0059 (U)	3.24	Nonparametric	0.538	95% KM (t)
Plutonium-239/240	24	18	0.0016 (U)	83.5	Nonparametric	20.12	95% KM (Chebyshev)
Tritium	24	13	0.003199	6.12	Nonparametric	1.43	95% KM (Chebyshev)
Uranium-234	25	25	0.273	43.1	Nonparametric	10.52	95% Chebyshev (Mean, Sd)
Uranium-235/236	25	16	0.009 (U)	1.8	Nonparametric	0.461	95% KM (Chebyshev)
Uranium-238	25	25	0.225	5.2	Nonparametric	1.906	95% Chebyshev (Mean, Sd)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-24
EPCs for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–1.0 ft for Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Arsenic	6	5	0.998(J)	6.07(J)	n/a*	6.07	Maximum detected concentration
Cadmium	6	4	0.107(J)	0.483(U)	n/a	0.412	Maximum detected concentration
Copper	6	6	1.63	31.1	n/a	31.1	Maximum detected concentration
Mercury	6	6	0.0269	0.171	n/a	0.171	Maximum detected concentration
Nitrate	6	6	1.08	2.54	n/a	2.54	Maximum detected concentration
Selenium	6	0	1.44(U)	1.57(U)	n/a	1.57(U)	Maximum detection limit
Silver	6	6	0.202	1.4(J)	n/a	1.4	Maximum detected concentration
Zinc	6	6	10.7(J)	109(J)	n/a	109	Maximum detected concentration
Organic Chemical (mg/kg)							
Benzo(a)pyrene	7	1	0.0322(U)	0.39(U)	n/a	0.0837	Maximum detected concentration
Benzo(b)fluoranthene	7	3	0.0153(J)	0.39(U)	n/a	0.162	Maximum detected concentration
Benzo(g,h,i)perylene	7	1	0.0322(U)	0.39(U)	n/a	0.0429	Maximum detected concentration
Benzo(k)fluoranthene	7	1	0.0322(U)	0.39(U)	n/a	0.0718	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	7	3	0.0782(J)	0.175(U)	n/a	0.16	Maximum detected concentration
Chrysene	7	2	0.0322(U)	0.39(U)	n/a	0.104	Maximum detected concentration
Di-n-butylphthalate	7	1	0.0621(J)	0.39(U)	n/a	0.064	Maximum detected concentration
Fluoranthene	7	2	0.0322(U)	0.39(U)	n/a	0.079	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	7	1	0.0322(U)	0.39(U)	n/a	0.0393	Maximum detected concentration
Pyrene	7	2	0.0322(U)	0.39(U)	n/a	0.0849	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	6	4	0.0112(U)	4.19	n/a	4.19	Maximum detected concentration
Plutonium-238	6	1	-0.000000000177	0.125	n/a	0.125	Maximum detected concentration
Plutonium-239/240	6	5	0.0133(U)	3.74	n/a	3.74	Maximum detected concentration
Tritium	6	5	0.0032	0.282	n/a	0.282	Maximum detected concentration

Note: Data qualifiers are defined in Appendix A.
*n/a = Not applicable.

Table H-2.3-25
EPCs for Consolidated Unit 21-026(a)-99 for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Calculation Method
Inorganic Chemicals (mg/kg)							
Antimony	50	12	0.066 (J-)	1.5 (J-)	Nonparametric	0.214	95% KM (BCA)
Arsenic	50	49	0.45 (J)	11.9	Nonparametric	2.884	95% KM (Chebyshev)
Barium	48	47	2.2 (U)	708	Nonparametric	130.5	95% KM (Chebyshev)
Cadmium	50	24	0.015 (J)	12.1	Nonparametric	1.585	95% KM (Chebyshev)
Chromium	50	49	1.1 (U)	252	Nonparametric	38.51	95% KM (Chebyshev)
Copper	50	49	0.949 (J)	556	Nonparametric	76.55	95% KM (Chebyshev)
Cyanide (Total)	51	4	0.0799 (J)	2.7 (J)	n/a*	2.7	Maximum detected concentration
Lead	50	49	0.33 (U)	249	Nonparametric	41	95% KM (Chebyshev)
Mercury	50	48	0.0043 (J)	14.7	Nonparametric	2.291	95% KM (Chebyshev)
Nickel	50	50	0.3	62.6	Nonparametric	11.48	95% KM (Chebyshev)
Selenium	50	21	0.16 (J)	1.9	Nonparametric	0.555	95% KM (% Bootstrap)
Silver	52	48	0.046 (J)	42.2	Nonparametric	6.765	95% KM (Chebyshev)
Uranium	51	50	0.11 (U)	19.2	Nonparametric	3.215	95% KM (Chebyshev)
Zinc	50	49	2.2 (U)	1640	Nonparametric	224.6	95% KM (Chebyshev)
Organic Chemicals (mg/kg)							
Acenaphthene	51	3	0.0322 (U)	0.42 (U)	n/a	0.281	Maximum detected concentration
Anthracene	51	4	0.0322 (U)	0.65	n/a	0.65	Maximum detected concentration
Aroclor-1254	1	1	0.0044	0.0044	n/a	0.0044	Maximum detected concentration
Aroclor-1260	1	1	0.0031 (J)	0.0031 (J)	n/a	0.0031	Maximum detected concentration
Benzo(a)anthracene	51	6	0.0291 (J)	5.9	Nonparametric	0.552	95% KM (t)
Benzo(a)pyrene	51	7	0.0184 (J)	4.4 (J)	Nonparametric	0.418	95% KM (t)
Benzo(b)fluoranthene	51	10	0.0123 (J)	6 (J)	Nonparametric	0.547	95% KM (t)
Benzo(g,h,i)perylene	51	5	0.0322 (U)	2.1 (J)	Nonparametric	0.224	95% KM (t)
Benzo(k)fluoranthene	51	6	0.0322 (U)	4.6 (J)	Nonparametric	0.438	95% KM (t)
Benzoic acid	51	4	0.388 (U)	2 (U)	n/a	0.501	Maximum detected concentration

Table H-2.3-25 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Calculation Method
Bis(2-ethylhexyl)phthalate	51	8	0.078 (J)	4.2	Nonparametric	0.689	95% KM (Chebyshev)
Butylbenzylphthalate	51	5	0.069 (J)	1.2	Nonparametric	0.189	95% KM (t)
Chloroform	26	2	0.000219 (J)	0.0056 (U)	n/a	0.000254	Maximum detected concentration
Chrysene	51	8	0.0248 (J)	6	Nonparametric	0.571	95% KM (t)
Dibenzo(a,h)anthracene	51	2	0.0322 (U)	0.84 (J)	n/a	0.84	Maximum detected concentration
Dibenzofuran	51	1	0.055 (J)	0.42 (U)	n/a	0.055	Maximum detected concentration
Dichlorobenzene[1,4-]	51	1	0.064 (J)	0.42 (U)	n/a	0.064	Maximum detected concentration
Di-n-butylphthalate	51	5	0.04 (J)	0.85	Nonparametric	0.239	95% KM (t) UCL
Di-n-octylphthalate	51	1	0.1 (J)	0.42 (U)	n/a	0.1	Maximum detected concentration
Fluoranthene	51	9	0.0137 (J)	6.7	Nonparametric	0.599	95% KM (t)
Fluorene	51	2	0.0322 (U)	0.42 (U)	n/a	0.17	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	51	5	0.0322 (U)	2.2 (J)	Nonparametric	0.229	95% KM (t)
Phenanthrene	51	4	0.0322 (UJ)	2.2	n/a	2.2	Maximum detected concentration
Pyrene	51	9	0.0114 (J)	6	Nonparametric	0.537	95% KM (t)
TCDD[2,3,7,8-] equivalent	1	1	1.88E-08	1.88E-08	n/a	1.88E-08	Maximum detected concentration
Xylene (Total)	9	1	0.0015 (J)	0.0056 (U)	n/a	0.0015	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	51	16	-0.012 (UJ)	58.1	Nonparametric	6.488	95% KM (Chebyshev)
Cesium-137	50	15	-0.0155 (U)	0.785	Nonparametric	0.135	95% KM (Percentile Bootstrap)
Plutonium-238	50	10	-0.0059 (U)	3.24	Nonparametric	0.481	95% KM (Chebyshev)
Plutonium-239/240	51	27	-0.012 (U)	83.5	Nonparametric	9.636	95% KM (Chebyshev)
Tritium	50	36	0.0032	6.12	Nonparametric	0.717	95% KM (Chebyshev)
Uranium-234	51	51	0.273	43.1	Nonparametric	5.631	95% KM (Chebyshev)
Uranium-235/236	51	35	0.009 (U)	1.8	Nonparametric	0.167	95% KM (BCA)
Uranium-238	51	51	0.225	5.2	Nonparametric	1.33	95% KM (Chebyshev)

Note: Data qualifiers are defined in Appendix A.

*n/a = Not applicable.

Table H-2.3-26
EPCs for Consolidated Unit 21-026(a)-99 for Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Aluminum	58	57	5.5 (U)	13200	Nonparametric	4634	95% KM (Chebyshev)
Antimony	58	12	0.066 (J-)	1.5 (J-)	Nonparametric	0.198	95% KM (BCA)
Arsenic	58	57	0.45 (J)	11.9	Nonparametric	2.716	95% KM (Chebyshev)
Barium	54	53	2.2 (U)	708	Nonparametric	118.1	95% KM (Chebyshev)
Cadmium	58	26	0.015 (J)	12.1	Nonparametric	1.36	95% KM (Chebyshev)
Chromium	58	57	1.1 (U)	252	Nonparametric	33.8	95% KM (Chebyshev)
Copper	58	57	0.949 (J)	556	Nonparametric	65.46	95% KM (Chebyshev)
Cyanide (Total)	59	4	0.0799 (J)	2.7 (J)	n/a*	2.7	Maximum detected concentration
Lead	58	57	0.33 (U)	249	Nonparametric	49.95	95% KM (Chebyshev)
Mercury	58	55	0.0043 (J)	14.7	Nonparametric	1.95	95% KM (Chebyshev)
Nickel	58	58	0.3	62.6	Nonparametric	10.15	95% Chebyshev (Mean, Sd)
Nitrate	58	23	0.093 (U)	9.8 (J)	Nonparametric	1.454	95% KM (Percentile Bootstrap)
Perchlorate	58	9	0.000627 (J)	0.0064 (UJ)	Nonparametric	0.00132	95% KM (t)
Selenium	58	24	0.16 (J)	1.9 (U)	Nonparametric	0.553	95% KM (t)
Silver	60	56	0.037 (J)	42.2	Nonparametric	5.797	95% KM (Chebyshev)
Uranium	59	58	0.11 (U)	19.2	Nonparametric	2.881	95% KM (Chebyshev)
Zinc	58	57	2.2 (U)	1640	Nonparametric	196.5	95% KM (Chebyshev)
Organic Chemicals (mg/kg)							
Acenaphthene	59	3	0.0322 (U)	0.42 (U)	n/a	0.281	Maximum detected concentration
Anthracene	59	4	0.0322 (U)	0.65	n/a	0.65	Maximum detected concentration
Aroclor-1254	1	1	0.0044	0.0044	n/a	0.0044	Maximum detected concentration
Aroclor-1260	1	1	0.0031	0.0031	n/a	0.0031	Maximum detected concentration
Benzo(a)anthracene	59	8	0.0142 (J)	5.9	Nonparametric	0.471	95% KM (t)
Benzo(a)pyrene	59	8	0.0184 (J)	4.4 (J)	Nonparametric	0.363	95% KM (t)
Benzo(b)fluoranthene	59	12	0.0123 (J)	6 (J)	Nonparametric	0.86	95% KM (Chebyshev)

Table H-2.3-26 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Benzo(g,h,i)perylene	59	6	0.0322 (U)	2.1 (J)	Nonparametric	0.196	95% KM (t)
Benzo(k)fluoranthene	59	7	0.0322 (U)	4.6 (J)	Nonparametric	0.381	95% KM (t)
Benzoic acid	59	4	0.388 (U)	2 (U)	n/a	0.501	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	59	9	0.078 (J)	4.2	Nonparametric	0.605	95% KM (Chebyshev)
Butylbenzylphthalate	59	5	0.069 (J)	1.2	Nonparametric	0.2	95% KM (Percentile Bootstrap)
Chloroform	34	2	0.000219 (J)	0.0056 (U)	n/a	0.000254	Maximum detected concentration
Chrysene	59	9	0.0248 (J)	6	Nonparametric	0.497	95% KM (t)
Dibenz(a,h)anthracene	59	2	0.0322 (U)	0.84 (J)	n/a	0.84	Maximum detected concentration
Dibenzofuran	59	1	0.055 (J)	0.42 (U)	n/a	0.055	Maximum detected concentration
Dichlorobenzene[1,4-]	59	1	0.00103 (U)	0.42 (U)	n/a	0.064	Maximum detected concentration
Dimethylphenol[2,4-]	59	1	0.063 (J)	0.42 (U)	n/a	0.063	Maximum detected concentration
Di-n-butylphthalate	59	5	0.04 (J)	0.85	Nonparametric	0.236	95% KM (t)
Di-n-octylphthalate	59	1	0.1 (J)	0.42 (U)	n/a	0.1	Maximum detected concentration
Ethylbenzene	34	1	0.00043 (J)	0.0056 (U)	n/a	0.00043	Maximum detected concentration
Fluoranthene	59	11	0.0109 (J)	6.7	Nonparametric	0.518	95% KM (t)
Fluorene	59	2	0.0322 (U)	0.42 (U)	n/a	0.17	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	59	5	0.0393	2.2	Nonparametric	0.202	95% KM (t)
Phenanthrene	59	5	0.0322 (UJ)	2.2	Nonparametric	0.189	95% KM (Percentile Bootstrap)
Pyrene	59	10	0.0114 (J)	6	Nonparametric	0.467	95% KM (t)
TCDD[2,3,7,8-] equivalent	1	1	1.88E-08	1.88E-08	n/a	1.88E-08	Maximum detected concentration
Trimethylbenzene[1,2,4-]	34	2	0.000413 (J)	0.0056 (U)	n/a	0.00049	Maximum detected concentration
Xylene[1,3-]+1,4-Xylene	24	2	0.000283 (J)	0.00241 (U)	n/a	0.000283	Maximum detected concentration
Xylene (Total)	10	1	0.0015 (J)	0.0056 (U)	n/a	0.0015	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	59	19	-0.012 (UJ)	58.1	Nonparametric	5.6	95% KM (Chebyshev)
Cesium-137	60	16	-0.0421 (U)	0.785	Nonparametric	0.106	95% KM (Percentile Bootstrap)

Table H-2.3-26 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Plutonium-238	59	10	-0.0059 (U)	3.24	Nonparametric	0.408	95% KM (Chebyshev)
Plutonium-239/240	59	31	-0.012 (U)	83.5	Nonparametric	8.342	95% KM (Chebyshev)
Tritium	58	44	0.00319871	6.12	Nonparametric	0.624	95% KM (Chebyshev)
Uranium-234	59	59	0.273	43.1	Nonparametric	4.987	95% Chebyshev (Mean, Sd)
Uranium-235/236	59	40	0.009 (U)	1.8	Nonparametric	0.142	95% KM (BCA)
Uranium-238	59	59	0.225	5.2	Nonparametric	1.027	95% Modified-t

Note: Data qualifiers are defined in Appendix A.

*n/a = Not applicable.

Table H-2.3-27
EPCs for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–10.0 ft for Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Arsenic	20	19	0.83(J)	6.07(J)	Gamma	2.36	95% KM (t)
Barium	16	16	4.91	103(J+)	Normal	51.5	95% Student's-t
Cadmium	20	6	0.107(J)	0.546(U)	Nonparametric	0.258	95% KM (t)
Chromium	20	20	1.54	23.4	Normal	10.4	95% Student's-t
Copper	20	20	1.29	31.1	Gamma	8.4	95% Adjusted gamma
Lead	20	20	1.05(J)	267	Nonparametric	92.4	95% Chebyshev (Mean,Sd)
Mercury	20	19	0.0047(J)	0.842	Gamma	0.163	95% Adjusted gamma
Nickel	20	20	0.401	8.22	Gamma	4.27	95% Adjusted gamma
Nitrate	20	6	0.921(U)	2.54	Normal	1.41	95% KM (t)
Perchlorate	20	5	0.000823(J)	0.00471	Normal	0.00177	95% KM (t)
Selenium	20	1	0.659(J)	1.68(U)	n/a*	0.659	Maximum detected concentration
Zinc	20	20	10.7	109	Normal	51.3	95% Student's-t
Organic Chemicals (mg/kg)							
Benzo(a)anthracene	20	3	0.0142(J)	0.124	n/a	0.124	Maximum detected concentration
Benzo(a)pyrene	20	3	0.0184(J)	0.0893	n/a	0.0893	Maximum detected concentration
Benzo(b)fluoranthene	20	6	0.0124(J)	0.162	Nonparametric	0.0538	95% KM (t)
Benzo(g,h,i)perylene	20	2	0.0322(U)	0.0429	n/a	0.0429	Maximum detected concentration
Benzo(k)fluoranthene	20	2	0.0322(U)	0.0718	n/a	0.0718	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	20	3	0.0839(J)	0.188(U)	n/a	0.16	Maximum detected concentration
Chloroform	14	2	0.000219(J)	0.00113(U)	n/a	0.000254	Maximum detected concentration
Chrysene	20	4	0.0248(J)	0.121	n/a	0.121	Maximum detected concentration
Di-n-butylphthalate	20	1	0.0621(J)	0.375(U)	n/a	0.0621	Maximum detected concentration
Fluoranthene	20	5	0.0109(J)	0.143	Normal	0.0465	95% KM (t)
Indeno(1,2,3-cd)pyrene	20	1	0.0322(U)	0.0393	n/a	0.0393	Maximum detected concentration
Phenanthrene	20	1	0.0219(J)	0.0375(UJ)	n/a	0.0219	Maximum detected concentration

Table H-2.3-27 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Pyrene	20	4	0.024(J)	0.124	n/a	0.124	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	1	1	1.90E-08	1.90E-08	n/a	1.90E-08	Maximum detected concentration
Trimethylbenzene[1,2,4-]	14	1	0.000413(J)	0.0011(U)	n/a	0.000413	Maximum detected concentration
Xylene[1,3-]+1,4-Xylene	14	2	0.000279(J)	0.00225(U)	n/a	0.000283	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	20	10	-0.0112(U)	4.19	Nonparametric	1.23	95% KM Chebyshev
Cesium-137	20	1	-0.00202	0.119	n/a	0.119	Maximum detected concentration
Plutonium-238	20	2	-0.000000000177	0.125	n/a	0.125	Maximum detected concentration
Plutonium-239/240	20	13	0.00168(U)	3.74	Gamma	0.789	95% Adjusted gamma
Tritium	20	19	0.0032	0.282	Gamma	0.0832	95% Adjusted gamma

Note: Data qualifiers are defined in Appendix A.

*n/a = Not applicable.

Table H-2.3-28
EPCs for SWMU 21-027(a) for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Cadmium	9	8	0.457	2.86	Nonparametric	1.891	95% KM (t)
Chromium	12	12	1.4	509	Gamma	276	95% Adjusted gamma
Copper	10	10	1.34	148	Normal	59.36	95% Student's-t
Lead	10	10	7.88	57	Normal	37.5	95% Student's-t
Lithium	9	9	6.73	15.3	Normal	11.01	95% Student's-t
Mercury	10	10	0.009	0.457	Normal	0.201	95% Student's-t
Nitrate	9	9	2.6	13.9	Nonparametric	10.07	95% Chebyshev (Mean, Sd)
Perchlorate	9	3	0.000581	0.00364	n/a[a]	0.00364	Maximum detected concentration
Strontium	9	9	3.06	43.2	Normal	28.68	95% Student's-t
Zinc	10	10	9.7	398	Normal	182.7	95% Student's-t
Organic Chemicals (mg/kg)							
Acenaphthene	10	3	0.0227	0.35 (U)	n/a	0.0557[b]	Maximum detected concentration
Anthracene	10	5	0.00724	0.35 (U)	Nonparametric	0.0543	95% KM (t)
Aroclor-1254	1	1	0.0518	0.0518	n/a	0.0518	Maximum detected concentration
Aroclor-1260	1	1	0.0284	0.0284	n/a	0.0284	Maximum detected concentration
Benzo(a)anthracene	10	5	0.0335 (U)	0.713	Nonparametric	0.31	95% KM (t)
Benzo(a)pyrene	10	3	0.0335 (U)	0.819	n/a	0.819	Maximum detected concentration
Benzo(b)fluoranthene	10	7	0.0335 (U)	1.55	Nonparametric	0.61	95% KM (t)
Benzo(g,h,i)perylene	10	6	0.0273	0.457	Nonparametric	0.199	95% KM (t)
Bis(2-ethylhexyl)phthalate	10	1	0.168 (U)	0.35 (U)	n/a	0.287[b]	Maximum detected concentration
Chrysene	10	8	0.0273	0.801	Nonparametric	0.346	95% KM (t)
Fluoranthene	10	9	0.012	1.84	Nonparametric	0.734	95% KM (t)
Fluorene	10	2	0.0156	0.35 (U)	n/a	0.0344[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	10	5	0.0218	0.721	Nonparametric	0.283	95% KM (t)
Phenanthrene	10	8	0.0142	0.611	Nonparametric	0.273	95% KM (t)

Table H-2.3-28 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Pyrene	10	9	0.0109	1.72	Nonparametric	0.671	95% KM (t)
TCDD[2,3,7,8-] equivalent	5	5	9.34E-09	0.00198	n/a	0.00198	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	10	9	0.014 (U)	54.5	Nonparametric	22.93	95% KM (t)
Plutonium-238	12	10	0.018 (U)	28.3	Nonparametric	16.26	95% KM (t)
Plutonium-239/240	12	12	0.211	159	Normal	82.68	95% Student's-t
Tritium	9	3	-2.61 (U)	3.96 (U)	n/a	0.1089	Maximum detected concentration
Uranium-234	10	10	0.905	51.9	Nonparametric	37.26	95% KM (t)
Uranium-235/236	10	10	0.059	2.74	Normal	1.33	95% Student's-t
Uranium-238	10	10	0.761	2.77	Normal	2.01	95% Student's-t

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-29
EPCs for SWMU 21-027(a) for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Arsenic	25	23	0.596	5.9	Nonparametric	3.596	95% KM (Chebyshev)
Barium	25	25	2.98	151	Normal	60.54	95% Student's-t
Cadmium	25	16	0.134	2.86	Nonparametric	1.28	95% KM (Chebyshev)
Chromium	28	28	1.4	509	Lognormal	187	95% Chebyshev (MVUE)
Copper	25	25	0.334	148	Gamma	29.31	95% Adjusted gamma
Lead	26	26	5.6	57	Gamma	22.59	95% Adjusted gamma
Lithium	25	25	1.86	15.3	Normal	9.234	95% Student's-t
Mercury	26	25	0.0023	0.457	Nonparametric	0.163	95% KM (Chebyshev)
Selenium	25	14	0.2	2.95	Nonparametric	1.3	95% KM (t)
Strontium	25	25	0.703	43.2	Normal	18.68	95% Student's-t
Zinc	26	26	9.7	398	Gamma	124.6	95% Adjusted gamma UCL
Organic Chemicals (mg/kg)							
Acenaphthene	26	3	0.0227	0.35 (U)	n/a[a]	0.0557[b]	Maximum detected concentration
Acetone	16	1	0.00502 (UJ)	0.0269	n/a	0.0269	Maximum detected concentration
Anthracene	26	5	0.00724	0.35 (U)	Nonparametric	0.0343	95% KM (t)
Aroclor-1254	2	2	0.0095	0.0518	n/a	0.0518	Maximum detected concentration
Aroclor-1260	2	2	0.0069	0.0284	n/a	0.0284	Maximum detected concentration
Benzo(a)anthracene	26	8	0.0189	0.713	Nonparametric	0.13	95% KM (t)
Benzo(a)pyrene	26	3	0.0185 (U)	0.819	n/a	0.819	Maximum detected concentration
Benzo(b)fluoranthene	26	9	0.0306 (U)	1.55	Nonparametric	0.258	95% KM (t)
Benzo(g,h,i)perylene	26	6	0.0273	0.457	Nonparametric	0.0945	95% KM (t)
Bis(2-ethylhexyl)phthalate	26	1	0.157 (U)	0.35 (U)	n/a	0.287[b]	Maximum detected concentration
Butanone[2-]	16	1	0.00502 (UJ)	0.021 (U)	n/a	0.00581[b]	Maximum detected concentration
Chrysene	26	10	0.0206	0.801	Nonparametric	0.15	95% KM (t)
Di-n-butylphthalate	26	1	0.036	1.37 (U)	n/a	0.036[b]	Maximum detected concentration

Table H-2.3-29 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Fluoranthene	26	14	0.0108	1.84	Nonparametric	0.506	95% KM (Chebyshev)
Fluorene	26	2	0.0156	0.35 (U)	n/a	0.0344[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	26	5	0.0218	0.721	Nonparametric	0.123	95% KM (t)
Phenanthrene	26	9	0.0142	0.611	Nonparametric	0.118	95% KM (t)
Pyrene	26	13	0.0109	1.72	Nonparametric	0.467	95% KM (Chebyshev)
Tetrachloroethene	16	3	0.000227	0.00559	n/a	0.00559	Maximum detected concentration
Toluene	16	6	0.000341	0.0051 (U)	Nonparametric	0.000642	95% KM (t)
TCDD[2,3,7,8-] equivalent	16	16	1.57E-10	0.00198	gamma	8.33E-04	95% Adjusted gamma
Radionuclides (pCi/g)							
Americium-241	26	23	0.00139 (U)	54.5	Nonparametric	15.65	95% KM (Chebyshev)
Cesium-137	24	10	-0.0414 (U)	1.32	Nonparametric	0.386	95% KM (t)
Plutonium-238	35	25	-0.00346 (U)	28.3	Nonparametric	9.801	95% KM (Chebyshev)
Plutonium-239/240	35	35	0.0329	159	gamma	40.76	95% Adjusted gamma
Tritium	25	6	-2.61 (U)	3.96 (U)	n/a	0.716[c]	Maximum detected concentration
Uranium-234	26	25	0.905	51.9	Nonparametric	17.93	95% KM (Chebyshev)
Uranium-235/236	26	25	0.059	2.74	Nonparametric	0.938	95% KM (Chebyshev)
Uranium-238	26	25	0.761	2.77	Nonparametric	1.712	95% KM (Chebyshev)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-30
EPCs for SWMU 21-027(a) for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Arsenic	27	25	0.596	5.9	Nonparametric	3.439	95% KM (Chebyshev)
Barium	27	27	2.98	151	gamma	63.68	95% Adjusted gamma
Cadmium	27	16	0.134	2.86	Nonparametric	1.21	95% KM (Chebyshev)
Chromium	30	30	1.23	509	Nonparametric	144.7	95% Chebyshev (Mean, Sd)
Copper	27	27	0.334	148	Gamma	26.85	95% Adjusted gamma
Lead	28	28	3.88	57	Gamma	21.52	95% Adjusted gamma
Lithium	27	27	1.86	15.3	Normal	8.934	95% Student's-t
Mercury	28	26	0.0023	0.457	Nonparametric	0.153	95% KM (Chebyshev)
Nitrate	27	18	0.959 (U)	13.9	Nonparametric	3.684	95% KM (BCA)
Perchlorate	27	6	0.000581	0.0051 (U)	Nonparametric	0.00173	95% KM (t)
Selenium	27	15	0.2	2.95	Nonparametric	1.306	95% KM (t)
Strontium	27	27	0.703	43.2	Normal	17.58	95% Student's-t
Zinc	29	29	9.7	398	Lognormal	147.5	95% Chebyshev (MVUE)
Organic Chemicals (mg/kg)							
Acenaphthene	28	3	0.0227	0.35 (U)	n/a[a]	0.0557[b]	Maximum detected concentration
Acetone	18	1	0.00502 (UJ)	0.0269	n/a	0.0269	Maximum detected concentration
Anthracene	28	5	0.00724	0.35 (U)	Nonparametric	0.0336	95% KM (t)
Aroclor-1254	2	2	0.0095	0.0518	n/a	0.0518	Maximum detected concentration
Aroclor-1260	2	2	0.0069	0.0284	n/a	0.0284	Maximum detected concentration
Benzo(a)anthracene	28	8	0.0189	0.713	Nonparametric	0.122	95% KM (t)
Benzo(a)pyrene	28	3	0.0185 (U)	0.819	n/a	0.819	Maximum detected concentration
Benzo(b)fluoranthene	28	9	0.0306 (U)	1.55	Nonparametric	0.242	95% KM (t)
Benzo(g,h,i)perylene	28	6	0.0273	0.457	Nonparametric	0.0896	95% KM (t)
Bis(2-ethylhexyl)phthalate	28	1	0.157 (U)	0.35 (U)	n/a	0.287[b]	Maximum detected concentration
Butanone[2-]	18	1	0.00502 (UJ)	0.021 (U)	n/a	0.00581[b]	Maximum detected concentration

Table H-2.3-30 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Chrysene	28	10	0.0206	0.801	Nonparametric	0.141	95% KM (t)
Di-n-butylphthalate	28	1	0.036	1.37 (U)	n/a	0.036[b]	Maximum detected concentration
Fluoranthene	28	14	0.0108	1.84	Nonparametric	0.473	95% KM (Chebyshev)
Fluorene	28	2	0.0156	0.35 (U)	n/a	0.0344[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	28	5	0.0218	0.721	Nonparametric	0.116	95% KM (t)
Phenanthrene	28	9	0.0142	0.611	Nonparametric	0.111	95% KM (t)
Pyrene	28	13	0.0109	1.72	Nonparametric	0.437	95% KM (Chebyshev)
Tetrachloroethene	19	3	0.000227	0.0056 (U)	n/a	0.00559[b]	Maximum detected concentration
Toluene	18	6	0.000341	0.0051 (U)	Nonparametric	0.000642	95% KM (t)
TCDD[2,3,7,8-] equivalent	18	18	1.57E-10	0.00198	Gamma	6.15E-04	95% Adjusted gamma
Radionuclides (pCi/g)							
Americium-241	30	25	-0.00621 (U)	54.5	Nonparametric	13.69	95% KM (Chebyshev)
Cesium-137	26	10	-0.0414 (U)	1.32	Nonparametric	0.355	95% KM (t)
Plutonium-238	39	27	-0.00346 (U)	28.3	Nonparametric	8.865	95% KM (Chebyshev)
Plutonium-239/240	39	39	0.0272	159	Gamma	36.37	95% Adjusted gamma
Tritium	28	8	-2.61 (U)	3.96 (U)	n/a	0.716[c]	Maximum detected concentration
Uranium-234	28	27	0.737	51.9	Nonparametric	16.8	95% KM (Chebyshev)
Uranium-235/236	28	26	0.021 (U)	2.74	Nonparametric	0.88	95% KM (Chebyshev)
Uranium-238	28	27	0.669	2.77	Nonparametric	1.665	95% KM (Chebyshev)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

[c] The 95% UCL was negative so the maximum detected activity is the EPC.

Table H-2.3-31
EPCs for SWMU 21-027(a) Mesa Top 1.0–10.0 ft for Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Arsenic	8	8	1.64	4.96	Normal	4.41	95% Student's-t
Barium	8	8	6.46	151	Normal	105.2	95% Student's-t
Cadmium	8	2	0.17(J)	0.605(U)	n/a	0.17	Maximum detected concentration
Chromium	8	8	1.23	116	Gamma	115.2	95% Adjusted gamma
Copper	7	7	4.5	16.1	n/a	16.1	Maximum detected concentration
Lead	8	8	3.88	19.4	Normal	16.3	95% Student's-t
Lithium	8	8	2.1	15.3	Normal	13.3	95% Student's-t
Mercury	8	8	0.00961(U)	0.274(J+)	Nonparametric	0.13	95% KM (t)
Nitrate	8	5	1.04(U)	4.59	Nonparametric	2.83	95% KM (t)
Perchlorate	8	2	0.00178(J+)	0.0051(U)	n/a*	0.00231	Maximum detected concentration
Selenium	8	8	0.2(J)	2.95	Nonparametric	2.48	95% KM (t)
Strontium	8	8	1.19	33.9	Normal	24.9	95% Student's-t
Zinc	9	9	20	278	Normal	154.6	95% Student's-t
Organic Chemicals (mg/kg)							
Acetone	8	1	0.00523(U)	0.0269(J)	n/a	0.0269	Maximum detected concentration
Aroclor-1254	1	1	n/a	0.0095	n/a	0.0095	Maximum detected concentration
Aroclor-1260	1	1	n/a	0.0069	n/a	0.0069	Maximum detected concentration
Benzo(a)anthracene	8	3	0.0189(J)	0.34(U)	n/a	0.0223	Maximum detected concentration
Benzo(b)fluoranthene	8	2	0.0306(U)	0.34(U)	n/a	0.0493	Maximum detected concentration
Butanone[2-]	8	1	0.00523 (U)	0.021 (U)	n/a	0.00581	Maximum detected concentration
Chrysene	8	2	0.0206(J)	0.34(U)	n/a	0.0208	Maximum detected concentration
Di-n-butylphthalate	8	1	0.036(J)	0.405(U)	n/a	0.036	Maximum detected concentration
Fluoranthene	8	4	0.0122(J)	0.34(U)	n/a	0.0396	Maximum detected concentration
Phenanthrene	8	1	0.0239(J)	0.34(U)	n/a	0.0239	Maximum detected concentration
Pyrene	8	4	0.0235(J)	0.34(U)	n/a	0.0325	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	8	8	6.07E-08	3.16E-05	Normal	0.0000173	95% Student's-t

Table H-2.3-31 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Tetrachloroethene	9	3	0.000227(J)	0.0056(U)	n/a	0.00559	Maximum detected concentration
Toluene	8	4	0.000341(J+)	0.0051(U)	n/a	0.00117	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	10	7	-0.00621(U)	2.75	Nonparametric	1.55	95% KM (t)
Cesium-137	7	1	0.0271(U)	0.179	n/a	0.179	Maximum detected concentration
Plutonium-238	15	7	0.00421(U)	2.34(U)	Nonparametric	0.387	95% KM (t)
Plutonium-239/240	15	15	0.0272	17.7	Gamma	20.6	95% Adjusted gamma
Tritium	9	5	0.057(U)	0.716	Nonparametric	0.282	95% KM (t)
Uranium-234	8	7	0.737	3.2(U)	Nonparametric	2.61	95% KM (t)
Uranium-235/236	8	6	0.021(U)	0.52(U)	Nonparametric	0.154	95% KM (t)

Note: Data qualifiers are defined in Appendix A.
*n/a = Not applicable.

Table H-2.3-32
EPCs for AOC C-21-027 for the Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Inorganic Chemicals (mg/kg)							
Antimony	7	5	0.34	2.24	n/a[a]	2.24	Maximum detected concentration
Chromium	9	9	3	67	Gamma	36.2	95% Adjusted gamma
Cyanide (Total)	7	3	0.172	0.797	n/a	0.797	Maximum detected concentration
Lead	8	8	13.1	32	Normal	24.64	95% Student's-t
Nitrate	10	8	0.81 (U)	39.1	Nonparametric	24.66	95% KM (t)
Perchlorate	10	9	0.00019	0.00817	Nonparametric	0.00514	95% KM (Chebyshev)
Selenium	7	0	0.5 (U)	1.07 (U)	n/a	1.07(U)	Maximum detection limit
Thallium	7	3	0.122	1.1 (U)	n/a	0.163[b]	Maximum detected concentration
Zinc	9	9	16	625	Nonparametric	388.6	95% Chebyshev (Mean,Sd)
Organic Chemicals (mg/kg)							
Benzo(a)anthracene	7	1	0.0352 (U)	0.36 (U)	n/a	0.16[b]	Maximum detected concentration
Benzo(a)pyrene	7	2	0.0108	0.36 (U)	n/a	0.16[b]	Maximum detected concentration
Benzo(b)fluoranthene	7	4	0.0278	0.34 (U)	n/a	0.24[b]	Maximum detected concentration
Benzo(g,h,i)perylene	7	1	0.0352 (UJ)	0.36 (UJ)	n/a	0.1[b]	Maximum detected concentration
Benzo(k)fluoranthene	7	1	0.0352 (U)	0.36 (U)	n/a	0.097[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	7	2	0.071	0.359 (UJ)	n/a	0.1[b]	Maximum detected concentration
Chrysene	7	1	0.0352 (U)	0.36 (U)	n/a	0.15[b]	Maximum detected concentration
Di-n-butylphthalate	7	1	0.0732	0.36 (U)	n/a	0.0732[b]	Maximum detected concentration
Fluoranthene	7	5	0.0229	0.34 (U)	n/a	0.23[b]	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	7	1	0.0352 (UJ)	0.36 (U)	n/a	0.091[b]	Maximum detected concentration
Phenanthrene	7	2	0.0117	0.36 (U)	n/a	0.0178[b]	Maximum detected concentration
Pyrene	7	6	0.0108	0.34 (U)	n/a	0.34[b]	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	6	6	1.01E-06	0.000502	n/a	0.000502	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	11	11	0.05	10.4	Nonparametric	5.234	95% Chebyshev (Mean, Sd)

Table H-2.3-32 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC method
Cesium-137	7	5	-0.046 (U)	1.04	n/a	1.04	Maximum detected concentration
Plutonium-238	13	10	0.0076 (U)	3.54	Nonparametric	1.597	95% KM (Chebyshev)
Plutonium-239/240	13	13	0.518	295	Nonparametric	131.7	95% Chebyshev (Mean, Sd)
Tritium	8	2	-0.00464 (U)	0.488	n/a	0.488	Maximum detected concentration
Uranium-234	9	9	1.13	5.19	Gamma	3.123	95% Adjusted gamma
Uranium-235/236	9	7	0.044 (U)	0.273	Nonparametric	0.169	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-33
EPCs for AOC C-21-027 Mesa Top 0.0–1.0 ft for Industrial Scenario

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	4	3	0.34(J)	2.24	n/a*	2.24	Maximum detected concentration
Cadmium	4	4	0.26(J)	0.648	n/a	0.648	Maximum detected concentration
Chromium	6	6	7.18	67	n/a	67	Maximum detected concentration
Cyanide (Total)	4	1	0.172(J)	0.54(U)	n/a	0.172	Maximum detected concentration
Lead	5	5	13.1	30.2	n/a	30.2	Maximum detected concentration
Nitrate	6	5	0.81(U)	29(J)	n/a	29	Maximum detected concentration
Perchlorate	6	5	0.00035(J)	0.00227(U)	n/a	0.001	Maximum detected concentration
Silver	4	1	0.219(J)	1.1(U)	n/a	0.219	Maximum detected concentration
Thallium	4	1	0.122(J)	1.1(U)	n/a	0.122	Maximum detected concentration
Zinc	6	6	31.8	625	n/a	625	Maximum detected concentration
Organic Chemicals (mg/kg)							
Benzo(a)anthracene	4	1	0.0356(U)	0.36(U)	n/a	0.16	Maximum detected concentration
Benzo(a)pyrene	4	2	0.0108(J)	0.36(U)	n/a	0.16	Maximum detected concentration
Benzo(b)fluoranthene	4	4	0.0278(J)	0.24(J)	n/a	0.24	Maximum detected concentration
Benzo(g,h,i)perylene	4	1	0.0356(U)	0.36(U)	n/a	0.1	Maximum detected concentration
Benzo(k)fluoranthene	4	1	0.0356(U)	0.36(U)	n/a	0.097	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	4	2	0.071(J)	0.356(U)	n/a	0.1	Maximum detected concentration
Chrysene	4	1	0.0356(U)	0.36(U)	n/a	0.15	Maximum detected concentration
Di-n-butylphthalate	4	1	0.0732(J)	0.36(U)	n/a	0.0732	Maximum detected concentration
Fluoranthene	4	4	0.0229(J)	0.23(J)	n/a	0.23	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	4	1	0.0356(U)	0.36(U)	n/a	0.091	Maximum detected concentration
Phenanthrene	4	1	0.0117(J)	0.36(U)	n/a	0.0117	Maximum detected concentration
Pyrene	4	4	0.0258(J)	0.34(J)	n/a	0.34	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	3	3	8.04E-06	1.48E-05	n/a	1.48E-05	Maximum detected concentration

Table H-2.3-33 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Radionuclides (pCi/g)							
Americium-241	6	6	0.0704	0.853	n/a	0.853	Maximum detected concentration
Plutonium-238	7	6	0.00796(U)	0.152	n/a	0.152	Maximum detected concentration
Plutonium-239/240	7	7	0.875	13.8	n/a	13.8	Maximum detected concentration
Tritium	5	2	0.00439(U)	0.488(J)	n/a	0.488	Maximum detected concentration
Uranium-234	5	5	1.55	5.19	n/a	5.19	Maximum detected concentration
Uranium-235/236	5	4	0.048(U)	0.273	n/a	0.273	Maximum detected concentration

Note: Data qualifiers are defined in Appendix A.

*n/a = Not applicable.

Table H-2.3-34
EPCs for AOC C-21-027 for Ecological Risk

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	11	8	0.34	2.24	Nonparametric	1.225	95% KM (t)
Barium	11	11	3.6	160	Normal	99.41	95% Student's-t
Chromium	13	13	3	67	Gamma	24.61	95% Adjusted gamma
Cyanide (Total)	11	5	0.172	0.807	Nonparametric	0.503	95% KM (t)
Lead	12	12	2.45	32	Normal	20.48	95% Student's-t
Selenium	11	0	0.49 (U)	1.07 (U)	n/a[a]	1.07(U)	Maximum detection limit
Thallium	11	5	0.12	1.1 (U)	Nonparametric	0.148	95% KM (t)
Zinc	13	13	12	625	Nonparametric	278.6	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Aroclor-1254	1	1	0.0024	0.0024	n/a	0.0024[b]	Maximum detected concentration
Aroclor-1260	1	1	0.0025	0.0025	n/a	0.0025[b]	Maximum detected concentration
Benzo(a)anthracene	11	1	0.034 (U)	0.36 (U)	n/a	0.16[b]	Maximum detected concentration
Benzo(a)pyrene	11	2	0.0108	0.36 (U)	n/a	0.16[b]	Maximum detected concentration
Benzo(b)fluoranthene	11	4	0.0278	0.34 (U)	n/a	0.24[b]	Maximum detected concentration
Benzo(g,h,i)perylene	11	1	0.034 (UJ)	0.36 (UJ)	n/a	0.1[b]	Maximum detected concentration
Benzo(k)fluoranthene	11	1	0.034 (U)	0.36 (U)	n/a	0.097[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	11	3	0.071	0.359 (UJ)	n/a	0.1[b]	Maximum detected concentration
Chrysene	11	1	0.034 (U)	0.36 (U)	n/a	0.15[b]	Maximum detected concentration
Di-n-butylphthalate	11	1	0.0732	0.366 (U)	n/a	0.0732[b]	Maximum detected concentration
Fluoranthene	11	6	0.0125	0.34 (U)	Nonparametric	0.113	95% KM (t)
Indeno(1,2,3-cd)pyrene	11	1	0.034 (UJ)	0.36 (U)	n/a	0.091[b]	Maximum detected concentration
Phenanthrene	11	2	0.0117	0.36 (U)	n/a	0.0178[b]	Maximum detected concentration
Pyrene	11	7	0.0108	0.34 (U)	Nonparametric	0.145	95% KM (t)
TCDD[2,3,7,8-] equivalent	7	7	1.01E-06	0.000502	n/a	0.000502	Maximum detected concentration

Table H-2.3-34 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Radionuclides (pCi/g)							
Americium-241	15	13	-0.00775 (U)	10.4	Nonparametric	3.937	95% KM (Chebyshev)
Cesium-137	11	6	-0.046 (U)	1.04	Nonparametric	0.412	95% KM (t)
Plutonium-238	17	11	0.0045 (U)	3.54	Nonparametric	1.241	95% KM (Chebyshev)
Plutonium-239/240	17	17	0.0194	295	Nonparametric	102	95% Chebyshev (Mean, Sd)
Tritium	12	2	-0.00464 (U)	0.488	n/a	0.488	Maximum detected concentration
Uranium-234	13	13	0.65	5.19	Gamma	2.423	95% Adjusted gamma
Uranium-235/236	13	10	0.026 (U)	0.273	Nonparametric	0.138	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-35
EPCs for AOC C-21-027 for the Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	14	10	0.34	2.24	Nonparametric	1.034	95% KM (t)
Barium	14	14	3.6	160	Normal	94.81	95% Student's-t
Chromium	20	20	3	67	Lognormal	20.33	95% Chebyshev (MVUE)
Cobalt	14	12	0.17 (U)	4.9	Nonparametric	3.176	95% KM (t)
Cyanide (Total)	14	5	0.172	0.807	Nonparametric	0.435	95% KM (t)
Lead	17	17	2.45	32	Normal	18.28	95% Student's-t
Nickel	14	14	1.3	9.2	Normal	6.478	95% Student's-t
Nitrate	21	15	0.81 (U)	78.6	Nonparametric	20.51	95% KM (t)
Perchlorate	21	17	0.00014	0.00826	Nonparametric	0.00438	95% KM (Chebyshev)
Selenium	14	0	0.49 (U)	1.07 (U)	n/a[a]	1.07(U)	Maximum detection limit
Thallium	14	5	0.12	1.2 (U)	Nonparametric	0.147	95% KM (t)
Zinc	19	19	12	625	Nonparametric	202.9	95% Chebyshev (Mean, Sd)
Organic Chemicals (mg/kg)							
Acetone	10	1	0.00535 (UJ)	0.023 (U)	n/a	0.013[b]	Maximum detected concentration
Aroclor-1254	1	1	0.0024	0.0024	n/a	0.0024	Maximum detected concentration
Aroclor-1260	1	1	0.0025	0.0025	n/a	0.0025	Maximum detected concentration
Benzo(a)anthracene	14	1	0.034 (U)	0.4 (U)	n/a	0.16[b]	Maximum detected concentration
Benzo(a)pyrene	14	2	0.0108	0.4 (U)	n/a	0.16[b]	Maximum detected concentration
Benzo(b)fluoranthene	14	4	0.0278	0.4 (U)	n/a	0.24[b]	Maximum detected concentration
Benzo(g,h,i)perylene	14	1	0.034 (UJ)	0.4 (UJ)	n/a	0.1[b]	Maximum detected concentration
Benzo(k)fluoranthene	14	1	0.034 (U)	0.4 (U)	n/a	0.097[b]	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	14	3	0.071	0.4 (U)	n/a	0.1[b]	Maximum detected concentration
Chrysene	14	1	0.034 (U)	0.4 (U)	n/a	0.15[b]	Maximum detected concentration
Di-n-butylphthalate	14	1	0.0732	0.4 (U)	n/a	0.0732[b]	maximum detected concentration
Fluoranthene	14	6	0.0125	0.4 (U)	Nonparametric	0.112	95% KM (t)

Table H-2.3-35 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Indeno(1,2,3-cd)pyrene	14	1	0.034 (UJ)	0.4 (U)	n/a	0.091[b]	Maximum detected concentration
Phenanthrene	14	2	0.0117	0.4 (U)	n/a	0.0178[b]	Maximum detected concentration
Pyrene	14	7	0.0108	0.4 (U)	Nonparametric	0.144	95% KM (t)
TCDD[2,3,7,8-] equivalent	9	9	1.01E-06	0.000502	Gamma	0.000358	95% Adjusted gamma
Radionuclides (pCi/g)							
Americium-241	23	18	-0.00775 (U)	10.4	Nonparametric	2.85	95% KM (Chebyshev)
Cesium-137	14	6	-0.046 (U)	1.04	Nonparametric	0.321	95% KM (t)
Plutonium-238	25	13	0.0011 (U)	3.54	Nonparametric	0.868	95% KM (Chebyshev)
Plutonium-239/240	25	25	0.0194	295	Nonparametric	71.19	95% Chebyshev (Mean, Sd)
Tritium	17	2	-0.00464 (U)	0.488	n/a	0.488	Maximum detected concentration
Uranium-234	18	18	0.65	5.19	Gamma	2.01	95% Adjusted gamma
Uranium-235/236	18	12	0.012 (U)	0.273	Nonparametric	0.118	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

[a] n/a = Not applicable.

[b] The maximum concentration of the data set is a nondetect (U or UJ); thus, the maximum detected concentration is less than the maximum concentration.

Table H-2.3-36
EPCs for AOC C-21-027 Mesa Top 0.0–10.0 ft for Construction Worker and Residential Scenarios

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Inorganic Chemicals (mg/kg)							
Antimony	8	6	0.34(J)	2.24	Nonparametric	1.21	95% KM (t)
Barium	8	8	40	160	Normal	116.4	95% Student's-t
Cadmium	8	6	0.089(J)	0.648	Nonparametric	0.399	95% KM (t)
Chromium	13	13	3.7	67	Lognormal	25.7	95% Chebyshev (MVUE)
Cobalt	8	8	0.313	4.9	Normal	3.81	95% Student's-t
Copper	8	8	1.76	14	Normal	10.4	95% Student's-t
Cyanide (Total)	8	1	0.172(J)	0.54(U)	n/a*	0.172	Maximum detected concentration
Lead	11	11	6.8	30.2	Normal	21.2	95% Student's-t
Nickel	8	8	2.81	9.2	Normal	7.84	95% Student's-t
Nitrate	13	9	0.81(U)	38	Nonparametric	22.2	95% KM Chebyshev
Perchlorate	13	9	0.00014(J)	0.00233(U)	Nonparametric	0.000633	95% KM (t)
Selenium	8	0	0.5(U)	1.05(U)	n/a	1.05(U)	Maximum detection limit
Silver	8	1	0.219(J)	1.2(U)	n/a	0.219	Maximum detected concentration
Thallium	8	1	0.122(J)	1.2(U)	n/a	0.122	Maximum detected concentration
Zinc	13	13	22.7	625	Nonparametric	282.1	95% Chebyshev (Mean,Sd)
Organic Chemicals (mg/kg)							
Acetone	6	1	0.00535(UJ)	0.023(U)	n/a	0.013	Maximum detected concentration
Benzo(a)anthracene	8	1	0.034(U)	0.4(U)	n/a	0.16	Maximum detected concentration
Benzo(a)pyrene	8	2	0.0108(J)	0.4(U)	n/a	0.16	Maximum detected concentration
Benzo(b)fluoranthene	8	4	0.0278(J)	0.4(U)	n/a	0.24	Maximum detected concentration
Benzo(g,h,i)perylene	8	1	0.034(UJ)	0.4(UJ)	n/a	0.1	Maximum detected concentration
Benzo(k)fluoranthene	8	1	0.0356(U)	0.4(U)	n/a	0.097	Maximum detected concentration
Bis(2-ethylhexyl)phthalate	8	2	0.071(J)	0.4(U)	n/a	0.1	Maximum detected concentration
Chrysene	8	1	0.0356(U)	0.4(U)	n/a	0.15	Maximum detected concentration
Di-n-butylphthalate	8	1	0.0732(J)	0.4(U)	n/a	0.0732	Maximum detected concentration

Table H-2.3-36 (continued)

COPC	Number of Analyses	Number of Detects	Minimum Concentration	Maximum Concentration	Distribution	EPC	EPC Method
Fluoranthene	8	4	0.0229(J)	0.4(U)	n/a	0.23	Maximum detected concentration
Indeno(1,2,3-cd)pyrene	8	1	0.0356(U)	0.4(U)	n/a	0.091	Maximum detected concentration
Phenanthrene	8	1	0.0117(J)	0.4(U)	n/a	0.0117	Maximum detected concentration
Pyrene	8	4	0.0258(J)	0.4(U)	n/a	0.34	Maximum detected concentration
TCDD[2,3,7,8-] equivalent	3	3	8.04E-06	1.48E-05	n/a	1.48E-05	Maximum detected concentration
Radionuclides (pCi/g)							
Americium-241	13	9	-0.00775(U)	0.853	Nonparametric	0.316	95% KM (t)
Plutonium-238	14	6	0.0013(U)	0.152	Nonparametric	0.064	95% KM (t)
Plutonium-239/240	14	14	0.108	13.8	Gamma	7.27	95% Adjusted gamma
Tritium	11	2	-0.0033(U)	0.488(J)	n/a	0.488	Maximum detected concentration
Uranium-234	11	11	0.767	5.19	Gamma	2.61	95% Adjusted gamma
Uranium-235/236	11	7	0.012(U)	0.273	Nonparametric	0.133	95% KM (t)

Note: Data qualifiers are defined in Appendix A.

*n/a = Not applicable.

Table H-3.2-1
Physical and Chemical Properties of
Inorganic COPCs for DP Site Aggregate Area

COPC	K_d[a] (cm^3/g)	Water Solubility[a,b] (g/L)
Aluminum	1500	Insoluble
Antimony	45	Insoluble
Arsenic	29	Insoluble
Barium	41	Insoluble
Beryllium	790	Insoluble
Cadmium	75	Insoluble
Chromium	1,800,000	Insoluble
Cobalt	850	Insoluble
Copper	35	Insoluble
Cyanide (Total)	9.9	na[c]
Iron	25	Insoluble
Lead	900	Insoluble
Lithium	300	Insoluble
Manganese	65	Insoluble
Mercury	52	Insoluble
Molybdenum	20	Insoluble
Nickel	65	Insoluble
Nitrate	0.0356	na
Perchlorate	na	245,000
Selenium	5	Insoluble
Silver	8.3	Insoluble
Strontium	35	Insoluble
Thallium	71	Insoluble
Uranium	450	Insoluble
Vanadium	1000	Insoluble
Zinc	62	Insoluble

[a] Information from http://rais.ornl.gov/cgi-bin/tools/TOX_select?select=chem_spef.

[b] Denotes reference information from http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm.

[c] na = Not available.

Table H-3.2-2
Physical and Chemical Properties of Organic COPCs for DP Site Aggregate Area

COPC	Water Solubility[a] (mg/L)	Organic Carbon Coefficient K_{oc}[a] (L/kg)	Log Octanol-Water Partition Coefficient K_{ow}[a]	Vapor Pressure[a] (mm Hg at 25°C)
Acenaphthene	3.60E+00[b]	6.12E+03	3.92E+00[b]	2.50E-03[b]
Acenaphthylene	1.61E+01	5.03E+03	3.94E+00	6.68E-03
Acetone	1.00E+06[b]	1.98E+00	-2.40E-01[b]	2.31E+02[b]
Anthracene	4.34E-02[b]	2.04E+04	4.45E+00[b]	2.67E-06[b]
Aroclor-1016	4.20E-01	4.77E+04	5.62E+00	4.00E-04
Aroclor-1242	2.77E-01	7.81E+04	6.29E+00	8.63E-05
Aroclor-1248	5.32E-02	4.39E+04	6.34E+00	4.94E-04
Aroclor-1254	3.40E-03[b]	5.30E+05[c]	6.79E+00[b]	6.53E-06[b]
Aroclor-1260	2.84E-04[b]	5.30E+05[c]	8.27E+00[b]	4.05E-05[b]
Benzo(a)anthracene	9.40E-03[b]	2.31E+05	5.76+00[b]	1.90E-06[b]
Benzo(a)pyrene	1.62E-03[b]	7.87E+05	6.13E+00[b]	5.49E-09[b]
Benzo(b)fluoranthene	1.50E-03[b]	8.03E+05	5.78E+00[b]	5.00E-07[b]
Benzo(g,h,i)perylene	2.60E-04[b]	2.68E+06	6.63E+00[b]	1.00E-10[b]
Benzo(k)fluoranthene	8.00E-04[b]	7.87E+05	6.1E+00[b]	9.65E-10[b]
Benzoic acid	3.40E+03[b]	1.45E+01	1.87E+00[b]	7.00E-04[b]
Benzyl alcohol	4.29E+04	2.15E+01	1.10E+00	9.40E-02
Bis(2-ethylhexyl)phthalate	2.70E-01[b]	1.65E+05	7.60E+00[b]	1.42E-07[b]
Butanone[2-]	2.23E+05	3.83E+00	2.90E-01	9.06E+01
Butylbenzene[sec-]	1.76E+01	1.58E+03	4.57E+00	1.75E+00
Butylbenzylphthalate	2.69E+00	9.36E+03	4.73E+00	8.25E-06
Carbazole	1.80E+00	1.13E+04	3.72E+00	7.50E-07
Carbon disulfide	1.18E+03	1.00E+00	1.94E+00	3.59E+02
Chlorobenzene	4.98E+02	2.34E+02	2.84E+00	1.20E+01
Chloroform	7.95E+03	3.18E+01	1.97E+00	1.97E+02
Chrysene	6.30E-03[b]	2.36E+05	5.81E+00[b]	6.23E-09[b]
Dibenz(a,h)anthracene	1.03E-03	2.62E+06	6.54E+00	1.39E-11
Dibenzofuran	3.10E+00	1.13E+04	4.12E+00	2.48E-03
Dichlorobenzene[1,2-]	1.56E+02	3.83E+02	3.43E+00	1.47E+00
Dichlorobenzene[1,3-]	1.25E+02	3.75E+02	3.52E+00	2.15E+00
Dichlorobenzene[1,4-]	8.13E+01	3.75E+02	3.44E+00	1.74E+00
Dichloroethane[1,1-]	5.04E+03	3.18E+01	1.79E+00	2.27E+02
Dichloroethene[1,1-]	2.42E+03	3.18E+01	2.13E+00	6.34E+02
Dimethylphenol[2,4-]	7.87E+03	4.92E+02	2.30E+00	1.02E-01
Di-n-butylphthalate	1.46E+03	4.50E+00	4.70E+00[b]	2.01E-05
Di-n-octylphthalate	2.20E-02	1.45E+05	8.10E+00	1.00E-07
Ethylbenzene	1.69E+02	5.18E+02	3.15E+00	9.60E+00

Table H-3.2-2 (continued)

COPC	Water Solubility[a] (mg/L)	Organic Carbon Coefficient K_{oc}[a] (L/kg)	Log Octanol-Water Partition Coefficient K_{ow}[a]	Vapor Pressure[a] (mm Hg at 25°C)
Fluoranthene	2.06E-01[c]	7.09E+04[c]	5.16E+00[c]	9.22E-06[c]
Fluorene	1.89E+00[b]	1.13E+04	4.18E+00[b]	8.42E-04[b]
Hexachlorobenzene	6.20E-03	6.20E+03	5.73E+00	1.80E-05
Indeno(1,2,3-cd)pyrene	1.90E-04	1.95E+06	6.70E+00	1.25E-12
Isopropyltoluene[4-]	2.34E+01[b]	na[d]	4.10E+00[b]	1.64E+00[b]
Methylene chloride	1.30E+04[b]	2.37E+01	1.30E+00[b]	4.30E+02[b]
Methylnaphthalene[2-]	2.46E+01	2.98E+03	3.86E+00	5.50E-02
Naphthalene	3.10E+01	1.84E+03	3.30E+00	8.50E-02
Phenanthrene	1.15E+00[b]	2.08E+04	4.46E+00[b]	1.12E-04[b]
Propylbenzene[1-]	5.22E+01	9.55E+02	3.69E+00	3.42E+00
Pyrene	1.35E-01[b]	6.94E+04	4.88E+00[b]	4.50E-06[b]
Styrene	3.10E+02	5.18E+02	2.95E+00	6.40E+00
Tetrachlorodibenzodioxin[2,3,7,8-]	2.00E-04	1.46E+05	na	na
Tetrachloroethene	2.06E+02	9.49E+01	3.40E+00	1.85E+01
Toluene	5.26E+02	2.68E+02	2.73E+00	2.84E+01
Trichloro-1,2,2-trifluoroethane[1,1,2-]	1.70E+02	1.97E+02	3.16E+00	3.63E+02
Trichloroethene	1.28E+03	6.07E+01	2.42E+00	6.90E+01
Trimethylbenzene[1,2,4-]	5.70E+01	7.18E+02	3.63E+00	2.10E+00
Trimethylbenzene[1,3,5-]	4.82E+01	6.02E+02	3.42E+00	2.10E+00
Xylene[1,2-]	1.61E+02	4.34E+02	3.20E+00	8.29E+00
Xylene[1,3-]+1,4-Xylene	1.78E+02	3.83E+02	3.12E+00	7.99E+00

[a] Information from http://rais.ornl.gov/cgi-bin/tools/TOX_search, unless noted otherwise.

[b] Information from http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm.

[c] Information from NMED (2012, 219971).

[d] na = Not available.

Table H-3.2-3
Physical and Chemical Properties of
Radionuclide COPC for DP Site Aggregate Area

COPC	Soil-Water Partition Coefficient, K_d[a] (cm^3/g)	Water Solubility[b] (g/L)
Americium-241	680	Insoluble
Cesium-137	1000	Insoluble
Plutonium-238	4500	Insoluble
Plutonium-239/240	4500	Insoluble
Strontium-90	35	Soluble
Tritium	9.9	Soluble
Uranium-234	0.4	Insoluble
Uranium-235/236	0.4	Insoluble
Uranium-238	0.4	Insoluble

[a] Superfund Chemical Data Matrix (EPA 1996, 064708).

[b] Information from http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm.

Table H-3.3-1
TEFs Used for Calculating TCDD-Equivalent Concentrations

Dioxin and Furan Congeners	TEFs*
Tetrachlorodibenzodioxin[2,3,7,8-]	1
Pentachlorodibenzodioxin[1,2,3,7,8-]	1
Hexachlorodibenzodioxin[1,2,3,4,7,8-]	0.1
Hexachlorodibenzodioxin[1,2,3,6,7,8-]	0.1
Hexachlorodibenzodioxin[1,2,3,7,8,9-]	0.1
Heptachlorodibenzodioxin[1,2,3,4,6,7,8-]	0.01
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	0.0003
Tetrachlorodibenzofuran[2,3,7,8-]	0.1
Pentachlorodibenzofuran[1,2,3,7,8-]	0.03
Pentachlorodibenzofuran[2,3,4,7,8-]	0.3
Hexachlorodibenzofuran[1,2,3,4,7,8-]	0.1
Hexachlorodibenzofuran[1,2,3,6,7,8-]	0.1
Hexachlorodibenzofuran[1,2,3,7,8,9-]	0.1
Hexachlorodibenzofuran[2,3,4,6,7,8-]	0.1
Heptachlorodibenzofuran[1,2,3,4,6,7,8-]	0.01
Heptachlorodibenzofuran[1,2,3,4,7,8,9-]	0.01
Octachlorodibenzofuran[1,2,3,4,6,7,8,9-]	0.0003

*TEFs from NMED (2012, 219971).

Table H-4.1-1
Exposure Parameter Values Used to Calculate
Chemical SSLs for the Industrial, Construction Worker, and Residential Scenarios

Parameters	Residential Values	Industrial Values	Construction Worker Values
Target HQ	1	1	1
Target cancer risk	10^{-5}	10^{-5}	10^{-5}
Averaging time (carcinogen/mutagen)	70 yr × 365 d	70 yr × 365 d	70 yr × 365 d
Averaging time (noncarcinogen)	Exposure duration × 365 d	Exposure duration × 365 d	Exposure duration × 365 d
Skin absorption factor	SVOC = 0.1	SVOC = 0.1	SVOC = 0.1
	Chemical-specific	Chemical-specific	Chemical-specific
Adherence factor–child	0.2 mg/cm^2	n/a[a]	n/a
Body weight–child	15 kg (0–6 yr of age)	n/a	n/a
Cancer slope factor–oral (chemical-specific)	(mg/kg-d)$^{-1}$	(mg/kg-d)$^{-1}$	(mg/kg-d)$^{-1}$
Inhalation unit risk (chemical-specific)	(µg/m^3)	(µg/m^3)	(µg/m^3)
Exposure frequency	350 d/yr	225 d/yr	250 d/yr
Exposure time	24 h/d	8 h/day	8 h/d
Exposure duration–child	6 yr[b]	n/a	n/a
Age-adjusted ingestion factor for carcinogens	114 mg-yr/kg-d	n/a	n/a
Age-adjusted ingestion factor for mutagens	489.5 mg-yr/kg-d	n/a	n/a
Soil ingestion rate–child	200 mg/d	n/a	n/a
Particulate emission factor	6.61 × 10^9 m^3/kg	6.61 × 10^9 m^3/kg	2.1 ×10^6 m^3/kg
Reference dose–oral (chemical-specific)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Reference dose–inhalation (chemical-specific)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Exposed surface area–child	2800 cm^2/d	n/a	n/a
Age-adjusted skin contact factor for carcinogens	361 mg-yr/kg-d	n/a	n/a
Age-adjusted skin contact factor for mutagens	1445 mg-yr/kg-d	n/a	n/a
Volatilization factor for soil (chemical-specific)	(m^3/kg)	(m^3/kg)	(m^3/kg)
Body weight–adult	70 kg	70 kg	70 kg
Exposure duration[c]	30 yr[d]	25 yr	1 yr
Adherence factor–adult	0.07 mg/cm^2	0.2 mg/cm^2	0.3 mg/cm^2
Soil ingestion rate–adult	100 mg/d	100 mg/d	330 mg/d
Exposed surface area–adult	5700 cm^2/d	3300 cm^2/d	3300 cm^2/d

Note: Parameter values from NMED (2012, 219971).

[a] n/a = Not applicable.

[b] The child exposure duration for mutagens is subdivided into 0–2 yr and 2–6 yr.

[c] Exposure duration for lifetime resident is 30 yr. For carcinogens, the exposures are combined for child (6 yr) and adult (24 yr).

[d] The adult exposure duration for mutagens is subdivided into 6–16 yr and 16–30 yr.

Table H-4.1-2
Parameter Values Used to Calculate Radionuclide SALs for the Residential Scenario

Parameters	Residential, Child	Residential, Adult
Inhalation rate (m^3/yr)	4712[a]	7780[b]
Mass loading (g/m^3)	1.5×10^{-7}[c]	1.5×10^{-7}[c]
Outdoor time fraction	0.0926[d]	0.0934[e]
Indoor time fraction	0.8656[f]	0.8648[g]
Soil ingestion (g/yr)	73[h]	36.5[i]

[a] Calculated as 12.9 m^3/d × 365.25 d/yr, where 12.9 m^3/d is the mean upper percentile daily inhalation rate of a child (EPA 2011, 208374, Table 6-1).

[b] Calculated as 21.3 m^3/d × 365.25 d/yr, where 21.3 m^3/d is the mean upper percentile daily inhalation rate of an adult from 21 to less than 61 yr old (EPA 2011, 208374, Table 6-1).

[c] Calculated as (1 / 6.6×10^9 m^3/kg) × 1000 g/kg, where 6.6×10^9 m^3/kg is the particulate emission factor (NMED 2012, 219971).

[d] Calculated as (2.32 h/d × 350 d/yr) / 8766 h/yr, where 2.32 h/d (139 min) is the largest amount of time spent outdoors for child age groups between 1 to less than 3 mo and 3 to less than 6 yr (EPA 2011, 208374, Table 16-1) and is comparable with the adult time spent outdoors at a residence.

[e] Calculated as (2.34 h/d × 350 d/yr) / 8766 h/yr, where 4.68 h/d is the average total time spent outdoors for adults age 18 to less than 65 yr in all environments (EPA 2011, 208374, Table 16-1); 50% of this value (2.34 h/d) was applied to time spent outdoors at a residence and is similar to mean time outdoors at a residence for this age group (EPA 2011, 208374, Table 16-22).

[f] Calculated as [(24 h/d–2.32 h/d) × 350 d/yr] / 8766 h/yr.

[g] Calculated as [(24 h/d–2.34 h/d) × 350 d/yr] / 8766 h/yr.

[h] The soil ingestion rate compensates for the time-based occupancy factor applied by RESRAD in calculating exposure from the soil ingestion pathway. Calculated as [0.2 g/d × 350 d/yr] / [indoor + outdoor time fractions], where 0.2 g/d is the upper percentile site-related daily child soil ingestion rate (NMED 2012, 219971; EPA 2011, 208374, Table 5-1).

[i] The soil ingestion rate compensates for the time-based occupancy factor applied by RESRAD in calculating exposure from the soil ingestion pathway. Calculated as [0.1 g/d × 350 d/yr] / [indoor + outdoor time fractions], where 0.1 g/d is the site-related daily adult soil ingestion rate (NMED 2012, 219971).

Table H-4.1-3
Parameter Values Used to Calculate Radionuclide SALs
for the Industrial and Construction Worker Scenarios

Parameters	Industrial, Adult	Construction Worker, Adult
Inhalation rate (m^3/yr)	7780[a]	7780[a]
Mass loading (g/m^3)	1.5×10^{-7}[b]	0.0004[c]
Outdoor time fraction	0.2053[d]	0.2282[e]
Indoor time fraction	0[f]	0
Soil ingestion (g/yr)	109.6[g]	362[h]

[a] Calculated as [21.3 m^3/d × 365.25 d/yr], where 21.3 m^3/d is the upper percentile daily inhalation rate of an adult from 21 to less than 61 yr old (EPA 2011, 208374, Table 6-1).

[b] Calculated as (1 / 6.6×10^9 m^3/kg) x 1000 g/kg, where 6.6×10^9 m^3/kg is the particulate emission factor (NMED 2012, 219971).

[c] Calculated as (1 / 2.1×10^6 m^3/kg) × 1000 g/kg, where 2.1×10^6 m^3/kg is the particulate emission factor (NMED 2012, 219971).

[d] Calculated as (8 h/d × 225 d/yr) / 8766 h/yr, where 8 h/d is an estimate of the average length of the work day and 225 d/yr is the exposure frequency (NMED 2012, 219971).

[e] Calculated as (8 h/d × 250 d/yr) / 8766 h/yr, where 8 h/d is an estimate of the average length of the work day and 250 d/yr is the exposure frequency (NMED 2012, 219971).

[f] The commercial/industrial worker is defined as someone who "spends most of the work day conducting maintenance or manual labor activities outdoors" (NMED 2012, 219971, p. 13).

[g] The soil-ingestion rate compensates for the time-based occupancy factor applied by RESRAD in calculating exposure from the soil-ingestion pathway. Calculated as [0.1 g/d × 225 d/yr] / [indoor + outdoor time fractions], where 0.1 g/d is the site-related daily adult soil-ingestion rate (NMED 2012, 219971).

[h] The soil-ingestion rate compensates for the time-based occupancy factor applied by RESRAD in calculating exposure from the soil ingestion pathway. Calculated as [0.33 g/d × 250 d/yr] / [indoor + outdoor time fractions], where 0.33 g/d is the site-related daily soil ingestion rate for a construction worker (NMED 2012, 219971).

Table H-4.2-1
Industrial Noncarcinogenic Screening Evaluation
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Acenaphthene	0.381	36700	0.00001
Acetone	0.0273	868000	0.000000031
Aluminum	12639	1130000	0.012
Anthracene	0.00863	183000	0.000000047
Barium	88.39	223000	0.0004
Benzoic acid	0.459	3300000[b]	0.00000014
Benzyl alcohol	0.232	82000[b]	0.0000028
Beryllium	0.694	2260	0.00031
Butylbenzene[sec-]	0.000293	120000[b]	0.0000000024
Cadmium	0.293	897	0.00033
Chromium	9.488	1700000[c]	0.0000056
Cobalt	2.599	350[b]	0.0074
Copper	9.858	45400	0.00022
Dichloroethene[1,1-]	0.000908	2290	0.0000004
Di-n-butylphthalate	0.0507	68400	0.00000074
Fluoranthene	0.127	24400	0.0000052
Iron	9978	795000	0.013
Isopropyltoluene[4-]	0.0219	14500[d]	0.0000015
Lead	16.3	800	0.02
Mercury	0.47	341	0.0014
Nickel	5.682	22500	0.00025
Nitrate	15.77	1820000	0.0000087
Perchlorate	0.00125	795	0.0000016
Phenanthrene	0.0234	20500	0.0000011
Pyrene	0.0576	18300	0.0000031
Selenium	1.219	5680	0.00021
Styrene	0.000538	50000	0.000000011
Toluene	0.00654	57700	0.00000011
Uranium	4.486	3410	0.0013
Vanadium	15.36	5680	0.0027
Xylene[1,2-]	0.00199	4410	0.00000045
Xylene[1,3-]+1,4-Xylene	0.00121	3980[e]	0.0000003
Zinc	60.14	341000	0.00018
		HI	**0.06**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[c] Chromium(III) SSL used.

[d] Isopropylbenzene used as a surrogate based on structural similarity.

[e] Xylenes used as a surrogate based on structural similarity.

Table H-4.2-2
Industrial Carcinogenic Screening Evaluation for
Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	Cancer Risk
Aroclor-1242	0.138	8.26	1.67E-07
Aroclor-1248	0.00979	8.26	1.19E-08
Aroclor-1254	0.117	8.26	1.42E-07
Aroclor-1260	0.232	8.26	2.81E-07
Arsenic	2.96	17.7	1.67E-06
Benzene	0.000662	84.7	7.82E-11
Benzo(a)anthracene	0.0452	23.4	1.93E-08
Benzo(a)pyrene	0.087	2.34	3.72E-07
Benzo(b)fluoranthene	0.0297	23.4	1.27E-08
Bis(2-ethylhexyl)phthalate	0.231	1370	1.69E-09
Chrysene	0.037	2340	1.58E-10
Ethylbenzene	0.00248	378	6.56E-11
Methylene chloride	0.0132	4700	2.81E-11
Tetrachloroethene	0.00178	36.6	4.86E-10
Trichloroethene	0.000926	41.3	2.24E-10
Total Excess Cancer Risk			**3E-06**[b]

[a] SSLs from NMED (2012, 219971).

[b] Total excess cancer risk is 2E-06 using the EPA regional industrial screening value for arsenic (see uncertainty discussion, section H-4.2.2).

Table H-4.2-3
Industrial Radionuclide Screening Evaluation for
Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.0577	990	0.0015
Cesium-137	0.338	39	0.22
Plutonium-238	0.0569	1300	0.0011
Plutonium-239/240	0.769	1200	0.016
Strontium-90	0.0493	3500	0.00035
Tritium	0.345	200000	0.000043
Uranium-234	3.611	3000	0.03
Uranium-235/236	0.183	150	0.031
Uranium-238	2.674	750	0.089
Total Dose			**0.4**

*SALs from LANL (2014, 600064).

Table H-4.2-4
Construction Worker Noncarcinogenic Screening Evaluation
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.381	18600	0.00002
Acetone	0.00523	221000	0.000000024
Aluminum	11375	40700	0.28
Anthracene	0.0196	66800	0.00000029
Aroclor-1254	0.101	4.36	0.023
Arsenic	2.778	53	0.052
Barium	91.25	4350	0.021
Benzoic acid	0.459	1080000[b]	0.00000043
Benzyl alcohol	0.232	26900[b]	0.0000086
Beryllium	0.675	144	0.0047
Bis(2-ethylhexyl)phthalate	0.232	4760	0.000049
Butylbenzene[sec-]	0.000485	35400[b]	0.000000014
Cadmium	0.263	277	0.00095
Chlorobenzene	0.000443	406	0.0000011
Chromium	12.2	465000[c]	0.000026
Cobalt	2.591	34.8[b]	0.074
Copper	8.034	12400	0.00065
Dichloroethene[1,1-]	0.000821	432	0.0000019
Di-n-butylphthalate	0.0579	23800	0.0000024
Fluoranthene	0.0925	8910	0.00001
Iron	9273	217000	0.043
Isopropyltoluene[4-]	0.00167	2810[d]	0.00000059
Lead	13.57	800	0.017
Mercury	0.335	92.9	0.0036
Methylene chloride	0.0132	1120	0.000012
Nickel	5.733	6190	0.00093
Nitrate	10.25	496000	0.000021
Perchlorate	0.00119	217	0.0000088
Phenanthrene	0.0225	7150	0.0000031
Pyrene	0.0435	6680	0.0000065
Selenium	1.1	1550	0.00071
Silver	0.0891	1550	0.000057
Styrene	0.000548	9990	0.000000055
TCDD[2,3,7,8-] equivalent	6.11E-08	0.000284	0.00022
Toluene	0.00129	13400	0.000000096

Table H-4.2-4 (continued)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Uranium	3.263	929	0.0035
Vanadium	13.42	1550	0.0087
Xylene[1,2-]	0.00199	823	0.0000024
Xylene[1,3-]+1,4-Xylene	0.000795	743[e]	0.0000011
Zinc	49.18	92900	0.00053
		HI	**0.5**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[c] Chromium(III) SSL used.

[d] Isopropylbenzene SSL used as surrogate based on structural similarity.

[e] Xylenes used as a surrogate based on structural similarity.

Table H-4.2-5
Construction Worker Carcinogenic Screening Evaluation
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (mg/kg	Construction Worker SSL* (mg/kg)	Cancer Risk
Aroclor-1016	0.43	15.3	2.81E-07
Aroclor-1242	0.00553	75.8	7.30E-10
Aroclor-1248	0.00841	75.8	1.11E-09
Aroclor-1260	0.192	75.8	2.53E-08
Benzene	0.000662	138	4.80E-11
Benzo(a)anthracene	0.0452	213	2.12E-09
Benzo(a)pyrene	0.087	21.3	4.08E-08
Benzo(b)fluoranthene	0.0439	213	2.06E-09
Benzo(k)fluoranthene	0.0317	2060	1.54E-10
Chrysene	0.035	20600	1.70E-11
Dichlorobenzene[1,4-]	0.0248	831	2.98E-10
Ethylbenzene	0.000412	1830	2.25E-12
Tetrachloroethene	0.00178	212	8.40E-11
Trichloroethene	0.00305	7.68	3.97E-09
		Total Excess Cancer Risk	**4E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-6
Construction Worker Radionuclide Screening Evaluation
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.0199	140	0.0036
Cesium-137	0.278	31	0.22
Plutonium-238	0.0569	130	0.011
Plutonium-239/240	0.486	120	0.101
Strontium-90	0.803	1600	0.013
Tritium	0.314	62000	0.00013
Uranium-234	2.622	770	0.085
Uranium-235/236	0.143	100	0.036
Uranium-238	1.66	410	0.1
		Total Dose	**0.6**

*SALs from LANL (2014, 600064).

Table H-4.2-7
Residential Noncarcinogenic Screening Evaluation
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.381	3440	0.00011
Acetone	0.00523	66600	0.000000079
Aluminum	11375	78000	0.15
Anthracene	0.0196	17200	0.0000011
Aroclor-1254	0.101	1.12	0.09
Barium	91.25	15600	0.0058
Benzoic acid	0.459	250000[b]	0.0000018
Benzyl alcohol	0.232	6200[b]	0.000037
Beryllium	0.675	156	0.0043
Butylbenzene[sec-]	0.000485	7800[b]	0.000000062
Cadmium	0.263	70.3	0.0037
Chlorobenzene	0.000443	376	0.0000012
Chromium	12.2	117000[c]	0.0001
Cobalt	2.591	23[b]	0.11
Copper	8.034	3130	0.0026
Dichloroethene[1,1-]	0.000821	449	0.0000018
Di-n-butylphthalate	0.0579	6110	0.0000095
Fluoranthene	0.0925	2290	0.00004

Table H-4.2-7 (continued)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Iron	9273	54800	0.17
Isopropyltoluene[4-]	0.00167	2430[d]	0.00000081
Lead	13.57	400	0.034
Mercury	0.335	23.5	0.014
Methylene chloride	0.0132	409	0.000032
Nickel	5.733	1560	0.0037
Nitrate	10.25	125000	0.000082
Perchlorate	0.00119	54.8	0.000022
Phenanthrene	0.0225	1830	0.000012
Pyrene	0.0435	1720	0.000025
Selenium	1.1	391	0.0028
Silver	0.0891	391	0.00023
Styrene	0.000548	7280	0.000000075
Toluene	0.00129	5270	0.00000024
Uranium	3.263	235	0.014
Vanadium	13.42	391	0.034
Xylene[1,2-]	0.00199	898	0.0000022
Xylene[1,3-]+1,4-Xylene	0.000795	814[e]	0.00000098
Zinc	49.18	23500	0.0021
		HI	**0.6**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[c] Chromium(III) SSL used.

[d] Isopropylbenzene SSL used as surrogate based on structural similarity.

[e] Xylenes used as a surrogate based on structural similarity.

Table H-4.2-8
Residential Carcinogenic Screening Evaluation
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	Cancer Risk
Aroclor-1016	0.43	3.93	1.09E-06
Aroclor-1242	0.00553	2.22	2.49E-08
Aroclor-1248	0.00841	2.22	3.79E-08
Aroclor-1260	0.192	2.22	8.65E-07
Arsenic	2.778	3.9	7.12E-06
Benzo(a)anthracene	0.0452	1.48	3.05E-07
Benzo(a)pyrene	0.087	0.148	5.88E-06
Benzo(b)fluoranthene	0.0439	1.48	2.97E-07
Benzo(k)fluoranthene	0.0317	14.8	2.14E-08
Bis(2-ethylhexyl)phthalate	0.232	347	6.69E-09
Chrysene	0.035	148	2.36E-09
Dichlorobenzene[1,4-]	0.0248	31.7	7.82E-09
Ethylbenzene	0.000412	68.4	6.02E-11
TCDD[2,3,7,8-] equivalent	6.11E-08	0.000045	1.36E-08
Tetrachloroethene	0.00178	7.02	2.54E-09
Trichloroethene	0.00305	8.77	3.48E-09
Total Excess Cancer Risk			**2E-05**[b]

[a] SSLs from NMED (2012, 219971).

[b] Total excess cancer risk is 1E-05 using the EPA regional residential screening value for arsenic (see uncertainty discussion, section H-4.2.2).

Table H-4.2-9
Residential Radionuclide Screening Evaluation
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.0199	82	0.0061
Cesium-137	0.278	11	0.632
Plutonium-238	0.0569	84	0.017
Plutonium-239/240	0.486	79	0.15
Strontium-90	0.803	15	1.34
Tritium	0.314	850	0.0092
Uranium-234	2.622	270	0.24
Uranium-235/236	0.143	39	0.092
Uranium-238	1.66	150	0.28
Total Dose			**3**

*SALs from LANL (2014, 600064).

Table H-4.2-10
Industrial Noncarcinogenic
Screening Evaluation for SWMU 21-022(h)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Acenaphthene	2	36700	0.000054
Anthracene	2.3	183000	0.000013
Antimony	0.222	454	0.00048
Benzo(g,h,i)perylene	6.4	18300[b]	0.00035
Cadmium	2.717	897	0.003
Chromium	163.4	1700000[c]	0.000096
Copper	249	45400	0.0055
Cyanide (Total)	0.277	681	0.00041
Dibenzofuran	1.1	1000[d]	0.011
Di-n-butylphthalate	0.35	68400	0.00051
Fluoranthene	4.45	24400	0.0001
Fluorene	1.6	24400	0.000066
Lead	1783	800	2.23
Mercury	1.195	341	0.0035
Methylnaphthalene[2-]	0.51	3000[d]	0.00017
Molybdenum	10.68	5680	0.0019
Nitrate	41.38	1820000	0.000023
Perchlorate	0.015	795	0.000019
Phenanthrene	3.792	20500	0.00019
Pyrene	5.845	18300	0.00032
Selenium	0.483	5680	0.000085
Silver	21.38	5680	0.0038
Zinc	1200	341000	0.0035
		HI	**2**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-11
Industrial Carcinogenic Screening Evaluation for SWMU 21-022(h)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	Cancer Risk
Benzo(a)anthracene	5.5	23.4	2.35E-06
Benzo(a)pyrene	1.773	2.34	7.57E-06
Benzo(b)fluoranthene	2.407	23.4	1.03E-06
Benzo(k)fluoranthene	0.951	234	4.06E-08
Bis(2-ethylhexyl)phthalate	2.357	1370	1.72E-08
Butylbenzylphthalate	0.51	12000[b]	4.25E-10
Chrysene	2.007	2340	8.58E-09
Dibenz(a,h)anthracene	0.87	2.34	3.72E-06
Indeno(1,2,3-cd)pyrene	5	23.4	2.14E-06
Naphthalene	1.7	241	7.05E-08
Total Excess Cancer Risk			**2E-05**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-12
Industrial Radionuclide Screening Evaluation for SWMU 21-022(h)

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	2.04	990	0.052
Cesium-137	0.693	39	0.44
Plutonium-238	11.99	1300	0.23
Plutonium-239/240	35.51	1200	0.74
Strontium-90	0.377	3500	0.0027
Tritium	0.0344	200000	0.0000043
Uranium-235/236	0.088	150	0.015
Total Dose			**2**

*SALs from LANL (2014, 600064).

Table H-4.2-13
Construction Worker Noncarcinogenic Screening Evaluation for SWMU 21-022(h)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.297	18600	0.000016
Aluminum	5390	40700	0.13
Anthracene	0.388	66800	0.0000058
Antimony	0.179	124	0.0014
Aroclor-1254	0.0478	4.36	0.011
Barium	65.24	4350	0.015
Benzo(g,h,i)perylene	0.88	6680[b]	0.00013
Bis(2-ethylhexyl)phthalate	1.108	4760	0.00023
Butylbenzylphthalate	0.51	53800[c]	0.0000095
Cadmium	1.495	277	0.0054
Chromium	29.29	465000[d]	0.000063
Copper	84.25	12400	0.0068
Cyanide (Total)	0.227	186	0.0012
Dibenzofuran	1.1	354[c]	0.0031
Diethylphthalate	0.113	191000	0.00000059
Di-n-butylphthalate	0.35	23800	0.000015
Fluoranthene	3.457	8910	0.00039
Fluorene	0.245	8910	0.000027
Isopropyltoluene[4-]	0.0019	2810[e]	0.00000068
Lead	772.9	800	0.97
Mercury	0.569	92.9	0.0061
Methylene chloride	0.0033	1120	0.0000029
Methylnaphthalene[2-]	0.51	1420[c]	0.00036
Molybdenum	9.257	1550	0.006
Naphthalene	0.159	158	0.001
Nickel	5.616	6190	0.00091
Nitrate	22.57	496000	0.000045
Perchlorate	0.015	217	0.000069
Phenanthrene	1.717	7150	0.00024
Pyrene	4.56	6680	0.00068
Selenium	0.45	1550	0.00029
Silver	9.526	1550	0.0061
TCDD[2,3,7,8-] equivalent	7.94E-07	0.000284	0.0028
Zinc	381.1	92900	0.0041
		HI	**1**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.
[b] Pyrene SSL used as surrogate based on structural similarity.
[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).
[d] Chromium(III) SSL used.
[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

Table H-4.2-14
Construction Worker
Carcinogenic Screening Evaluation for SWMU 21-022(h)

COPC	EPC (mg/kg	Construction Worker SSL* (mg/kg)	Cancer Risk
Aroclor-1260	0.0211	75.8	2.78E-09
Benzo(a)anthracene	0.833	213	3.91E-08
Benzo(a)pyrene	0.777	21.3	3.65E-07
Benzo(b)fluoranthene	1.11	213	5.21E-08
Benzo(k)fluoranthene	0.444	2060	2.16E-09
Chrysene	0.924	20600	4.49E-10
Dibenz(a,h)anthracene	0.87	21.3	4.08E-07
Indeno(1,2,3-cd)pyrene	0.714	213	3.35E-08
		Total Excess Cancer Risk	**9E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-15
Construction Worker
Radionuclide Screening Evaluation for SWMU 21-022(h)

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.974	140	0.17
Cesium-137	0.286	31	0.23
Plutonium-238	9.601	130	1.85
Plutonium-239/240	17.23	120	3.59
Strontium-90	0.377	1600	0.0059
Tritium	0.0545	62000	0.000022
Uranium-235/236	0.0641	100	0.016
		Total Dose	**6**

*SALs from LANL (2014, 600064).

Table H-4.2-16
Construction Worker Noncarcinogenic
Screening Evaluation for SWMU 21-022(h) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Aluminum	10200	40700	0.251
Barium	49.3	4350	0.0113
Cadmium	0.256	277	0.000924
Chromium	14.8	465000[b]	0.0000318
Copper	47.7	12400	0.00385
Lead	21.8	800	0.0273
Mercury	0.108	92.9	0.00116
Molybdenum	1.57	1550	0.00101
Nitrate	1.77	496000	0.00000357
Selenium	0.866	1550	0.000559
Zinc	104	92900	0.000112
Acenaphthene	0.0202	18600	0.00000108
Anthracene	0.0287	66800	0.00000043
Benzo(g,h,i)perylene	0.0464	6680[c]	0.00000695
Bis(2-ethylhexyl)phthalate	0.27	4760	0.0000567
Fluoranthene	0.145	8910	0.0000163
Fluorene	0.0161	8910	0.00000181
Naphthalene	0.0168	158	0.000106
Phenanthrene	0.131	7150	0.0000183
Pyrene	0.154	6680	0.0000231
		HI	**0.3**

[a] SSLs from NMED (2012, 219971).

[b] Chromium(III) SSL used.

[c] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-17
Construction Worker Carcinogenic
Screening Evaluation for SWMU 21-022(h) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.0665	213	3.12E-09
Benzo(a)pyrene	0.0711	21.3	3.34E-08
Benzo(b)fluoranthene	0.0898	213	4.22E-09
Benzo(k)fluoranthene	0.042	2060	2.04E-10
Chrysene	0.0781	20600	3.79E-11
Total Excess Cancer Risk			**4E-08**

*SSLs from NMED (2012, 219971).

Table H-4.2-18
Construction Worker Radionuclide
Screening Evaluation for SWMU 21-022(h) Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.181	140	0.0323
Plutonium-238	1.98	130	0.381
Plutonium-239/240	0.543	120	0.113
Tritium	0.0544	62000	0.0000219
Uranium-235/236	0.128	100	0.032
Total Dose			**0.6**

*SALs from LANL (2014, 600064).

Table H-4.2-19
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-022(h)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.297	3440	0.000086
Aluminum	5390	78000	0.069
Anthracene	0.388	17200	0.000023
Antimony	0.179	31.3	0.0057
Aroclor-1254	0.0478	1.12	0.043
Barium	65.24	15600	0.0042
Benzo(g,h,i)perylene	0.88	1720[b]	0.00051
Cadmium	1.495	70.3	0.021
Chromium	29.29	117000[c]	0.00025
Copper	84.25	3130	0.027
Cyanide (Total)	0.227	46.9	0.0048
Dibenzofuran	1.1	72[d]	0.015
Diethylphthalate	0.113	48900	0.0000023
Di-n-butylphthalate	0.35	6110	0.000057
Fluoranthene	3.457	2290	0.0015
Fluorene	0.245	2290	0.00011
Isopropyltoluene[4-]	0.0019	2430[e]	0.00000078
Lead	772.9	400	1.93
Mercury	0.569	23.5	0.024
Methylene chloride	0.0033	409	0.0000081
Methylnaphthalene[2-]	0.51	230[d]	0.0022
Molybdenum	9.257	391	0.024
Nickel	5.616	1560	0.0036
Nitrate	22.57	125000	0.00018
Perchlorate	0.015	54.8	0.00027
Phenanthrene	1.717	1830	0.00094
Pyrene	4.56	1720	0.0027
Selenium	0.45	391	0.0012
Silver	9.526	391	0.024
Zinc	381.1	23500	0.016
		HI	**2**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

Table H-4.2-20
Residential Carcinogenic
Screening Evaluation for SWMU 21-022(h)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	Cancer Risk
Aroclor-1260	0.0211	2.22	9.50E-08
Benzo(a)anthracene	0.833	1.48	5.63E-06
Benzo(a)pyrene	0.777	0.148	5.25E-05
Benzo(b)fluoranthene	1.11	1.48	7.50E-06
Benzo(k)fluoranthene	0.444	14.8	3.00E-07
Bis(2-ethylhexyl)phthalate	1.108	347	3.19E-08
Butylbenzylphthalate	0.51	2800[b]	1.82E-09
Chrysene	0.924	148	6.24E-08
Dibenz(a,h)anthracene	0.87	0.148	5.88E-05
Indeno(1,2,3-cd)pyrene	0.714	1.48	4.82E-06
Naphthalene	0.159	43	3.70E-08
TCDD[2,3,7,8-] equivalent	7.94E-07	0.000045	1.76E-07
		Total Excess Cancer Risk	**1E-04**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-21
Residential Radionuclide
Screening Evaluation for SWMU 21-022(h)

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.974	82	0.3
Cesium-137	0.286	11	0.65
Plutonium-238	9.601	84	2.86
Plutonium-239/240	17.23	79	5.45
Strontium-90	0.377	15	0.63
Tritium	0.0545	850	0.0016
Uranium-235/236	0.0641	39	0.041
		Total Dose	**10**

*SALs from LANL (2014, 600064).

Table H-4.2-22
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-022(h) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Aluminum	10200	78000	0.131
Barium	49.3	15600	0.00316
Cadmium	0.256	70.3	0.00364
Chromium	14.8	117000[b]	0.000126
Copper	47.7	3130	0.0152
Lead	21.8	400	0.0545
Mercury	0.108	23.5	0.0046
Molybdenum	1.57	391	0.00402
Nitrate	1.77	125000	0.0000142
Selenium	0.866	391	0.00221
Zinc	104	23500	0.00443
Acenaphthene	0.0202	3440	0.00000581
Anthracene	0.0287	17200	0.00000167
Benzo(g,h,i)perylene	0.0464	1720[c]	0.000027
Fluoranthene	0.145	2290	0.0000633
Fluorene	0.0161	2290	0.00000703
Phenanthrene	0.131	1830	0.0000716
Pyrene	0.154	1720	0.0000895
		HI	**0.2**

[a] SSLs from NMED (2012, 219971).

[b] Chromium(III) SSL used.

[c] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-23
Residential Carcinogenic
Screening Evaluation for SWMU 21-022(h) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.0665	1.48	4.49E-07
Benzo(a)pyrene	0.0711	0.148	4.80E-06
Benzo(b)fluoranthene	0.0898	1.48	6.07E-07
Benzo(k)fluoranthene	0.042	14.8	2.84E-08
Bis(2-ethylhexyl)phthalate	0.27	347	7.78E-09
Chrysene	0.0781	148	5.28E-09
Naphthalene	0.0168	43	3.91E-09
Total Excess Cancer Risk			**6E-06**

*SSLs from NMED (2012, 219971).

Table H-4.2-24
Residential Radionuclide
Screening Evaluation for SWMU 21-022(h) Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.181	82	0.0552
Plutonium-238	1.98	84	0.589
Plutonium-239/240	0.543	79	0.172
Tritium	0.0544	850	0.0016
Uranium-235/236	0.128	39	0.0821
Total Dose			**0.9**

*SALs from LANL (2014, 600064).

Table H-4.2-25
Construction Worker Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-023(a)-99

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.11	18600	0.0000059
Acetone	0.0114	221000	0.000000052
Anthracene	0.0272	66800	0.00000041
Antimony	0.27	124	0.0022
Aroclor-1254	0.0069	4.36	0.0016
Arsenic	3.225	53	0.061
Barium	87.07	4350	0.02
Benzo(g,h,i)perylene	0.562	6680[b]	0.000084
Bis(2-ethylhexyl)phthalate	2.12	4760	0.00045
Chromium	9.167	465000[c]	0.00002
Copper	4.184	12400	0.00034
Di-n-butylphthalate	0.0834	23800	0.0000035
Fluoranthene	0.153	8910	0.000017
Fluorene	0.0261	8910	0.0000029
Isopropyltoluene[4-]	0.000399	2810[d]	0.00000014
Lead	169.9	800	0.21
Manganese	222.8	440	0.052
Mercury	0.255	92.9	0.0027
Methylnaphthalene[2-]	0.0213	1420[e]	0.000015
Naphthalene	0.0609	158	0.00039
Nitrate	2.038	496000	0.0000041
Perchlorate	0.00142	217	0.0000065
Phenanthrene	0.0537	7150	0.0000075
Pyrene	0.167	6680	0.00025
Selenium	4.214	1550	0.0027
TCDD[2,3,7,8-] equivalent	8.65E-07	0.000284	0.003
Toluene	0.000401	13400	0.00000003
Vanadium	10.45	1550	0.0067
Xylene[1,2-]	0.00101	823	0.0000012
Xylene[1,3-]+1,4-Xylene	0.00203	743[f]	0.0000027
		HI	**0.4**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] Isopropylbenzene SSL used as surrogate based on structural similarity.

[e] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[f] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-26
Construction Worker Carcinogenic
Screening Evaluation for Consolidated Unit 21-023(a)-99

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.226	213	1.06E-08
Benzo(a)pyrene	0.184	21.3	8.64E-08
Benzo(b)fluoranthene	0.168	213	7.89E-09
Benzo(k)fluoranthene	0.0324	2060	1.57E-10
Chrysene	0.118	20600	5.73E-11
Ethylbenzene	0.000565	1830	3.09E-12
Indeno(1,2,3-cd)pyrene	0.52	213	2.44E-08
Tetrachloroethene	0.00126	212	5.94E-11
Total Excess Cancer Risk			**1E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-27
Construction Worker Radionuclide
Screening Evaluation for Consolidated Unit 21-023(a)-99

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.328	140	0.059
Cesium-137	0.133	31	0.11
Plutonium-238	0.0279	130	0.0054
Plutonium-239/240	0.838	120	0.17
Strontium-90	1.95	1600	0.03
Tritium	0.621	62000	0.00024
Uranium-234	1.45	770	0.047
Uranium-235/236	0.0692	100	0.017
Total Dose			**0.4**

*SALs from LANL (2014, 600064).

Table H-4.2-28
Residential Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-023(a)-99

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.11	3440	0.000032
Acetone	0.0114	66600	0.00000017
Anthracene	0.0272	17200	0.0000016
Antimony	0.27	31.3	0.0086
Aroclor-1254	0.0069	1.12	0.0062
Barium	87.07	15600	0.0056
Benzo(g,h,i)perylene	0.562	1720[b]	0.00033
Chromium	9.167	117000[c]	0.000078
Copper	4.184	3130	0.0013
Di-n-butylphthalate	0.0834	6110	0.000014
Fluoranthene	0.153	2290	0.000067
Fluorene	0.0261	2290	0.000011
Isopropyltoluene[4-]	0.000399	2430[d]	0.00000016
Lead	169.9	400	0.42
Manganese	222.8	1860	0.12
Mercury	0.255	23.5	0.011
Methylnaphthalene[2-]	0.0213	230[e]	0.000093
Nitrate	2.038	125000	0.000016
Perchlorate	0.00142	54.8	0.000026
Phenanthrene	0.0537	1830	0.000029
Pyrene	0.167	1720	0.000097
Selenium	4.214	391	0.011
Toluene	0.000401	5270	0.000000076
Vanadium	10.45	391	0.027
Xylene[1,2-]	0.00101	898	0.0000011
Xylene[1,3-]+1,4-Xylene	0.00203	814[f]	0.0000025
		HI	**0.6**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] Isopropylbenzene SSL used as surrogate based on structural similarity.

[e] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[f] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-29
Residential Carcinogenic
Screening Evaluation for Consolidated Unit 21-023(a)-99

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	Cancer Risk
Arsenic	3.225	3.9	8.27E-06
Benzo(a)anthracene	0.226	1.48	1.53E-06
Benzo(a)pyrene	0.184	0.148	1.24E-05
Benzo(b)fluoranthene	0.168	1.48	1.14E-06
Benzo(k)fluoranthene	0.0324	14.8	2.19E-08
Bis(2-ethylhexyl)phthalate	2.12	347	6.11E-08
Chrysene	0.118	148	7.97E-09
Ethylbenzene	0.000565	68.4	8.26E-11
Indeno(1,2,3-cd)pyrene	0.52	1.48	3.51E-06
Naphthalene	0.0609	43	1.42E-08
TCDD[2,3,7,8-] equivalent	8.65E-07	0.000045	1.92E-07
Tetrachloroethene	0.00126	7.02	1.79E-09
Total Excess Cancer Risk			**3E-05**[b]

[a] SSLs from NMED (2012, 219971).

[b] Total excess cancer risk is 2E-05 using the EPA regional residential screening value for arsenic (see uncertainty discussion, section H-4.2.2).

Table H-4.2-30
Residential Radionuclide
Screening Evaluation for Consolidated Unit 21-023(a)-99

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.328	82	0.1
Cesium-137	0.133	11	0.302
Plutonium-238	0.0279	84	0.0083
Plutonium-239/240	0.838	79	0.27
Strontium-90	1.95	15	3.25
Tritium	0.621	850	0.018
Uranium-234	1.45	270	0.13
Uranium-235/236	0.0692	39	0.044
Total Dose			**4**

*SALs from LANL (2014, 600064).

Table H-4.2-31
Industrial Noncarcinogenic Screening Evaluation for SWMU 21-024(b)

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	HQ
Barium	65.07	223000	0.00029
Cyanide (total)	0.945	681	0.0014
Fluoranthene	0.0268	24400	0.0000011
Lead	14.53	800	0.018
Mercury	0.0853	341	0.00025
Nitrate	26.5	1820000	0.000015
Perchlorate	0.00631	795	0.0000079
Phenanthrene	0.016	20500	0.00000078
Pyrene	0.0234	18300	0.0000013
Selenium	1.195	5680	0.00021
Zinc	60.99	341000	0.00018
		HI	**0.02**

*SSLs from NMED (2012, 219971).

Table H-4.2-32
Industrial Carcinogenic Screening Evaluation for SWMU 21-024(b)

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	Cancer Risk
Benzo(b)fluoranthene	0.0203	23.4	8.68E-09
Chrysene	0.0146	2340	6.24E-11
		Total Excess Cancer Risk	**9E-09**

*SSLs from NMED (2012, 219971).

Table H-4.2-33
Industrial Radionuclide Screening Evaluation for SWMU 21-024(b)

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	1.598	990	0.04
Cesium-137	0.772	39	0.49
Plutonium-238	0.288	1300	0.0055
Plutonium-239/240	72.23	1200	1.5
Tritium	0.0129	200000	0.0000016
Uranium-234	2.055	3000	0.017
Uranium-235/236	0.146	150	0.024
Uranium-238	1.873	750	0.062
		Total Dose	**2**

*SALs from LANL (2014, 600064).

Table H-4.2-34
Construction Worker Noncarcinogenic Screening Evaluation for SWMU 21-024(b)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Barium	54.67	4350	0.013
Benzo(g,h,i)perylene	0.0165	6680[b]	0.0000025
Bis(2-ethylhexyl)phthalate	0.0964	4760	0.00002
Chromium	7.816	465000[c]	0.000017
Cobalt	1.809	36.6[d]	0.049
Copper	6.186	12400	0.0005
Cyanide (Total)	0.246	186	0.0013
Fluoranthene	0.0234	8910	0.0000026
Lead	10.55	800	0.013
Mercury	0.126	92.9	0.0014
Nickel	4.684	6190	0.00076
Nitrate	24.66	496000	0.00005
Perchlorate	0.00375	217	0.000017
Phenanthrene	0.016	7150	0.0000022
Pyrene	0.0237	6680	0.0000035
Selenium	1.097	1550	0.00071
Silver	1.357	1550	0.00088
Strontium	17.6	186000	0.000095
Toluene	0.00114	13400	0.00000085
Zinc	46.26	92900	0.0005
		HI	**0.08**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

Table H-4.2-35
Construction Worker Carcinogenic Screening Evaluation for SWMU 21-024(b)

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)pyrene	0.0263	21.3	1.23E-08
Benzo(b)fluoranthene	0.0336	213	1.58E-09
Chrysene	0.0243	20600	1.18E-11
		Total Excess Cancer Risk	**1E-08**

*SSLs from NMED (2012, 219971).

Table H-4.2-36
Construction Worker Radionuclide
Screening Evaluation for SWMU 21-024(b)

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	1.176	140	0.21
Cesium-137	0.276	31	0.22
Plutonium-238	0.165	130	0.032
Plutonium-239/240	39.51	120	8.23
Tritium	0.02	62000	0.0000081
Uranium-234	1.484	770	0.048
Uranium-235/236	0.109	100	0.027
Uranium-238	1.329	410	0.081
		Total Dose	**9**

*SALs from LANL (2014, 600064).

Table H-4.2-37
Construction Worker Noncarcinogenic
Screening Evaluation for SWMU 21-024(b) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Cadmium	0.122	277	0.00044
Chromium	13.3	465000[b]	0.0000286
Copper	16	12400	0.00129
Mercury	0.16	92.9	0.00172
Nitrate	6.67	496000	0.0000134
Perchlorate	0.00088	217	0.00000406
Selenium	1.67(U)	1550	0.00108
Silver	5.81	1550	0.00375
Strontium	17.6	186000	0.0000946
Zinc	58.4	92900	0.000629
Benzo(g,h,i)perylene	0.0165	6680[c]	0.00000247
Bis(2-ethylhexyl)phthalate	0.0964	4760	0.0000203
Fluoranthene	0.048	8910	0.00000539
Pyrene	0.0336	6680	0.00000503
		HI	**0.009**

[a] SSLs from NMED (2012, 219971).

[b] Chromium(III) SSL used.

[c] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-38
Construction Worker Carcinogenic
Screening Evaluation for SWMU 21-024(b) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)pyrene	0.0263	21.3	1.23E-08
Benzo(b)fluoranthene	0.0336	213	1.58E-09
Chrysene	0.0243	20600	1.18E-11
Total Excess Cancer Risk			**1E-08**

*SSLs from NMED (2012, 219971).

Table H-4.2-39
Construction Worker Radionuclide
Screening Evaluation at SWMU 21-024(b) Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	4.68	140	0.836
Plutonium-238	0.32	130	0.0615
Plutonium-239/240	17.4	120	3.63
Tritium	0.0424	62000	0.0000171
Uranium-234	2.03	770	0.0659
Uranium-235/236	0.16	100	0.04
Total Dose			**5**

*SALs from LANL (2014, 600064).

Table H-4.2-40
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-024(b)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Barium	54.67	15600	0.0035
Benzo(g,h,i)perylene	0.0165	1720[b]	0.0000096
Chromium	7.816	117000[c]	0.000067
Cobalt	1.809	23[d]	0.079
Copper	6.186	3130	0.002
Cyanide (Total)	0.246	46.9	0.0052
Fluoranthene	0.0234	2290	0.00001
Lead	10.55	400	0.026
Mercury	0.126	23.5	0.0054
Nickel	4.684	1560	0.003
Nitrate	24.66	125000	0.0002
Perchlorate	0.00375	54.8	0.000068
Phenanthrene	0.016	1830	0.0000087
Pyrene	0.0237	1720	0.000014
Selenium	1.097	391	0.0028
Silver	1.357	391	0.0035
Strontium	17.6	46900	0.00038
Toluene	0.00114	5270	0.00000022
Zinc	46.26	23500	0.002
		HI	**0.1**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-41
Residential Carcinogenic Screening Evaluation for SWMU 21-024(b)

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Benzo(a)pyrene	0.0263	0.148	1.78E-06
Benzo(b)fluoranthene	0.0336	1.48	2.27E-07
Bis(2-ethylhexyl)phthalate	0.0964	347	2.78E-09
Chrysene	0.0243	148	1.64E-09
		Total Excess Cancer Risk	**2E-06**

*SSLs from NMED (2012, 219971).

Table H-4.2-42
Residential Radionuclide
Screening Evaluation for SWMU 21-024(b)

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	1.176	82	0.36
Cesium-137	0.276	11	0.627
Plutonium-238	0.165	84	0.049
Plutonium-239/240	39.51	79	12.5
Tritium	0.02	850	0.00059
Uranium-234	1.484	270	0.14
Uranium-235/236	0.109	39	0.07
Uranium-238	1.329	150	0.22
		Total Dose	**14**

*SALs from LANL (2014, 600064).

Table H-4.2-43
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-024(b) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Cadmium	0.122	70.3	0.00174
Chromium	13.3	117000[b]	0.000114
Copper	16	3130	0.00511
Mercury	0.16	23.5	0.00681
Nitrate	6.67	125000	0.0000534
Perchlorate	0.00088	54.8	0.0000161
Selenium	1.67(U)	391	0.00427
Silver	5.81	391	0.0149
Strontium	17.6	46900	0.000373
Zinc	58.4	23500	0.00249
Benzo(g,h,i)perylene	0.0165	1720[c]	0.00000959
Fluoranthene	0.048	2290	0.000021
Pyrene	0.0336	1720	0.0000195
		HI	**0.04**

[a] SSLs from NMED (2012, 219971).

[b] Chromium(III) SSL used.

[c] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-44
Residential Carcinogenic
Screening Evaluation for SWMU 21-024(b) Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Benzo(a)pyrene	0.0263	0.148	1.78E-06
Benzo(b)fluoranthene	0.0336	1.48	2.27E-07
Bis(2-ethylhexyl)phthalate	0.0964	347	2.78E-09
Chrysene	0.0243	148	1.64E-09
Total Excess Cancer Risk			**2E-06**

*SSLs from NMED (2012, 219971).

Table H-4.2-45
Residential Radionuclide
Screening Evaluation for SWMU 21-024(b) Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	4.68	82	1.43
Plutonium-238	0.32	84	0.0952
Plutonium-239/240	17.4	79	5.51
Tritium	0.0424	850	0.00125
Uranium-234	2.03	270	0.188
Uranium-235/236	0.16	39	0.103
Total Dose			**7**

*SALs from LANL (2014, 600064).

Table H-4.2-46
Industrial Noncarcinogenic
Screening Evaluation for SWMU 21-024(k)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Acenaphthene	0.0587	36700	0.0000016
Anthracene	0.0873	183000	0.00000048
Barium	57.45	223000	0.00026
Benzo(g,h,i)perylene	0.216	18300[b]	0.000012
Cyanide (Total)	0.342	681	0.0005
Fluoranthene	0.22	24400	0.000009
Fluorene	0.0405	24400	0.0000017
Lithium	7.966	2300	0.0035
Methylnaphthalene[2-]	0.00858	3000[c]	0.0000029
Nitrate	3.163	1820000	0.0000017
Phenanthrene	0.0982	20500	0.0000048
Perchlorate	0.00492	795	0.0000062
Pyrene	0.129	18300	0.000007
Selenium	0.888	5680	0.00016
Strontium	22.25	681000	0.000033
Zinc	56.94	341000	0.00017
		HI	**0.005**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-47
Industrial Carcinogenic
Screening Evaluation for SWMU 21-024(k)

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	Cancer Risk
Aroclor-1254	0.0094	8.26	1.14E-08
Aroclor-1260	0.0097	8.26	1.17E-08
Benzo(a)anthracene	0.186	23.4	7.95E-08
Benzo(a)pyrene	0.0349	2.34	1.49E-07
Benzo(b)fluoranthene	0.0778	23.4	3.32E-08
Chrysene	0.0599	2340	2.56E-10
Indeno(1,2,3-cd)pyrene	0.186	23.4	7.95E-09
		Total Excess Cancer Risk	**3E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-48
Industrial Radionuclide
Screening Evaluation for SWMU 21-024(k)

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.097	990	0.0024
Cesium-137	0.991	39	0.64
Plutonium-238	0.096	1300	0.0018
Plutonium-239/240	0.571	1200	0.012
Tritium	0.0296	200000	0.0204
Uranium-234	2.445	3000	0.00082
Uranium-235/236	0.111	150	0.019
		Total Dose	**0.7**

*SALs from LANL (2014, 600064).

Table H-4.2-49
Construction Worker Noncarcinogenic Screening Evaluation for SWMU 21-024(k)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.0261	18600	0.0000014
Acetone	0.00602	221000	0.000000027
Aluminum	4421	40700	0.11
Anthracene	0.0359	66800	0.00000054
Antimony	1.54	124	0.012
Aroclor-1254	0.0094	4.36	0.0022
Arsenic	3.437	53	0.065
Barium	53.54	4350	0.012
Benzo(g,h,i)perylene	0.0347	6680[b]	0.0000052
Beryllium	0.943	144	0.0065
Bis(2-ethylhexyl)phthalate	0.0924	4760	0.000019
Chromium	11.51	465000[c]	0.000025
Cobalt	1.849	36.6[d]	0.051
Copper	6.07	12400	0.00049
Cyanide (Total)	0.221	186	0.0012
Dibenzofuran	0.0936	354[d]	0.00026
Di-n-butylphthalate	0.158	23800	0.0000066
Fluoranthene	0.124	8910	0.000013
Fluorene	0.0316	8910	0.0000035
Isopropyltoluene[4-]	0.000969	2810[e]	0.00000034
Lead	11.93	800	0.015
Lithium	10.05	708[d]	0.014
Mercury	0.214	92.9	0.0023
Methylnaphthalene[2-]	0.0552	1420[d]	0.000039
Naphthalene	0.235	158	0.0015
Nickel	5.694	6190	0.00092
Nitrate	8.693	496000	0.000018
Perchlorate	0.00348	217	0.000016
Phenanthrene	0.104	7150	0.000015
Pyrene	0.12	6680	0.000018
Selenium	0.956	1550	0.00062
Strontium	21.67	186000	0.00012
TCDD[2,3,7,8-] equivalent	2.66E-07	0.000284	0.00094
Zinc	38.58	92900	0.00042
		HI	**0.3**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

Table H-4.2-50
Construction Worker Carcinogenic Screening Evaluation for SWMU 21-024(k)

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Aroclor-1260	0.0097	75.8	1.28E-09
Benzo(a)anthracene	0.0463	213	2.17E-09
Benzo(a)pyrene	0.0496	21.3	2.33E-08
Benzo(b)fluoranthene	0.0574	213	2.69E-09
Benzo(k)fluoranthene	0.0299	2060	1.45E-10
Chrysene	0.0509	20600	2.47E-11
Indeno(1,2,3-cd)pyrene	0.0331	213	1.55E-09
		Total Excess Cancer Risk	**3E-08**

*SSLs from NMED (2012, 219971).

Table H-4.2-51
Construction Worker Radionuclide Screening Evaluation for SWMU 21-024(k)

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.0214	140	0.0038
Cesium-137	0.295	31	0.24
Plutonium-238	0.096	130	0.018
Plutonium-239/240	0.4	120	0.083
Tritium	0.461	62000	0.00019
Uranium-234	1.536	770	0.05
Uranium-235/236	0.0796	150	0.013
		Total Dose	**0.4**

*SALs from LANL (2014, 600064).

Table H-4.2-52
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-024(k)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.0261	3440	0.0000076
Acetone	0.00602	66600	0.00000009
Aluminum	4421	78000	0.057
Anthracene	0.0359	17200	0.0000021
Antimony	1.54	31.3	0.049
Aroclor-1254	0.0094	1.12	0.0084
Barium	53.54	15600	0.0034
Benzo(g,h,i)perylene	0.0347	1720[b]	0.00002
Beryllium	0.943	156	0.006
Chromium	11.51	117000[c]	0.000098
Cobalt	1.849	23[d]	0.08
Copper	6.07	3130	0.0019
Cyanide (Total)	0.221	46.9	0.0047
Dibenzofuran	0.0936	72[d]	0.0013
Di-n-butylphthalate	0.158	6110	0.000026
Fluoranthene	0.124	2290	0.000054
Fluorene	0.0316	2290	0.000014
Isopropyltoluene[4-]	0.000969	2430[e]	0.00000000017
Lead	11.93	400	0.03
Lithium	10.05	160[d]	0.063
Mercury	0.214	23.5	0.0091
Methylnaphthalene[2-]	0.0552	230[d]	0.00024
Nickel	5.694	1560	0.0037
Nitrate	8.693	125000	0.00007
Perchlorate	0.00348	54.8	0.000064
Phenanthrene	0.104	1830	0.000057
Pyrene	0.12	1720	0.00007
Selenium	0.956	391	0.0024
Strontium	21.67	46900	0.00046
Toluene	0.000768	5270	0.00000015
Zinc	38.58	23500	0.0016
		HI	**0.3**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

Table H-4.2-53
Residential Carcinogenic Screening Evaluation for SWMU 21-024(k)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	Cancer Risk
Aroclor-1260	0.0097	2.22	4.37E-08
Arsenic	3.437	3.9	8.81E-06
Benzo(a)anthracene	0.0463	1.48	3.13E-07
Benzo(a)pyrene	0.0496	0.148	3.35E-06
Benzo(b)fluoranthene	0.0574	1.48	3.88E-07
Benzo(k)fluoranthene	0.0299	14.8	2.02E-08
Bis(2-ethylhexyl)phthalate	0.0924	347	2.66E-09
Chrysene	0.0509	148	3.44E-09
Indeno(1,2,3-cd)pyrene	0.0331	1.48	2.24E-07
Naphthalene	0.235	43	5.47E-08
TCDD[2,3,7,8-] equivalent	2.66E-07	0.000045	5.91E-08
Total Excess Cancer Risk			**1E-05**[b]

[a] SSLs from NMED (2012, 219971).

[b] Total excess cancer risk is 5E-06 using the EPA regional residential screening value for arsenic (see uncertainty discussion, section H-4.2.2).

Table H-4.2-54
Residential Radionuclide Screening Evaluation for SWMU 21-024(k)

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.0214	82	0.0065
Cesium-137	0.295	11	0.67
Plutonium-238	0.096	84	0.029
Plutonium-239/240	0.4	79	0.13
Tritium	0.461	850	0.014
Uranium-234	1.536	270	0.14
Uranium-235/236	0.0796	39	0.051
Total Dose			**1**

*SALs from LANL (2014, 600064).

Table H-4.2-55
Industrial Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-024(l)-99

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Acenaphthene	0.0665	36700	0.0000018
Anthracene	0.118	183000	0.00000064
Barium	115	223000	0.00052
Benzo(g,h,i)perylene	0.219	18300[b]	0.000012
Cadmium	0.449	897	0.0005
Chromium	9.956	1700000[c]	0.0000059
Copper	10.72	45400	0.00024
Dibenzofuran	0.117	1000[d]	0.00012
Fluoranthene	1.281	24400	0.000053
Fluorene	0.0595	24400	0.0000024
Lead	21.45	800	0.027
Lithium	12.21	2300[d]	0.0053
Methylnaphthalene[2-]	0.0534	3000[d]	0.000018
Nitrate	1.629	1820000	0.0000009
Perchlorate	0.00154	795	0.0000019
Phenanthrene	0.841	20500	0.000041
Pyrene	1.235	18300	0.000067
Selenium	1.065	5680	0.00019
Zinc	57.98	341000	0.00017
		HI	**0.03**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-56
Industrial Carcinogenic
Screening Evaluation for Consolidated Unit 21-024(I)-99

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.347	23.4	1.48E-07
Benzo(a)pyrene	0.202	2.34	8.63E-07
Benzo(b)fluoranthene	0.821	23.4	3.51E-07
Benzo(k)fluoranthene	0.153	234	6.54E-08
Bis(2-ethylhexyl)phthalate	0.25	1370	1.82E-09
Chrysene	0.575	2340	2.46E-09
Indeno(1,2,3-cd)pyrene	0.318	23.4	1.36E-07
Methylene chloride	0.00411	4700	8.74E-12
Naphthalene	0.16	241	6.64E-09
Total Excess Cancer Risk			**2E-06**

*SSLs from NMED (2012, 219971).

Table H-4.2-57
Industrial Radionuclide
Screening Evaluation for Consolidated Unit 21-024(I)-99

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.13	990	0.0033
Cesium-137	0.282	39	0.18
Plutonium-238	1.366	1300	0.026
Plutonium-239/240	2.146	1200	0.045
Tritium	0.061	200000	0.0000076
Uranium-234	2.307	3000	0.019
Uranium-235/236	0.11	150	0.018
Total Dose			**0.3**

*SALs from LANL (2014, 600064).

Table H-4.2-58
Construction Worker Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-024(l)-99

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.119	18600	0.0000064
Acenaphthylene	0.0122	6680[b]	0.0000018
Acetone	0.35	221000	0.0000016
Aluminum	10324	40700	0.25
Anthracene	0.306	66800	0.0000046
Barium	114	4350	0.026
Benzo(g,h,i)perylene	0.244	6680[b]	0.000037
Bis(2-ethylhexyl)phthalate	0.25	4760	0.000053
Cadmium	0.316	277	0.011
Chromium	10.47	465000[c]	0.000023
Cobalt	3.687	36.6[d]	0.1
Copper	9.422	12400	0.00076
Dibenzofuran	0.212	354[d]	0.0006
Fluoranthene	1.59	8910	0.00018
Fluorene	0.104	8910	0.000012
Isopropyltoluene[4-]	0.000463	2810[e]	0.00000016
Lead	119.5	800	0.15
Lithium	11.24	708[d]	0.016
Mercury	0.0811	92.9	0.00087
Methylene chloride	0.00411	1120	0.0000037
Methylnaphthalene[2-]	0.037	1420[d]	0.000026
Naphthalene	0.0908	158	0.00057
Nitrate	1.437	496000	0.0000029
Perchlorate	0.00169	217	0.0000078
Phenanthrene	1.275	7150	0.00018
Pyrene	1.281	6680	0.00019
Selenium	1.081	1550	0.0007
Toluene	0.00125	13400	0.000000093
Xylene[1,3-]+1,4-Xylene	0.000381	814[f]	0.00000047
Zinc	151.1	92900	0.0016
		HI	**0.6**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

[f] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-59
Construction Worker Carcinogenic
Screening Evaluation for Consolidated Unit 21-024(l)-99

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.414	213	1.94E-08
Benzo(a)pyrene	0.536	21.3	2.52E-07
Benzo(b)fluoranthene	0.843	213	3.96E-08
Benzo(k)fluoranthene	0.199	2060	9.66E-10
Chloroform	0.000215	154	1.40E-11
Chrysene	0.638	20600	3.10E-10
Dichlorobenzene[1,4-]	0.000316	831	3.80E-12
Indeno(1,2,3-cd)pyrene	0.34	213	1.60E-08
Total Excess Cancer Risk			**3E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-60
Construction Worker Radionuclide
Screening Evaluation for Consolidated Unit 21-024(l)-99

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.362	140	0.065
Cesium-137	0.0126	31	0.01
Plutonium-238	0.394	130	0.076
Plutonium-239/240	11.23	120	2.34
Tritium	0.302	62000	0.00012
Uranium-234	1.112	770	0.036
Uranium-235/236	0.0741	100	0.019
Total Dose			**3**

*SALs from LANL (2014, 600064).

Table H-4.2-61
Residential Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-024(l)-99

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.119	3440	0.000035
Acenaphthylene	0.0122	1720[b]	0.0000071
Acetone	0.35	66600	0.0000053
Aluminum	10324	78000	0.13
Anthracene	0.306	17200	0.000018
Barium	114	15600	0.0073
Benzo(g,h,i)perylene	0.244	1720[b]	0.00014
Cadmium	0.316	70.3	0.0045
Chromium	10.47	117000[c]	0.000089
Cobalt	3.687	23[d]	0.16
Copper	9.422	3130	0.003
Dibenzofuran	0.212	72[d]	0.0029
Fluoranthene	1.59	2290	0.00069
Fluorene	0.104	2290	0.000045
Isopropyltoluene[4-]	0.000463	2430[e]	0.0000019
Lead	119.5	400	0.3
Lithium	11.24	160[d]	0.07
Mercury	0.0811	23.5	0.0035
Methylene chloride	0.00411	409	0.00001
Methylnaphthalene[2-]	0.037	230[d]	0.00016
Nitrate	1.437	125000	0.000011
Perchlorate	0.00169	54.8	0.000031
Phenanthrene	1.275	1830	0.0007
Pyrene	1.281	1720	0.00074
Selenium	1.081	391	0.0028
Toluene	0.00125	5270	0.00000024
Xylene[1,3-]+1,4-Xylene	0.000381	814[f]	0.00000047
Zinc	151.1	23500	0.0064
		HI	**0.7**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

[f] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-62
Residential Carcinogenic
Screening Evaluation for Consolidated Unit 21-024(l)-99

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.414	1.48	2.80E-06
Benzo(a)pyrene	0.536	0.148	3.62E-05
Benzo(b)fluoranthene	0.843	1.48	5.70E-06
Benzo(k)fluoranthene	0.199	14.8	1.34E-07
Bis(2-ethylhexyl)phthalate	0.25	347	7.20E-09
Chloroform	0.000215	5.86	3.67E-10
Chrysene	0.638	148	4.31E-08
Dichlorobenzene[1,4-]	0.000316	31.7	9.97E-11
Indeno(1,2,3-cd)pyrene	0.34	1.48	2.30E-06
Naphthalene	0.0908	43	2.11E-08
Total Excess Cancer Risk			**5E-05**

*SSLs from NMED (2012, 219971).

Table H-4.2-63
Residential Radionuclide
Screening Evaluation for Consolidated Unit 21-024(l)-99

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.362	82	0.11
Cesium-137	0.0126	11	0.029
Plutonium-238	0.394	84	0.12
Plutonium-239/240	11.23	79	3.55
Tritium	0.302	850	0.0089
Uranium-234	1.112	270	0.1
Uranium-235/236	0.0741	39	0.048
Total Dose			**4**

*SALs from LANL (2014, 600064).

Table H-4.2-64
Industrial Noncarcinogenic
Screening Evaluation for SWMU 21-024(n)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Acenaphthene	0.0186	36700	0.00000051
Anthracene	0.0231	183000	0.00000013
Antimony	3.69	454	0.0081
Benzo(g,h,i)perylene	0.0813	18300[b]	0.0000044
Cadmium	0.458	897	0.00051
Chromium	55.06	1700000[c]	0.000032
Cobalt	4.41	350[d]	0.013
Copper	73.06	45400	0.0016
Cyanide (Total)	0.227	681	0.00033
Di-n-butylphthalate	0.0799	68400	0.0000012
Fluoranthene	0.307	24400	0.000013
Fluorene	0.0177	24400	0.00000073
Lead	56.89	800	0.071
Manganese	344.3	26700	0.013
Mercury	0.0674	341	0.0002
Nickel	7.137	22500	0.00032
Nitrate	2.17	1820000	0.0000012
Perchlorate	0.000799	795	0.000001
Phenanthrene	0.143	20500	0.000007
Pyrene	0.447	18300	0.000024
Selenium	1.096	5680	0.0002
Silver	0.251	5680	0.000044
Zinc	202.3	341000	0.00059
		HI	**0.1**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-65
Industrial Carcinogenic
Screening Evaluation for SWMU 21-024(n)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	Cancer Risk
Arsenic	3.612	17.7	2.04E-06
Benzo(a)anthracene	0.125	23.4	5.34E-08
Benzo(a)pyrene	0.0693	2.34	2.96E-07
Benzo(b)fluoranthene	0.358	23.4	1.53E-07
Benzo(k)fluoranthene	0.0626	234	2.68E-09
Bis(2-ethylhexyl)phthalate	0.409	1370	2.99E-09
Chrysene	0.252	2340	1.08E-09
Hexachlorobenzene	0.0962	12	8.02E-08
Indeno(1,2,3-cd)pyrene	0.0748	23.4	3.20E-08
Total Excess Cancer Risk			**3E-06**[b]

[a] SSLs from NMED (2012, 219971).

[b] Total excess cancer risk is 2E-06 using the EPA regional industrial screening value for arsenic (see uncertainty discussion, section H-4.2.2).

Table H-4.2-66
Industrial Radionuclide
Screening Evaluation for SWMU 21-024(n)

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.069	990	0.0017
Cesium-137	0.236	39	0.15
Plutonium-238	0.038	1300	0.00073
Plutonium-239/240	1.253	1200	0.026
Tritium	0.726	200000	0.0000091
Uranium-234	2.709	3000	0.023
Uranium-235/236	0.124	150	0.021
Uranium-238	1.088	750	0.036
		Total Dose	**0.3**

*SALs from LANL (2014, 600064).

Table H-4.2-67
Construction Worker Noncarcinogenic Screening Evaluation for SWMU 21-024(n)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.115	18600	0.0000062
Acetone	0.0055	221000	0.000000025
Aluminum	6115	40700	0.15
Antimony	1.537	124	0.012
Anthracene	0.0281	66800	0.00000042
Aroclor-1254	0.0065	4.36	0.0015
Arsenic	3.133	53	0.059
Barium	75.07	4350	0.017
Benzo(g,h,i)perylene	0.0786	6680[b]	0.000012
Bis(2-ethylhexyl)phthalate	0.176	4760	0.000037
Butylbenzylphthalate	0.759	47600[c]	0.000016
Cadmium	0.313	277	0.011
Chromium	41.6	465000[d]	0.000089
Cobalt	3.036	36.6[c]	0.083
Copper	35.79	12400	0.0029
Cyanide (Total)	0.214	186	0.0012
Di-n-butylphthalate	0.27	23800	0.000011
Fluoranthene	0.177	8910	0.00002
Fluorene	0.112	8910	0.000013
Isopropyltoluene[4-]	0.00118	2810[e]	0.00000042
Lead	30.96	800	0.039
Manganese	300.6	440	0.68
Mercury	0.0341	92.9	0.00037
Methylene chloride	0.00232	1120	0.0000021
Naphthalene	0.0145	158	0.000092
Nickel	5.72	6190	0.00092
Nitrate	1.756	496000	0.0000035
Perchlorate	0.000882	217	0.0000041
Phenanthrene	0.105	7150	0.000015
Pyrene	0.271	6680	0.000041
Selenium	1.076	1550	0.00069
Silver	0.127	1550	0.000082
Styrene	0.000566	9990	0.000000057
TCDD[2,3,7,8-] equivalent	5.49E-06	0.000284	0.019
Toluene	0.00108	13400	0.000000081
Trichloro-1,2,2-trifluorethane[1,1,2-]	0.00207	64700	0.000000032
Trimethylbenzene[1,2,4-]	0.000262	245[c]	0.000011

Table H-4.2-67 (continued)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Vanadium	16.6	1550	0.011
Xylene[1,2-]	0.00085	823	0.000001
Xylene[1,3-]+1,4-Xylene	0.000739	743[f]	0.00000099
Zinc	115.7	92900	0.0012
		HI	**1**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[d] Chromium(III) SSL used.

[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

[f] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-68
Construction Worker Carcinogenic Screening Evaluation for SWMU 21-024(n)

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.104	213	4.88E-09
Benzo(a)pyrene	0.0454	21.3	2.13E-08
Benzo(b)fluoranthene	0.202	213	9.48E-09
Benzo(k)fluoranthene	0.07	2060	3.40E-10
Chloroform	0.00052	154	3.38E-11
Chrysene	0.14	20600	6.80E-11
Ethylbenzene	0.00027	1830	1.48E-12
Hexachlorobenzene	0.0962	103	9.34E-09
Indeno(1,2,3-cd)pyrene	0.0781	213	3.67E-09
		Total Excess Cancer Risk	**5E-08**

*SSLs from NMED (2012, 219971).

Table H-4.2-69
Construction Worker Radionuclide Screening Evaluation for SWMU 21-024(n)

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.0323	140	0.0058
Cesium-137	0.129	31	0.1
Plutonium-238	0.038	130	0.0073
Plutonium-239/240	0.627	120	0.13
Tritium	1.389	62000	0.00056
Uranium-234	2.462	770	0.08
Uranium-235/236	0.13	100	0.033
Uranium-238	1.01	410	0.062
		Total Dose	**0.4**

*SALs from LANL (2014, 600064).

Table H-4.2-70
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-024(n)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.115	3440	0.000033
Acetone	0.0055	66600	0.000000083
Aluminum	6115	78000	0.078
Anthracene	0.0281	17200	0.0000016
Antimony	1.537	31.3	0.049
Aroclor-1254	0.0065	1.12	0.0058
Barium	75.07	15600	0.0048
Benzo(g,h,i)perylene	0.0786	1720[b]	0.000046
Cadmium	0.313	70.3	0.0045
Chromium	41.6	117000[c]	0.00036
Cobalt	3.036	23[d]	0.13
Copper	35.79	3130	0.011
Cyanide (Total)	0.214	46.9	0.0046
Di-n-butylphthalate	0.27	6110	0.000044
Fluoranthene	0.177	2290	0.000077
Fluorene	0.112	2290	0.000049
Isopropyltoluene[4-]	0.00118	2430[e]	0.00000049
Lead	30.96	400	0.077
Manganese	300.6	1860	0.16
Mercury	0.0341	23.5	0.0015

Table H-4.2-70 (continued)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Methylene chloride	0.00232	409	0.0000057
Nickel	5.72	1560	0.0037
Nitrate	1.756	125000	0.000014
Perchlorate	0.000882	54.8	0.000016
Phenanthrene	0.105	1830	0.000057
Pyrene	0.271	1720	0.00016
Selenium	1.076	391	0.0028
Silver	0.127	391	0.00032
Styrene	0.000566	46900	0.000000012
Toluene	0.00108	5270	0.0000002
Trichloro-1,2,2-trifluorethane[1,1,2-]	0.00207	72100	0.000000029
Trimethylbenzene[1,2,4-]	0.000262	58[d]	0.0000045
Xylene[1,2-]	0.00085	898	0.00000095
Xylene[1,3-]+1,4-Xylene	0.000739	814[f]	0.00000091
Vanadium	16.6	391	0.042
Zinc	115.7	23500	0.0049
		HI	**0.6**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[e] Isopropylbenzene SSL used as surrogate based on structural similarity.

[f] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-71
Residential Carcinogenic Screening Evaluation for SWMU 21-024(n)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	Cancer Risk
Arsenic	3.133	3.9	8.03E-06
Benzo(a)anthracene	0.104	1.48	7.03E-07
Benzo(a)pyrene	0.0454	0.148	3.07E-06
Benzo(b)fluoranthene	0.202	1.48	1.36E-06
Benzo(k)fluoranthene	0.07	14.8	4.73E-08
Bis(2-ethylhexyl)phthalate	0.176	347	5.07E-09
Butylbenzylphthalate	0.759	2800[b]	2.71E-09
Chloroform	0.00052	5.86	8.87E-10
Chrysene	0.14	148	9.46E-09
Ethylbenzene	0.00027	68.4	3.95E-11
Hexachlorobenzene	0.0962	3.04	3.16E-07
Indeno(1,2,3-cd)pyrene	0.0781	1.48	5.28E-07
Naphthalene	0.0145	43	3.37E-09
TCDD[2,3,7,8-] equivalent	5.49E-06	0.000045	1.22E-06
		Total Excess Cancer Risk	**2E-05**[c]

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[c] Total excess cancer risk is 1E-05 using the EPA regional residential screening value for arsenic (see uncertainty discussion, section H-4.2.2).

Table H-4.2-72
Residential Radionuclide Screening Evaluation for SWMU 21-024(n)

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.0323	82	0.0098
Cesium-137	0.129	11	0.293
Plutonium-238	0.038	84	0.011
Plutonium-239/240	0.627	79	0.2
Tritium	1.389	850	0.041
Uranium-234	2.462	270	0.228
Uranium-235/236	0.13	39	0.083
Uranium-238	1.01	150	0.17
		Total Dose	**1**

*SALs from LANL (2014, 600064).

Table H-4.2-73
Industrial Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Acenaphthene	0.24	36700	0.0000065
Anthracene	0.65	18300	0.000036
Antimony	0.323	454	0.00071
Barium	229.8	223000	0.001
Benzo(g,h,i)perylene	2.1	18300[b]	0.00011
Benzoic acid	0.501	3300000[c]	0.00000015
Cadmium	3.145	897	0.0035
Chromium	69.39	1700000[d]	0.000041
Copper	151.4	45400	0.0033
Cyanide (Total)	2.7	681	0.004
Dibenzofuran	0.055	1000[c]	0.000055
Dimethylphenol[2,4-]	0.063	13700	0.0000046
Di-n-butylphthalate	0.85	68400	0.000012
Di-n-octylphthalate	0.1	8200[c]	0.000012
Fluoranthene	2.173	24400	0.000089
Fluorene	0.17	24400	0.000007
Lead	70.01	800	0.088
Mercury	4.623	341	0.014
Nickel	19.24	22500	0.00086
Nitrate	4.074	1820000	0.0000022
Perchlorate	0.000991	795	0.0000012
Phenanthrene	2.2	20500	0.00011
Pyrene	1.055	18300	0.000058
Selenium	0.677	5680	0.00012
Silver	13.51	5680	0.0024
Uranium	5.7	3410	0.0017
Zinc	423	341000	0.0012
		HI	**0.1**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[d] Chromium(III) SSL used.

Table H-4.2-74
Industrial Carcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	Cancer Risk
Arsenic	4.395	17.7	2.48E-06
Benzo(a)anthracene	5.9	23.4	2.52E-06
Benzo(a)pyrene	4.4	2.34	1.88E-05
Benzo(b)fluoranthene	1.078	23.4	4.61E-07
Benzo(k)fluoranthene	4.6	234	1.97E-07
Bis(2-ethylhexyl)phthalate	0.736	1370	5.37E-09
Butylbenzylphthalate	1.2	12000[b]	1.00E-09
Chrysene	1.136	2340	4.85E-09
Dibenz(a,h)anthracene	0.84	2.34	3.59E-06
Dichlorobenzene[1,4-]	0.064	177	3.62E-09
Indeno(1,2,3-cd)pyrene	2.2	23.4	9.40E-07
Total Excess Cancer Risk			**3E-05**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-75
Industrial Radionuclide
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	13.76	990	0.35
Cesium-137	0.268	39	0.17
Plutonium-238	0.538	1300	0.01
Plutonium-239/240	20.12	1200	0.42
Tritium	1.43	200000	0.00018
Uranium-234	10.52	3000	0.088
Uranium-235/236	0.461	150	0.077
Uranium-238	1.906	750	0.064
Total Dose			**1**

*SALs from LANL (2014, 600064).

Table H-4.2-76
Industrial Noncarcinogenic Screening
Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–1.0 ft

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Cadmium	0.412	897	0.000459
Copper	31.1	45400	0.000685
Mercury	0.171	341	0.000501
Nitrate	2.54	1820000	0.0000014
Selenium	1.57(U)	5680	0.000276
Silver	1.4	5680	0.000246
Zinc	109	341000	0.00032
Benzo(g,h,i)perylene	0.0429	18300[b]	0.00000234
Di-n-butylphthalate	0.064	68400	0.000000936
Fluoranthene	0.079	24400	0.00000324
Pyrene	0.0849	18300	0.00000464
		HI	**0.002**

[a] SSLs from NMED (2012, 219971).

[b] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-77
Industrial Carcinogenic Screening
Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–1.0 ft

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	Cancer Risk
Arsenic	6.07	17.7	3.43E-06
Benzo(a)pyrene	0.0837	2.34	3.58E-07
Benzo(b)fluoranthene	0.162	23.4	6.92E-08
Benzo(k)fluoranthene	0.0718	234	3.07E-09
Bis(2-ethylhexyl)phthalate	0.16	1370	1.16E-09
Chrysene	0.104	2340	4.44E-10
Indeno(1,2,3-cd)pyrene	0.0393	23.4	1.68E-08
		Total Excess Cancer Risk	**4E-06**

*SSLs from NMED (2012, 219971).

Table H-4.2-78
Industrial Radionuclide Screening
Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–1.0 ft

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	4.19	990	0.106
Plutonium-238	0.125	1300	0.0024
Plutonium-239/240	3.74	1200	0.0779
Tritium	0.282	200000	0.0000353
		Total Dose	**0.2**

*SALs from LANL (2014, 600064).

Table H-4.2-79
Construction Worker Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.281	18600	0.000015
Aluminum	4634	40700	0.11
Anthracene	0.65	66800	0.0000097
Antimony	0.198	124	0.0016
Aroclor-1254	0.0044	4.36	0.001
Arsenic	2.716	53	0.051
Barium	118.1	4350	0.027
Benzo(g,h,i)perylene	0.196	6680[b]	0.000029
Benzoic acid	0.501	1080000[c]	0.00000046
Bis(2-ethylhexyl)phthalate	0.605	4760	0.00013
Butylbenzylphthalate	0.2	53800[c]	0.0000037
Cadmium	1.36	277	0.005
Chromium	33.8	465000[d]	0.000073
Copper	65.46	12400	0.0053
Cyanide (Total)	2.7	186	0.015
Dibenzofuran	0.055	345[c]	0.00016
Dimethylphenol[2,4-]	0.063	4760	0.000013
Di-n-butylphthalate	0.236	23800	0.0000099
Di-n-octylphthalate	0.1	3540[c]	0.000028
Fluoranthene	0.518	8910	0.000058
Fluorene	0.17	8910	0.000019
Lead	49.95	800	0.062
Mercury	1.95	92.9	0.021

Table H-4.2-79 (continued)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Nickel	10.15	6190	0.0016
Nitrate	1.454	496000	0.0000029
Perchlorate	0.00132	217	0.0000061
Phenanthrene	0.189	7150	0.000026
Pyrene	0.467	6680	0.00007
Selenium	0.553	1550	0.00036
Silver	5.797	1550	0.0037
TCDD[2,3,7,8-] equivalent	1.88E-08	0.000284	0.000066
Trimethylbenzene[1,2,4-]	0.00049	245[c]	0.000002
Uranium	2.881	929	0.0031
Xylene[1,3-]+1,4-Xylene	0.000283	743[e]	0.00000038
Xylene (Total)	0.0015	743	0.000002
Zinc	196.5	92900	0.0021
		HI	**0.3**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[d] Chromium(III) SSL used.

[e] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-80
Construction Worker Carcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Aroclor-1260	0.0031	2.22	1.40E-08
Benzo(a)anthracene	0.471	213	2.21E-08
Benzo(a)pyrene	0.363	21.3	1.70E-07
Benzo(b)fluoranthene	0.86	213	4.04E-08
Benzo(k)fluoranthene	0.381	2060	1.85E-09
Chloroform	0.000254	154	1.65E-11
Chrysene	0.497	20600	2.41E-10
Dibenz(a,h)anthracene	0.84	21.3	3.94E-07
Dichlorobenzene[1,4-]	0.064	831	7.71E-10
Ethylbenzene	0.00043	1830	2.35E-12
Indeno(1,2,3-cd)pyrene	0.202	213	9.48E-09
Total Excess Cancer Risk			**7E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-81
Construction Worker Radionuclide
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	5.6	140	1
Cesium-137	0.106	31	0.085
Plutonium-238	0.408	130	0.078
Plutonium-239/240	8.342	120	1.74
Tritium	0.624	62000	0.00025
Uranium-234	4.987	770	0.16
Uranium-235/236	0.142	100	0.036
Uranium-238	1.027	410	0.063
Total Dose			**3**

*SALs from LANL (2014, 600064).

Table H-4.2-82
Construction Worker Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Arsenic	2.36	53	0.0445
Barium	51.5	4350	0.0118
Cadmium	0.258	277	0.000931
Chromium	10.4	465000[b]	0.0000224
Copper	8.4	12400	0.000677
Lead	92.4	800	0.116
Mercury	0.163	92.9	0.00175
Nickel	4.27	6190	0.00069
Nitrate	1.41	496000	0.00000284
Perchlorate	0.00177	217	0.00000816
Selenium	0.659	1550	0.000425
Zinc	51.3	92900	0.000552
Benzo(g,h,i)perylene	0.0429	6680[c]	0.00000642
Bis(2-ethylhexyl)phthalate	0.16	4760	0.0000336
Di-n-butylphthalate	0.0621	23800	0.00000261
Fluoranthene	0.0465	8910	0.00000523
Phenanthrene	0.0219	7150	0.00000306
Pyrene	0.124	6680	0.0000186
Trimethylbenzene[1,2,4-]	0.000413	245[d]	0.0000017
Xylene[1,3-]+1,4-Xylene	0.000283	743[e]	0.000000381
		HI	**0.2**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Chromium(III) SSL used.

[c] Pyrene SSL used as surrogate based on structural similarity.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[e] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-83
Construction Worker Carcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.124	213	5.82E-09
Benzo(a)pyrene	0.0893	21.3	4.19E-08
Benzo(b)fluoranthene	0.0538	213	2.53E-09
Benzo(k)fluoranthene	0.0718	2060	3.49E-10
Chloroform	0.000254	154	1.65E-11
Chrysene	0.121	20600	5.87E-11
Indeno(1,2,3-cd)pyrene	0.0393	213	1.85E-09
Total Excess Cancer Risk			**5E-08**

*SSLs from NMED (2012, 219971).

Table H-4.2-84
Construction Worker Radionuclide
Screening Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	1.23	140	0.22
Cesium-137	0.119	31	0.096
Plutonium-238	0.125	130	0.024
Plutonium-239/240	0.789	120	0.164
Tritium	0.0832	62000	0.00000335
Total Dose			**0.5**

*SALs from LANL (2014, 600064).

Table H-4.2-85
Residential Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.281	3440	0.000082
Aluminum	4634	78000	0.059
Anthracene	0.65	17200	0.000038
Antimony	0.198	31.3	0.0063
Aroclor-1254	0.0044	1.12	0.0039
Barium	118.1	15600	0.0076
Benzo(g,h,i)perylene	0.196	1720[b]	0.00011
Benzoic acid	0.501	250000[c]	0.000002
Cadmium	1.36	70.3	0.019
Chromium	33.8	117000[d]	0.00029
Copper	65.46	3130	0.021
Cyanide (Total)	2.7	46.9	0.058
Dibenzofuran	0.055	72[c]	0.00076
Dimethylphenol[2,4-]	0.063	1220	0.000052
Di-n-butylphthalate	0.236	6110	0.000039
Di-n-octylphthalate	0.1	620[c]	0.00016
Fluoranthene	0.518	2290	0.00023
Fluorene	0.17	2290	0.000074
Lead	49.95	400	0.12
Mercury	1.95	23.5	0.083
Nickel	10.15	1560	0.0065
Nitrate	1.454	125000	0.000012
Perchlorate	0.00132	54.8	0.000024
Phenanthrene	0.189	1830	0.0001
Pyrene	0.467	1720	0.00027
Selenium	0.553	391	0.0014
Silver	5.797	391	0.015
Trimethylbenzene[1,2,4-]	0.00049	58[c]	0.0000084
Uranium	2.881	235	0.012
Xylene[1,3-]+1,4-Xylene	0.000283	814[e]	0.00000035
Xylene (Total)	0.0015	814	0.0000018
Zinc	196.5	23500	0.084
		HI	**0.5**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.
[b] Pyrene SSL used as surrogate based on structural similarity.
[c] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).
[d] Chromium(III) SSL used.
[e] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-86
Residential Carcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	Cancer Risk
Aroclor-1260	0.0031	2.22	1.40E-08
Arsenic	2.716	3.9	6.96E-06
Benzo(a)anthracene	0.471	1.48	3.18E-06
Benzo(a)pyrene	0.363	0.148	2.45E-05
Benzo(b)fluoranthene	0.86	1.48	5.81E-06
Benzo(k)fluoranthene	0.381	14.8	2.57E-07
Bis(2-ethylhexyl)phthalate	0.605	347	1.74E-08
Butylbenzylphthalate	0.2	2800[b]	7.14E-10
Chloroform	0.000254	5.86	4.33E-10
Chrysene	0.497	148	3.36E-08
Dibenz(a,h)anthracene	0.84	0.148	5.68E-05
Dichlorobenzene[1,4-]	0.064	31.7	2.02E-08
Ethylbenzene	0.00043	68.4	6.29E-11
Indeno(1,2,3-cd)pyrene	0.202	1.48	1.36E-06
TCDD[2,3,7,8-] equivalent	1.88E-08	4.50E-05	4.18E-09
		Total Excess Cancer Risk	**1E-04**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-87
Residential Radionuclide
Screening Evaluation for Consolidated Unit 21-026(a)-99

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	5.6	82	1.71
Cesium-137	0.106	11	0.241
Plutonium-238	0.408	84	0.12
Plutonium-239/240	8.342	79	2.64
Tritium	0.624	850	0.018
Uranium-234	4.987	270	0.46
Uranium-235/236	0.142	39	0.091
Uranium-238	1.027	150	0.17
		Total Dose	**5**

*SALs from LANL (2014, 600064).

Table H-4.2-88
Residential Noncarcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Barium	51.5	15600	0.0033
Cadmium	0.258	70.3	0.00367
Chromium	10.4	117000[b]	0.0000889
Copper	8.4	3130	0.00268
Lead	92.4	400	0.231
Mercury	0.163	23.5	0.00694
Nickel	4.27	1560	0.00274
Nitrate	1.41	125000	0.0000113
Perchlorate	0.00177	54.8	0.0000323
Selenium	0.659	391	0.00169
Zinc	51.3	23500	0.00218
Benzo(g,h,i)perylene	0.0429	1720[c]	0.0000249
Di-n-butylphthalate	0.0621	6110	0.0000102
Fluoranthene	0.0465	2290	0.0000203
Phenanthrene	0.0219	1830	0.000012
Pyrene	0.124	1720	0.0000721
Trimethylbenzene[1,2,4-]	0.000413	58[d]	0.00000712
Xylene[1,3-]+1,4-Xylene	0.000283	814[e]	0.000000348
		HI	**0.3**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Chromium(III) SSL used.

[c] Pyrene SSL used as surrogate based on structural similarity.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

[e] Xylenes SSL used as surrogate based on structural similarity.

Table H-4.2-89
Residential Carcinogenic
Screening Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Arsenic	2.36	3.9	6.05E-06
Benzo(a)anthracene	0.124	1.48	8.38E-07
Benzo(a)pyrene	0.0893	0.148	6.03E-06
Benzo(b)fluoranthene	0.0538	1.48	3.64E-07
Benzo(k)fluoranthene	0.0718	14.8	4.85E-08
Bis(2-ethylhexyl)phthalate	0.16	347	4.61E-09
Chloroform	0.000254	5.86	4.33E-10
Chrysene	0.121	148	8.18E-09
Indeno(1,2,3-cd)pyrene	0.0393	1.48	2.66E-07
		Total Excess Cancer Risk	**1E-05**

*SSLs from NMED (2012, 219971).

Table H-4.2-90
Residential Radionuclide
Screening Evaluation for Consolidated Unit 21-026(a)-99 Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	1.23	82	0.375
Cesium-137	0.119	11	0.27
Plutonium-238	0.125	84	0.0372
Plutonium-239/240	0.789	79	0.25
Tritium	0.0832	850	0.00245
		Total Dose	**0.9**

*SALs from LANL (2014, 600064).

Table H-4.2-91
Industrial Noncarcinogenic
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Acenaphthene	0.0557	36700	0.0000015
Anthracene	0.0543	183000	0.0000003
Benzo(g,h,i)perylene	0.199	18300[b]	0.000011
Cadmium	1.891	897	0.0021
Chromium	276	1700000[c]	0.00016
Copper	59.36	45400	0.0013
Fluoranthene	0.734	24400	0.00003
Fluorene	0.0344	24400	0.0000014
Lead	37.5	800	0.047
Lithium	11.01	2300[d]	0.0048
Mercury	0.201	341	0.00059
Nitrate	10.07	1820000	0.0000055
Perchlorate	0.00364	795	0.0000046
Phenanthrene	0.273	20500	0.000013
Pyrene	0.671	18300	0.000037
Strontium	28.68	681000	0.000042
Zinc	182.7	341000	0.00054
		HI	**0.06**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-92
Industrial Carcinogenic
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	Cancer Risk
Aroclor-1254	0.0518	8.26	6.27E-08
Aroclor-1260	0.0284	8.26	3.44E-08
Benzo(a)anthracene	0.31	23.4	1.32E-07
Benzo(a)pyrene	0.819	2.34	3.50E-06
Benzo(b)fluoranthene	0.61	23.4	2.61E-07
Bis(2-ethylhexyl)phthalate	0.287	1370	2.09E-09
Chrysene	0.346	2340	1.48E-09
Indeno(1,2,3-cd)pyrene	0.283	23.4	1.21E-07
TCDD[2,3,7,8-] equivalent	0.00198	0.000204	9.71E-05
Total Excess Cancer Risk			**1E-04**

*SSLs from NMED (2012, 219971).

Table H-4.2-93
Industrial Radionuclide
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	22.93	990	0.58
Plutonium-238	16.26	1300	0.31
Plutonium-239/240	82.68	1200	1.72
Tritium	0.109	200000	0.000014
Uranium-234	37.26	3000	0.31
Uranium-235/236	1.33	150	0.22
Uranium-238	2.01	750	0.067
Total Dose			**3**

*SALs from LANL (2014, 600064).

Table H-4.2-94
Construction Worker Noncarcinogenic
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acenaphthene	0.0557	18600	0.000003
Acetone	0.0269	221000	0.00000012
Anthracene	0.0336	66800	0.0000005
Arsenic	3.439	53	0.065
Aroclor-1254	0.0518	4.36	0.012
Barium	63.68	4350	0.015
Benzo(g,h,i)perylene	0.0896	6680[b]	0.000013
Bis(2-ethylhexyl)phthalate	0.287	4760	0.00006
Butanone[2-]	0.00581	84300	0.000000069
Cadmium	1.21	277	0.0044
Chromium	144.7	465000[c]	0.00031
Copper	26.85	12400	0.0022
Di-n-butylphthalate	0.036	23800	0.0000015
Fluoranthene	0.473	8910	0.000053
Fluorene	0.0344	8910	0.0000039
Lead	21.52	800	0.027
Lithium	8.934	708[d]	0.013
Mercury	0.153	92.9	0.0016
Nitrate	3.684	496000	0.0000074
Perchlorate	0.00173	217	0.000008
Phenanthrene	0.111	7150	0.000016
Pyrene	0.437	6680	0.000065
Selenium	1.306	1550	0.00084
Strontium	17.58	186000	0.000095
TCDD[2,3,7,8-] equivalent	6.15E-04	0.000284	2.17
Toluene	0.000642	13400	0.0000048
Zinc	147.5	92900	0.0016
		HI	**2**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

Table H-4.2-95
Construction Worker Carcinogenic
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Aroclor-1260	0.0284	75.8	3.75E-09
Benzo(a)anthracene	0.122	213	5.73E-09
Benzo(a)pyrene	0.819	21.3	3.85E-07
Benzo(b)fluoranthene	0.242	213	1.14E-08
Chrysene	0.141	20600	6.84E-11
Indeno(1,2,3-cd)pyrene	0.116	213	5.45E-09
Tetrachloroethene	0.00559	212	2.64E-10
Total Excess Cancer Risk			**4E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-96
Construction Worker Radionuclide
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	13.69	140	2.44
Cesium-137	0.355	31	0.29
Plutonium-238	8.865	130	1.7
Plutonium-239/240	36.37	120	7.58
Tritium	0.716	62000	0.00029
Uranium-234	16.8	770	0.55
Uranium-235/236	0.88	100	0.22
Uranium-238	1.665	410	0.1
Total Dose			**13**

*SALs from LANL (2014, 600064).

Table H-4.2-97
Construction Worker Noncarcinogenic
Screening Evaluation for SWMU 21-027(a) Mesa Top 1.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Arsenic	4.41	53	0.083
Barium	105.2	4350	0.0242
Cadmium	0.17	277	0.000614
Chromium	115.2	465000[b]	0.000248
Copper	16.1	12400	0.0013
Lead	16.3	800	0.0204
Lithium	13.3	708[c]	0.019
Mercury	0.13	92.9	0.0014
Nitrate	2.83	496000	0.00000571
Perchlorate	0.00231	217	0.0000106
Selenium	2.48	1550	0.0016
Strontium	24.9	186000	0.000134
Zinc	154.6	92900	0.00166
Acetone	0.0269	221000	0.000000122
Aroclor-1254	0.0095	4.36	0.00218
Butanone[2-]	0.00581	84300	0.0000000689
Di-n-butylphthalate	0.036	23800	0.00000151
Fluoranthene	0.0396	8910	0.00000444
Phenanthrene	0.0239	7150	0.00000334
Pyrene	0.0325	6680	0.00000487
TCDD[2,3,7,8-] equivalent	0.0000173	0.000284	0.061
Toluene	0.00117	13400	0.0000000873
		HI	**0.2**

[a] SSLs from LANL (2012, 219971).

[b] Chromium(III) SSL used.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2009, 108070).

Table H-4.2-98
Construction Worker Carcinogenic
Screening Evaluation for SWMU 21-027(a) Mesa Top 1.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Aroclor-1260	0.0069	75.8	9.10E-10
Benzo(a)anthracene	0.0223	213	1.05E-09
Benzo(b)fluoranthene	0.0493	213	2.31E-09
Chrysene	0.0208	20600	1.01E-11
Tetrachloroethene	0.00559	212	2.64E-10
Total Excess Cancer Risk			**5E-09**

*SSLs from LANL (2012, 219971).

Table H-4.2-99
Construction Worker Radionuclide
Screening Evaluation for SWMU 21-027(a) Mesa Top 1.0–10.0 ft

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	1.55	140	0.277
Cesium-137	0.179	13	0.344
Plutonium-238	0.387	130	0.0744
Plutonium-239/240	20.6	120	4.29
Tritium	0.282	62000	0.000114
Uranium-234	2.61	770	0.0847
Uranium-235/236	0.154	100	0.0385
Total Dose			**5**

*SALs from LANL (2014, 600064).

Table H-4.2-100
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acenaphthene	0.0557	3440	0.000016
Acetone	0.0269	66600	0.0000004
Anthracene	0.0336	17200	0.000002
Aroclor-1254	0.0518	1.12	0.046
Barium	63.68	15600	0.0041
Benzo(g,h,i)perylene	0.0896	1720[b]	0.000052
Butanone[2-]	0.00581	37100	0.00000016
Cadmium	1.21	70.3	0.017
Chromium	144.7	117000[c]	0.0012
Copper	26.85	3130	0.0086
Di-n-butylphthalate	0.036	6110	0.0000059
Fluoranthene	0.473	2290	0.00021
Fluorene	0.0344	2290	0.000015
Lead	21.52	400	0.054
Lithium	8.934	160	0.056
Mercury	0.153	23.5	0.0065
Nitrate	3.684	125000	0.000029
Perchlorate	0.00173	54.8	0.000032
Phenanthrene	0.111	1830	0.000061
Pyrene	0.437	1720	0.00025
Selenium	1.306	391	0.0033
Strontium	17.58	46900	0.00037
Toluene	0.000642	5270	0.00000012
Zinc	147.5	23500	0.0063
		HI	**0.2**

[a] SSLs from NMED (2012, 219971).

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

Table H-4.2-101
Residential Carcinogenic
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Arsenic	3.439	3.9	8.82E-06
Aroclor-1260	0.0284	2.22	1.28E-07
Benzo(a)anthracene	0.122	1.48	8.24E-07
Benzo(a)pyrene	0.819	0.148	5.53E-05
Benzo(b)fluoranthene	0.242	1.48	1.64E-06
Bis(2-ethylhexyl)phthalate	0.287	347	8.27E-09
Chrysene	0.141	148	9.53E-09
Indeno(1,2,3-cd)pyrene	0.116	1.48	7.84E-07
Tetrachloroethene	0.00559	7.02	7.96E-09
TCDD[2,3,7,8-] equivalent	6.15E-04	0.000045	1.37E-04
Total Excess Cancer Risk			**2E-04**

*SSLs from NMED (2012, 219971).

Table H-4.2-102
Residential Radionuclide
Screening Evaluation for SWMU 21-027(a)

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	13.69	82	4.17
Cesium-137	0.355	11	0.807
Plutonium-238	8.865	84	2.64
Plutonium-239/240	36.37	79	11.51
Tritium	0.716	850	0.021
Uranium-234	16.8	270	1.56
Uranium-235/236	0.88	39	0.56
Uranium-238	1.665	150	0.28
Total Dose			**22**

*SALs from LANL (2014, 600064).

Table H-4.2-103
Residential Noncarcinogenic
Screening Evaluation for SWMU 21-027(a) Mesa Top 1.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Barium	105.2	15600	0.00674
Cadmium	0.17	70.3	0.00242
Chromium	115.2	117000[b]	0.000985
Copper	16.1	3130	0.00514
Lead	16.3	400	0.0408
Lithium	13.3	160[c]	0.0831
Mercury	0.13	23.5	0.00553
Nitrate	2.83	125000	0.0000226
Perchlorate	0.00231	54.8	0.0000422
Selenium	2.48	391	0.00634
Strontium	24.9	46900	0.000531
Zinc	154.6	23500	0.00658
Acetone	0.0269	66600	0.000000404
Aroclor-1254	0.0095	1.12	0.00848
Butanone[2-]	0.00581	37100	0.000000157
Di-n-butylphthalate	0.036	6110	0.00000589
Fluoranthene	0.0396	2290	0.0000173
Phenanthrene	0.0239	1830	0.0000131
Pyrene	0.0325	1720	0.0000189
Toluene	0.00117	5270	0.000000222
		HI	**0.2**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Chromium(III) SSL used.

[c] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-104
Residential Carcinogenic
Screening Evaluation for SWMU 21-027(a) Mesa Top 1.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	Cancer Risk
Arsenic	4.41	3.9	1.13E-05
Aroclor-1260	0.0069	2.22	3.11E-08
Benzo(a)anthracene	0.0223	1.48	1.51E-07
Benzo(b)fluoranthene	0.0493	1.48	3.33E-07
Chrysene	0.0208	148	1.41E-09
Tetrachloroethene	0.00559	7.02	7.96E-09
TCDD[2,3,7,8-] equivalent	0.0000173	0.000045	3.84E-06
Total Excess Cancer Risk			**2E-05**[b]

[a] SSLs from NMED (2012, 219971).

[b] Total excess cancer risk is 4E-06 minus arsenic (see uncertainty discussion, section H-4.2.2)

Table H-4.2-105
Residential Radionuclide
Screening Evaluation for SWMU 21-027(a) Mesa Top 1.0–10.0 ft

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	1.55	82	0.473
Cesium-137	0.179	11	0.407
Plutonium-238	0.387	84	0.115
Plutonium-239/240	20.6	79	6.52
Tritium	0.282	850	0.00829
Uranium-234	2.61	270	0.242
Uranium-235/236	0.154	39	0.099
Total Dose			**8**

*SALs from LANL (2014, 600064).

Table H-4.2-106
Industrial Noncarcinogenic
Screening Evaluation for AOC C-21-027

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Antimony	2.24	454	0.0049
Benzo(g,h,i)perylene	0.1	18300[b]	0.0000055
Chromium	36.2	1700000[c]	0.000021
Cyanide (Total)	0.797	681	0.0012
Di-n-butylphthalate	0.0732	68400	0.0000011
Fluoranthene	0.23	5680	0.00004
Lead	24.64	800	0.031
Nitrate	24.66	1820000	0.000014
Perchlorate	0.00514	795	0.0000065
Phenanthrene	0.0178	20500	0.00000087
Pyrene	0.34	18300	0.000019
Selenium	1.07(U)	5680	0.00019
Thallium	0.163	11.4	0.015
Zinc	388.6	341000	0.0011
		HI	**0.05**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

Table H-4.2-107
Industrial Carcinogenic
Screening Evaluation for AOC C-21-027

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.16	23.4	6.84E-08
Benzo(a)pyrene	0.16	2.34	6.84E-07
Benzo(b)fluoranthene	0.24	23.4	1.03E-07
Benzo(k)fluoranthene	0.097	234	4.15E-09
Bis(2-ethylhexyl)phthalate	0.1	1370	7.30E-10
Chrysene	0.15	2340	6.41E-10
Indeno(1,2,3-cd)pyrene	0.091	23.4	3.89E-08
TCDD[2,3,7,8-] equivalent	0.000502	0.000204	2.46E-05
		Total Excess Cancer Risk	**3E-05**

*SSLs from NMED (2012, 219971).

Table H-4.2-108
Industrial Radionuclide
Screening Evaluation for AOC C-21-027

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	5.234	990	0.13
Cesium-137	1.04	39	0.67
Plutonium-238	1.597	1300	0.031
Plutonium-239/240	131.7	1200	2.74
Tritium	0.488	200000	0.000061
Uranium-234	3.123	3000	0.026
Uranium-235/236	0.169	150	0.028
		Total Dose	**4**

*SALs from LANL (2014, 600064).

Table H-4.2-109
Industrial Noncarcinogenic Screening
Evaluation for AOC C-21-027 Mesa Top 0.0–1.0 ft

COPC	EPC (mg/kg)	Industrial SSL[a] (mg/kg)	HQ
Antimony	2.24	454	0.00493
Cadmium	0.648	897	0.000722
Chromium	67	1700000[b]	0.0000394
Cyanide	0.172	681	0.000253
Lead	30.2	800	0.0378
Nitrate	29	1820000	0.0000159
Perchlorate	0.001	795	0.00000126
Silver	0.219	5680	0.0000386
Thallium	0.122	11.4	0.0107
Zinc	625	23500	0.0266
Benzo(g,h,i)perylene	0.1	18300[c]	0.00000546
Di-n-butylphthalate	0.0732	68400	0.00000107
Fluoranthene	0.23	24400	0.00000943
Phenanthrene	0.0117	20500	0.000000571
Pyrene	0.34	18300	0.0000186
		HI	**0.08**

[a] SSLs from NMED (2012, 219971).

[b] Chromium(III) SSL used.

[c] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-110
Industrial Carcinogenic Screening
Evaluation for AOC C-21-027 Mesa Top 0.0–1.0 ft

COPC	EPC (mg/kg)	Industrial SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.16	23.4	6.84E-08
Benzo(a)pyrene	0.16	2.34	6.84E-07
Benzo(b)fluoranthene	0.24	23.4	1.03E-07
Benzo(k)fluoranthene	0.097	234	4.15E-09
Bis(2-ethylhexyl)phthalate	0.1	1370	8.30E-10
Chrysene	0.15	2340	6.41E-10
Indeno(1,2,3-cd)pyrene	0.091	23.4	3.89E-08
TCDD[2,3,7,8-] equivalent	0.0000148	0.000204	7.25E-07
Total Excess Cancer Risk			**2E-06**

*SSLs from NMED (2012, 219971).

Table H-4.2-111
Industrial Radionuclide Screening
Evaluation for AOC C-21-027 Mesa Top 0.0–1.0 ft

COPC	EPC (pCi/g)	Industrial SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.853	990	0.0215
Plutonium-238	0.152	1300	0.00292
Plutonium-239/240	13.8	1200	0.288
Tritium	0.488	200000	0.000061
Uranium-234	5.19	3000	0.0433
Uranium-235/236	0.273	150	0.0455
Total Dose			**0.4**

*SALs from LANL (2014, 600064).

Table H-4.2-112
Construction Worker Noncarcinogenic Screening Evaluation for AOC C-21-027

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Acetone	0.013	18600	0.0000007
Antimony	1.034	124	0.0083
Aroclor-1254	0.0024	4.36	0.00055
Barium	94.81	4350	0.022
Benzo(g,h,i)perylene	0.1	6680[b]	0.000015
Bis(2-ethylhexyl)phthalate	0.1	4760	0.000021
Chromium	20.33	465000[c]	0.000044
Cobalt	3.176	36.6[d]	0.087
Cyanide (Total)	0.435	186	0.0023
Di-n-butylphthalate	0.0732	23800	0.0000031
Fluoranthene	0.112	8910	0.00012
Lead	18.28	800	0.023
Nickel	6.478	6190	0.001
Nitrate	20.51	496000	0.00041
Perchlorate	0.00438	217	0.00002
Phenanthrene	0.0178	7150	0.0000025
Pyrene	0.144	6680	0.000022
Selenium	1.07(U)	1550	0.00069
TCDD[2,3,7,8-] equivalent	0.000358	0.000284	1.26
Thallium	0.147	3.1	0.047
Zinc	202.9	92900	0.0022
		HI	**1**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2012, 219971).

Table H-4.2-113
Construction Worker Carcinogenic Screening Evaluation for AOC C-21-027

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Aroclor-1260	0.0025	2.22	1.13E-08
Benzo(a)anthracene	0.16	213	7.51E-09
Benzo(a)pyrene	0.16	21.3	7.51E-08
Benzo(b)fluoranthene	0.24	213	1.13E-08
Benzo(k)fluoranthene	0.097	2060	4.71E-10
Chrysene	0.15	20600	7.28E-11
Indeno(1,2,3-cd)pyrene	0.091	213	4.27E-09
		Total Excess Cancer Risk	**1E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-114
Construction Worker Radionuclide Screening Evaluation for AOC C-21-027

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	2.85	140	0.51
Cesium-137	0.321	31	0.26
Plutonium-238	0.868	130	0.17
Plutonium-239/240	71.19	120	14.83
Tritium	0.488	62000	0.0002
Uranium-234	2.01	770	0.065
Uranium-235/236	0.118	100	0.03
		Total Dose	**16**

*SALs from LANL (2014, 600064).

Table H-4.2-115
Construction Worker Noncarcinogenic
Screening Evaluation for AOC C-21-027 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL[a] (mg/kg)	HQ
Antimony	1.21	124	0.00976
Barium	116.4	4350	0.0268
Cadmium	0.399	277	0.00144
Chromium	25.7	465000[b]	0.0000553
Cobalt	3.81	36.6[c]	0.1
Copper	10.4	12400	0.000839
Cyanide	0.172	186	0.000925
Lead	21.2	800	0.0265
Nickel	7.84	6190	0.00127
Nitrate	22.2	496000	0.0000448
Perchlorate	0.000633	217	0.00000292
Selenium	1.05(U)	1550	0.000677
Silver	0.219	1550	0.000141
Thallium	0.122	3.1	0.04
Zinc	282.1	92900	0.00304
Acetone	0.013	221000	0.0000000588
Benzo(g,h,i)perylene	0.1	6680[d]	0.000015
Bis(2-ethylhexyl)phthalate	0.1	4760	0.000021
Di-n-butylphthalate	0.0732	23800	0.00000308
Fluoranthene	0.23	8910	0.0000258
Phenanthrene	0.0117	7150	0.00000164
Pyrene	0.34	6680	0.0000509
TCDD[2,3,7,8-] equivalent	1.48E-05	0.000284	0.0521
		HI	**0.3**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Chromium(III) SSL used.

[c] Construction worker SSL calculated using toxicity value from EPA regional screening tables (http://www.epa.gov/risk/risk-based-screening-table-generic-tables) and equation and parameters from NMED (2009, 108070).

[d] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-116
Construction Worker Carcinogenic
Screening Evaluation for AOC C-21-027 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Construction Worker SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.16	213	7.51E-09
Benzo(a)pyrene	0.16	21.3	7.51E-08
Benzo(b)fluoranthene	0.24	213	1.13E-08
Benzo(k)fluoranthene	0.097	2060	4.71E-10
Chrysene	0.15	20600	7.28E-11
Indeno(1,2,3-cd)pyrene	0.091	213	4.27E-09
		Total Excess Cancer Risk	**1E-07**

*SSLs from NMED (2012, 219971).

Table H-4.2-117
Construction Worker Radionuclide
Screening Evaluation for AOC C-21-027 Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Construction Worker SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.316	140	0.0564
Plutonium-238	0.064	130	0.0123
Plutonium-239/240	7.27	120	1.51
Tritium	0.488	62000	0.000197
Uranium-234	2.61	770	0.0847
Uranium-235/236	0.133	100	0.0333
		Total Dose	**2**

*SALs from LANL (2014, 600064).

Table H-4.2-118
Residential Noncarcinogenic
Screening Evaluation for AOC C-21-027

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Acetone	0.013	66600	0.0000002
Antimony	1.034	31.3	0.033
Aroclor-1254	0.0024	1.12	0.0021
Barium	94.81	15600	0.0061
Benzo(g,h,i)perylene	0.1	1720[b]	0.000058
Chromium	20.33	117000[c]	0.00017
Cobalt	3.176	23[d]	0.14
Cyanide (Total)	0.435	46.9	0.0093
Di-n-butylphthalate	0.0732	6110	0.000012
Fluoranthene	0.112	2290	0.000049
Lead	18.28	400	0.046
Nickel	6.478	1560	0.0041
Nitrate	20.51	125000	0.00016
Perchlorate	0.00438	54.8	0.00008
Phenanthrene	0.0178	1830	0.0000097
Pyrene	0.144	1720	0.000084
Selenium	1.07(U)	391	0.0027
Thallium	0.147	0.782	0.19
Zinc	202.9	23500	0.0086
		HI	**0.4**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Pyrene SSL used as surrogate based on structural similarity.

[c] Chromium(III) SSL used.

[d] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

Table H-4.2-119
Residential Carcinogenic Screening Evaluation for AOC C-21-027

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Aroclor-1260	0.0025	2.22	1.13E-08
Benzo(a)anthracene	0.16	1.48	1.08E-06
Benzo(a)pyrene	0.16	0.148	1.08E-05
Benzo(b)fluoranthene	0.24	1.48	1.62E-06
Benzo(k)fluoranthene	0.097	14.8	6.55E-08
Bis(2-ethylhexyl)phthalate	0.1	347	2.88E-09
Chrysene	0.15	148	1.01E-08
Indeno(1,2,3-cd)pyrene	0.091	1.48	6.15E-07
TCDD[2,3,7,8-] equivalent	0.000358	0.000045	7.96E-05
Total Excess Cancer Risk			**9E-05**

*SSLs from NMED (2012, 219971).

Table H-4.2-120
Residential Radionuclide Screening Evaluation for AOC C-21-027

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	2.85	82	0.87
Cesium-137	0.321	11	0.73
Plutonium-238	0.868	84	0.26
Plutonium-239/240	71.19	79	22.53
Tritium	0.488	850	0.014
Uranium-234	2.01	270	0.19
Uranium-235/236	0.118	39	0.076
Total Dose			**25**

*SALs from LANL (2014, 600064).

Table H-4.2-121
Residential Noncarcinogenic
Screening Evaluation for AOC C-21-027 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL[a] (mg/kg)	HQ
Antimony	1.21	31.3	0.0387
Barium	116.4	15600	0.00746
Cadmium	0.399	70.3	0.00568
Chromium	25.7	117000[b]	0.00022
Cobalt	3.81	23[c]	0.166
Copper	10.4	3130	0.0332
Cyanide (Total)	0.172	46.9	0.00367
Lead	21.2	400	0.053
Nickel	7.84	1560	0.00503
Nitrate	22.2	125000	0.000178
Perchlorate	0.000633	54.8	0.0000116
Selenium	1.05(U)	391	0.00269
Silver	0.219	391	0.00056
Thallium	0.122	0.782	0.156
Zinc	282.1	23500	0.012
Acetone	0.013	66600	0.000000195
Benzo(g,h,i)perylene	0.1	1720[d]	0.0000581
Di-n-butylphthalate	0.0732	6110	0.000012
Fluoranthene	0.23	2290	0.0001
Phenanthrene	0.0117	1830	0.00000639
Pyrene	0.34	1720	0.000198
		HI	**0.5**

[a] SSLs from NMED (2012, 219971) unless otherwise noted.

[b] Chromium(III) SSL used.

[c] EPA regional screening level (http://www.epa.gov/risk/risk-based-screening-table-generic-tables).

[d] Pyrene SSL used as surrogate based on structural similarity.

Table H-4.2-122
Residential Carcinogenic
Screening Evaluation for AOC C-21-027 Mesa Top 0.0–10.0 ft

COPC	EPC (mg/kg)	Residential SSL* (mg/kg)	Cancer Risk
Benzo(a)anthracene	0.16	1.48	1.08E-06
Benzo(a)pyrene	0.16	0.148	1.08E-05
Benzo(b)fluoranthene	0.24	1.48	1.62E-06
Benzo(k)fluoranthene	0.097	14.8	6.55E-08
Bis(2-ethylhexyl)phthalate	0.1	347	2.88E-09
Chrysene	0.15	148	1.01E-08
Indeno(1,2,3-cd)pyrene	0.091	1.48	6.15E-07
TCDD[2,3,7,8-] equivalent	1.48E-05	0.000045	3.29E-06
		Total Excess Cancer Risk	**2E-05**

*SSLs from NMED (2012, 219971).

Table H-4.2-123
Residential Radionuclide
Screening Evaluation for AOC C-21-027 Mesa Top 0.0–10.0 ft

COPC	EPC (pCi/g)	Residential SAL* (pCi/g)	Dose (mrem/yr)
Americium-241	0.316	82	0.0963
Plutonium-238	0.064	84	0.019
Plutonium-239/240	7.27	79	2.3
Tritium	0.488	850	0.0144
Uranium-234	2.61	270	0.242
Uranium-235/236	0.133	39	0.0853
		Total Dose	**3**

*SALs from LANL (2014, 600064).

Table H-4.3-1
Residential Noncarcinogenic Screening of
Vapor Intrusion for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Acetone	0.0291	6440	0.0000045
Chlorobenzene	0.000443	7.83	0.000057
Dichloroethene[1,1-]	0.000582	41.6	0.000014
Isopropyltoluene[4-]	0.0219	20.9[c]	0.001
Methylene chloride	0.00735	13	0.00057
Styrene	0.000404	208	0.00000019
Tetrachloroethene	0.00178	24.7	0.000072
Toluene	0.0159	108	0.00015
Trichloroethene	0.0496 (0.00508)[d]	0.0432	0.11 (0.12)
Xylene[1,2-]	0.000935	20.8	0.000045
Xylene[1,3-]+1,4-Xylene	0.00253	20.8[e]	0.00012
		HI	**1 (0.1)**

[a] Maximum detected concentration.

[b] Vapor intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Isopropylbenzene used as a surrogate based on structural similarity.

[d] Value in parentheses is 95% UCL.

[e] Xylene[1,4-] used as a surrogate based on structural similarity.

Table H-4.3-2
Residential Carcinogenic Screening of
Vapor Intrusion for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	Cancer Risk
Dichlorobenzene[1,4-]	0.162 (0.0115)[c]	0.166	9.76E-06 (6.93E-07)
Ethylbenzene	0.000648	1.94	3.34E-09
		Total Excess Cancer Risk	**1E-05 (7E-07)**

[a] Maximum detected concentration.

[b] Vapor intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Value in parentheses is 95% UCL.

Table H-4.3-3
Residential Noncarcinogenic Screening of
Vapor Intrusion for Consolidated Unit 21-006(c)-99

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Tetrachloroethene	0.00626	12.5	0.0005
Toluene	0.000533	1570	0.00000034
Xylene[1,2-]	0.000481	31.3	0.000015
Xylene[1,3-]+1,4-Xylene	0.000561	31.3	0.000018
		HI	**0.0005**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-4
Residential Noncarcinogenic Screening of
Vapor Intrusion for Consolidated Unit 21-023(a)-99

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Acetone	0.0114	9750	0.0000012
Isopropyltoluene[4-]	0.000399	126[c]	0.0000032
Methylnaphthalene[2-]	0.0213	5.98	0.0036
Styrene	0.00137	313	0.0000044
Tetrachloroethene	0.00616	2.28	0.0027
Toluene	0.000401	105	0.0000038
Xylene[1,2-]	0.00101	2.09	0.00048
Xylene[1,3-]+1,4-Xylene	0.00203	2.09[d]	0.00097
		HI	**0.008**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Isopropylbenzene used as a surrogate based on structural similarity.

[d] Xylene[1,4-] used as a surrogate based on structural similarity.

Table H-4.3-5
Residential Carcinogenic Screening of
Vapor Intrusion for Consolidated Unit 21-023(a)-99

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	Cancer Risk
Ethylbenzene	0.000565	0.195	2.90E-08
Naphthalene	0.0609	0.774	7.87E-07
		Total Excess Cancer Risk	**8E-07**

[a] Maximum detected concentration.

[b] Vapor intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-6
Residential Noncarcinogenic Screening of Vapor Intrusion for SWMU 21-024(d)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Dichlorobenzene[1,2-]	0.00025	16.5	0.000015
Dichlorobenzene[1,3-]	0.00025	62.7	0.000004
Methylene chloride	0.02	62.7	0.0003
Toluene	0.0003	1050	0.00000029
		HI	**0.0003**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-7
Residential Noncarcinogenic Screening of Vapor Intrusion for SWMU 21-024(g)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Acetone	0.0846	1060	0.00008
Isopropyltoluene[4-]	0.00038	53.9[c]	0.0000071
Toluene	0.00184	279	0.0000066
		HI	**0.00009**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Isopropylbenzene used as a surrogate based on structural similarity.

Table H-4.3-8
Residential Carcinogenic Screening of Vapor Intrusion for SWMU 21-024(g)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	Cancer Risk
Chloroform	0.000233	0.318	7.33E-09
		Total Excess Cancer Risk	**7E-09**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-9
Residential Noncarcinogenic Screening of Vapor Intrusion for SWMU 21-024(k)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Methylnaphthalene[2-]	0.0552	3.04	0.018
		HI	**0.02**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-10
Residential Carcinogenic Screening of Vapor Intrusion for SWMU 21-024(k)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	Cancer Risk
Naphthalene	0.235 (0.0744)[c]	0.396	5.93E-06 (1.88E-06)
		Total Excess Cancer Risk	**6E-06 (2E-06)**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Value in parentheses is 95% UCL.

Table H-4.3-11
Residential Noncarcinogenic Screening
of Vapor Intrusion for Consolidated Unit 21-024(l)-99

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Acetone	0.35	4870	0.000072
Isopropyltoluene[4-]	0.000463	126[c]	0.0000037
Methylene chloride	0.00411	434	0.0000095
Methylnaphthalene[2-]	0.321	3.04	0.11
Toluene	0.00515	392	0.000013
Xylene[1,3-]+1,4-Xylene	0.000381	31.4[d]	0.000012
		HI	**0.1**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Isopropylbenzene used as a surrogate based on structural similarity.

[d] Xylene[1,4-] used as a surrogate based on structural similarity.

Table H-4.3-12
Residential Carcinogenic Screening of Vapor Intrusion for Consolidated Unit 21-024(l)-99

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	Cancer Risk
Chloroform	0.000215	0.638	3.37E-09
Dichlorobenzene[1,4-]	0.000316	1.33	2.38E-09
Naphthalene	1.22 (0.0844)[c]	0.396	3.08E-05 (2.13E-06)
		Total Excess Cancer Risk	**3E-05 (2E-06)**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Value in parentheses is 95% UCL.

Table H-4.3-13
Residential Noncarcinogenic Screening of Vapor Intrusion for SWMU 21-024(n)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Acetone	0.0231	2160	0.000011
Isopropyltoluene[4-]	0.0127	31.4[c]	0.0004
Styrene	0.000566	314	0.0000018
Toluene	0.00102	143	0.0000071
Xylene[1,3-]+1,4-Xylene	0.000621	7.84[d]	0.000079
		HI	**0.0005**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Isopropylbenzene used as a surrogate based on structural similarity.

[d] Xylene[1,4-] used as a surrogate based on structural similarity.

Table H-4.3-14
Residential Carcinogenic Screening of Vapor Intrusion for SWMU 21-024(n)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	Cancer Risk
Chloroform	0.000253	0.319	7.93E-09
		Total Excess Cancer Risk	**8E-09**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-15
Residential Noncarcinogenic Screening of Vapor Intrusion for Consolidated Unit 21-026(a)-99

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Toluene	0.00369	143	0.000026
Trimethylbenzene[1,2,4-]	0.000413	2.2	0.00019
Xylene[1,3-]+1,4-Xylene	0.000357	2.14[c]	0.00017
		HI	**0.0004**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

[c] Xylene[1,4-] used as a surrogate based on structural similarity.

Table H-4.3-16
Residential Carcinogenic Screening of Vapor Intrusion for Consolidated Unit 21-026(a)-99

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	Cancer Risk
Chloroform	0.000254	0.318	7.99E-09
		Total Excess Cancer Risk	**8E-09**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-17
Residential Noncarcinogenic Screening of Vapor Intrusion for SWMU 21-027(a)

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Acetone	0.0269	9750	0.0000028
Butanone[2-]	0.00581	1570	0.0000037
Carbon disulfide	0.0059	219	0.000027
Tetrachloroethene	0.00559	4.18	0.0013
Toluene	0.00117	349	0.0000034
		HI	**0.001**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-4.3-18
Residential Noncarcinogenic Screening of Vapor Intrusion for AOC C-21-027

COPC	EPC[a] (mg/kg)	Vapor-Intrusion Risk-Based Concentration[b] (mg/kg)	HQ
Acetone	0.016	9720	0.0000016
		HI	**0.000002**

[a] Maximum detected concentration.

[b] Vapor-intrusion risk values generated by the Johnson and Ettinger advanced soil model.

Table H-5.3-1
Ecological Screening Levels for Terrestrial Receptors

COPC	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil-dwelling invertebrate)	Plant (terrestrial autotroph - producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Inorganic Chemicals (mg/kg)											
Antimony	na*	na	na	na	na	2.4	2.6	78	11	2.6	46
Arsenic	120	850	42	18	26	32	140	6.8	18	15	820
Barium	8600	27000	820	1000	930	1800	2900	330	110	1300	41000
Beryllium	na	na	na	na	na	56	150	56	2.5	18	420
Cadmium	1.5	470	4.4	0.29	0.54	0.51	8.8	140	32	0.27	530
Chromium	200	1000	68	28	40	110	750	na	na	45	1800
Cobalt	720	2700	170	96	120	400	1600	na	13	160	5500
Copper	92	1300	38	15	22	64	240	80	70	38	4000
Cyanide (Total)	0.4	0.59	0.1	0.1	0.1	340	660	na	na	310	2800
Lead	95	630	21	14	16	120	330	1700	120	72	3700
Lithium	na	na	na	na	na	100	220	na	na	38	890
Manganese	27000	69000	1400	3100	1900	1400	1800	450	220	1500	41000
Mercury	0.066	0.29	0.07	0.013	0.022	3	20	0.05	34	1.7	61
Molybdenum	100	1300	19	17	18	na	na	na	na	na	na
Nickel	120	2300	160	21	38	20	440	280	38	9.7	1200
Selenium	4.3	81	1	0.75	0.87	0.83	1.9	4.1	0.52	0.66	90

Table H-5.3-1 (continued)

COPC	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil-dwelling invertebrate)	Plant (terrestrial autotroph - producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Silver	14	670	11	2.6	4.3	24	140	na	560	14	4300
Strontium	na	na	na	na	na	96	98	na	na	660	19000
Thallium	56	120	9.2	6.3	7.5	0.73	2.5	na	0.05	0.22	5.3
Uranium	16000	30000	1900	1600	1700	750	1800	na	25	220	4800
Vanadium	64	130	8.9	6.7	7.6	480	1300	na	60	140	3300
Zinc	250	2400	350	48	85	170	1600	120	160	98	7800
Organic Chemicals (mg/kg)											
Acenaphthene	na	na	na	na	na	160	440	na	0.25	120	25000
Acenaphthylene	na	na	na	na	na	160	440	na	na	120	25000
Acetone	970	76000	7.5	170	14	1.2	1.3	na	na	15	7800
Anthracene	na	na	na	na	na	310	1000	na	6.8	210	34000
Aroclor-1016	na	na	na	na	na	2.1	43	na	na	1	200
Aroclor-1242	0.22	5.7	1	0.041	0.079	0.76	27	na	na	0.38	83
Aroclor-1248	0.22	5.8	1	0.041	0.079	0.014	0.52	na	na	0.0072	1.5
Aroclor-1254	0.22	7.1	1.3	0.041	0.08	0.88	46	na	160	0.44	5.9
Aroclor-1260	4.8	400	46	0.88	1.7	20	2600	na	na	10	14
Benzo(a)anthracene	7.4	34	0.8	1	0.91	3.4	5.5	na	18	3	110
Benzo(a)pyrene	na	na	na	na	na	85	240	na	na	53	3400
Benzo(b)fluoranthene	na	na	na	na	na	52	110	na	18	38	240
Benzo(g,h,i)perylene	na	na	na	na	na	47	480	na	na	24	3300
Benzo(k)fluoranthene	na	na	na	na	na	100	310	na	na	62	4300
Benzoic acid	na	na	na	na	na	1.3	3.7	na	na	1	1800

Table H-5.3-1 (continued)

COPC	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil-dwelling invertebrate)	Plant (terrestrial autotroph - producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Benzyl alcohol	na	na	na	na	na	120	150	na	na	260	110000
Bis(2-ethylhexyl)phthalate	0.1	8.1	20	0.02	0.04	1.1	2400	na	na	0.59	380
Butanone[2-]	na	na	na	na	na	360	420	na	na	2600	420000
Butylbenzylphthalate	na	na	na	na	na	160	2000	na	na	90	18000
Carbazole	na	na	na	na	na	80	110	na	na	100	13000
Carbon disulfide	na	na	na	na	na	0.82	1.3	na	na	1.1	190
Chloroform	na	na	na	na	na	8	17	na	na	8.2	2300
Chrysene	na	na	na	na	na	3.1	5.8	na	na	2.4	110
Dibenzo(a,h)anthracene	na	na	na	na	na	22	85	na	na	12	850
Dibenzofuran	na	na	na	na	na	na	na	na	6.1	na	na
Dichlorobenzene[1,2-]	na	na	na	na	na	1.5	9.9	na	na	0.92	390
Dichlorobenzene[1,3-]	na	na	na	na	na	1.3	10	na	na	0.73	300
Dichlorobenzene[1,4-]	na	na	na	na	na	1.5	10	1.2	na	0.88	380
Dichloroethene[1,1-]	na	na	na	na	na	14	35	na	na	11	13000
Di-n-butylphthalate	0.059	1.7	0.39	0.011	0.021	370	14000	na	160	180	48000
Di-n-octylphthalate	na	na	na	na	na	1.8	11000	na	na	0.91	1000
Fluoranthene	na	na	na	na	na	38	230	10	na	22	3300
Fluorene	na	na	na	na	na	340	990	3.7	na	250	44000
Hexachlorobenzene	0.42	11	100	0.079	0.15	0.4	1200	10	10	0.2	44
Indeno(1,2,3-cd)pyrene	na	na	na	na	na	110	530	na	na	62	4600
Methylene chloride	na	na	na	na	na	2.6	3	na	1600	9	4200
Methylnaphthalene[2-]	na	na	na	na	na	3.8	16	na	na	2.5	130

Table H-5.3-1 (continued)

COPC	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil-dwelling invertebrate)	Plant (terrestrial autotroph - producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Naphthalene	89	2100	3.4	16	5.7	9.7	11	na	1	27	5100
Phenanthrene	na	na	na	na	na	15	52	5.5	na	10	1700
Pyrene	190	3100	71	34	46	32	99	10	na	22	2800
Styrene	na	na	na	na	na	na	na	1.2	3.2	na	na
TCDD[2,3,7,8-]	na	na	na	na	na	0.00000058	0.000043	5	na	0.00000029	0.0000083
Tetrachloroethene	na	na	na	na	na	0.36	7.8	na	10	0.18	97
Toluene	na	na	na	na	na	25	54	na	200	23	11000
Trichloroethene	na	na	na	na	na	55	150	na	na	42	37000
Xylene (Total)	220	2400	90	41	56	2	6.2	na	100	1.4	640
Radionuclides (pCi/g)											
Americium-241	47000	59000	500	11000	6900	33000	20000	190	500	33000	26000
Cesium-137	4300	3900	1400	4600	2600	2300	1200	2300	1500	2400	1500
Plutonium-238	120000	130000	5200	14000	7700	170000	53000	820	1800	160000	45000
Plutonium-239/240	140000	160000	5400	14000	7900	280000	62000	870	1900	270000	51000
Strontium-90	2500	2000	340	3000	810	1600	1600	1700	1100	1700	800
Tritium	610000	550000	300000	600000	440000	330000	210000	48000	36000	340000	220000
Uranium-234	260000	260000	15000	92000	31000	120000	18000	2200	440	140000	110000
Uranium-235/236	10000	10000	6500	9800	8200	5200	4200	1600	440	5200	5200
Uranium-238	4200	4200	4200	4100	3800	2100	1900	1100	400	2100	2100

Note: ESLs from ECORISK Database, Version 3.2 (LANL 2014, 262559).

*na = Not available.

Table H-5.3-2
Minimum ESL Comparison for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Arsenic	2.803	6.8	Earthworm	**0.41**
Barium	80.97	110	Plant	**0.74**
Beryllium	0.681	2.5	Plant	0.27
Cadmium	0.26	0.27	Montane shrew	**0.96**
Chromium	11.63	28	Robin (insectivore)	**0.42**
Cobalt	2.604	13	Plant	0.2
Copper	8.05	15	Robin (insectivore)	**0.54**
Lead	13.69	14	Robin (insectivore)	**0.98**
Mercury	0.32	0.013	Robin (insectivore)	**24.6**
Nickel	5.662	9.7	Montane shrew	**0.58**
Selenium	1.12	0.52	Plant	**2.15**
Uranium	3.197	25	Plant	0.13
Vanadium	13.53	6.7	Robin (insectivore)	**2.02**
Zinc	49.43	48	Robin (insectivore)	**1.03**
Organic Chemicals (mg/kg)				
Acenaphthene	0.381	0.25	Plant	**1.52**
Acetone	0.00525	1.2	Deer mouse	0.0044
Anthracene	0.0196	6.8	Plant	0.0029
Aroclor-1016	0.43	1	Montane shrew	**0.43**
Aroclor-1242	0.00558	0.041	Robin (insectivore)	0.14
Aroclor-1248	0.00852	0.0072	Montane shrew	**1.18**
Aroclor-1254	0.102	0.041	Robin (insectivore)	**2.49**
Aroclor-1260	0.193	0.88	Robin (insectivore)	0.22
Benzene	0.000662	24	Deer mouse	0.000028
Benzo(a)anthracene	0.0452	0.8	Robin (herbivore)	0.057
Benzo(a)pyrene	0.087	53	Montane shrew	0.0016
Benzo(b)fluoranthene	0.0439	18	Plant	0.0024
Benzo(k)fluoranthene	0.0317	62	Montane shrew	0.00051
Benzoic acid	0.459	1	Montane shrew	**0.46**
Benzyl alcohol	0.232	120	Deer mouse	0.0019
Bis(2-ethylhexyl)phthalate	0.232	0.02	Robin (insectivore)	**11.6**
Chrysene	0.0346	2.4	Montane shrew	0.014
Dichlorobenzene[1,4-]	0.0248	0.88	Montane shrew	0.028
Dichloroethene[1,1-]	0.000822	11	Montane shrew	0.000075
Di-n-butylphthalate	0.0579	0.011	Robin (insectivore)	**5.26**
Fluoranthene	0.0897	10	Earthworm	0.009
Methylene chloride	0.0132	2.6	Deer mouse	0.0051

Table H-5.3-2 (continued)

COPC	EPC	ESL	Receptor	HQ
Phenanthrene	0.0225	5.5	Earthworm	0.0041
Pyrene	0.0438	10	Earthworm	0.0044
Styrene	0.000548	1.2	Earthworm	0.00046
TCDD[2,3,7,8-] equivalent	6.11E-08	0.00000029	Montane shrew	0.21
Tetrachloroethene	0.00178	0.18	Montane shrew	0.01
Toluene	0.00125	23	Montane shrew	0.000054
Trichloroethene	0.00497	42	Montane shrew	0.00012
Radionuclides (pCi/g)				
Americium-241	0.0204	190	Earthworm	1.07E-04
Cesium-137	0.278	1200	Desert cottontail	2.32E-04
Plutonium-238	0.0569	820	Earthworm	6.94E-05
Plutonium-239/240	0.488	870	Earthworm	5.61E-04
Strontium-90	0.803	340	Robin (herbivore)	0.0024
Tritium	0.316	36000	Plant	8.78E-06
Uranium-234	2.603	440	Plant	0.0059
Uranium-235/236	0.141	440	Plant	0.00032
Uranium-238	1.647	400	Plant	0.0041

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-3
HI Analysis for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	2.803	0.023	0.0033	0.067	0.16	0.11	0.088	0.02	**0.41**	0.16	0.19	0.0034
Barium	80.97	0.0094	0.0029	0.099	0.081	0.087	0.045	0.028	0.25	**0.74**	0.062	0.002
Cadmium	0.26	0.17	0.00055	0.059	**0.9**	**0.48**	**0.51**	0.03	0.0019	0.0081	**0.96**	0.00049
Chromium	11.63	0.058	0.012	0.17	**0.42**	0.29	0.11	0.016	na*	na	0.26	0.0065
Copper	8.05	0.088	0.0062	0.21	**0.54**	**0.37**	0.13	0.034	0.1	0.12	0.21	0.002
Lead	13.69	0.14	0.022	**0.65**	**0.98**	**0.86**	0.11	0.041	0.0081	0.11	0.19	0.0037
Mercury	0.32	**4.85**	**1.1**	**4.57**	**24.62**	**14.55**	0.11	0.016	**6.4**	0.0094	0.19	0.0052
Nickel	5.662	0.047	0.0025	0.035	0.27	0.15	0.28	0.013	0.02	0.15	**0.58**	0.0047
Selenium	1.12	0.26	0.014	**1.12**	**1.49**	**1.29**	**1.35**	**0.59**	0.27	**2.15**	**1.7**	0.012
Vanadium	13.53	0.21	0.1	**1.52**	**2.02**	**1.78**	0.028	0.01	na	0.23	0.1	0.0041
Zinc	49.43	0.2	0.021	0.14	**1.03**	**0.58**	0.29	0.031	0.41	**0.31**	**0.5**	0.0063
Acenaphthene	0.381	na	na	na	na	na	0.0024	0.00087	na	**1.52**	0.0032	0.000015
Aroclor-1016	0.43	na	na	na	na	na	0.2	0.01	na	na	**0.43**	0.0022
Aroclor-1248	0.00852	0.039	0.0015	0.0085	0.21	0.11	**0.61**	0.016	na	na	**1.18**	0.0057
Aroclor-1254	0.102	**0.46**	0.014	0.078	**2.49**	**1.28**	0.12	0.0022	na	0.00064	0.23	0.017
Benzoic Acid	0.459	na	na	na	na	na	**0.35**	0.12	na	na	**0.46**	0.00026
Bis(2-ethylhexyl)phthalate	0.232	**2.32**	0.029	0.012	**11.6**	**5.8**	0.21	0.0001	na	na	**0.39**	0.00083
Di-n-butylphthalate	0.0579	**0.98**	0.034	0.15	**5.26**	**2.76**	0.00016	0.0000041	na	0.00036	0.00032	0.0000012
HI		**10**	1	**9**	**52**	**30**	**5**	1	**8**	**6**	**8**	0.08

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.3-4
Minimum ESL Comparison for SWMU 21-022(h)

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Antimony	0.184	2.4	Deer mouse	0.077
Barium	65.54	110	Plant	**0.6**
Cadmium	1.594	0.27	Montane shrew	**5.9**
Chromium	26.89	28	Robin (insectivore)	**0.96**
Copper	93.45	15	Robin (insectivore)	**6.23**
Cyanide (Total)	0.231	0.1	Robin (herbivore)	**2.31**
Lead	831.1	14	Robin (insectivore)	**59.36**
Mercury	0.606	0.013	Robin (insectivore)	**46.62**
Molybdenum	7.802	17	Robin (insectivore)	**0.46**
Nickel	5.633	9.7	Montane shrew	**0.58**
Selenium	0.407	0.52	Plant	**0.78**
Silver	9.965	2.6	Robin (insectivore)	**3.83**
Zinc	422.3	48	Robin (insectivore)	**8.8**
Organic Chemicals (mg/kg)				
Acenaphthene	0.313	0.25	Plant	**1.25**
Anthracene	0.408	6.8	Plant	0.06
Aroclor-1254	0.0478	0.041	Robin (insectivore)	**1.17**
Aroclor-1260	0.0211	0.88	Robin (insectivore)	0.02
Benzo(a)anthracene	0.873	0.8	Robin (herbivore)	**1.09**
Benzo(a)pyrene	0.836	53	Montane shrew	0.016
Benzo(b)fluoranthene	1.181	18	Plant	0.066
Benzo(g,h,i)perylene	0.925	24	Montane shrew	0.039
Benzo(k)fluoranthene	0.461	62	Montane shrew	0.0074
Bis(2-ethylhexyl)phthalate	1.171	0.02	Robin (insectivore)	**58.55**
Butylbenzylphthalate	0.51	90	Montane shrew	0.0057
Chrysene	0.972	2.4	Montane shrew	**0.41**
Dibenzo(a,h)anthracene	0.87	12	Montane shrew	0.073
Dibenzofuran	1.1	6.1	Plant	0.18
Diethylphthalate	0.113	100	Plant	0.0011
Di-n-butylphthalate	0.35	0.011	Robin (insectivore)	**31.8**
Fluoranthene	3.676	10	Earthworm	**0.37**
Fluorene	0.257	3.7	Earthworm	0.07
Indeno(1,2,3-cd)pyrene	5	62	Montane shrew	0.081
Methylene chloride	0.0033	2.6	Deer mouse	0.0013
Methylnaphthalene[2-]	0.51	16	Montane shrew	0.032
Naphthalene	1.7	1	Plant	**1.7**
Phenanthrene	1.825	5.5	Earthworm	**0.33**

Table H-5.3-4 (continued)

COPC	EPC	ESL	Receptor	HQ
Pyrene	4.866	10	Earthworm	**0.49**
TCDD[2,3,7,8-] equivalent	0.000000794	0.00000029	Montane shrew	**2.74**
Radionuclides (pCi/g)				
Americium-241	1.044	190	Earthworm	0.0055
Cesium-137	0.311	1200	Desert cottontail	0.00026
Plutonium-238	10.26	820	Earthworm	0.013
Plutonium-239/240	18.39	870	Earthworm	0.021
Strontium-90	0.377	340	Robin (herbivore)	0.0011
Tritium	0.0344	36000	Plant	0.00000096
Uranium-235/236	0.0634	440	Plant	0.00014

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-5
HI Analysis for SWMU 21-022(h)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Barium	65.54	0.0076	0.0023	0.08	0.066	0.07	0.036	0.023	0.2	**0.6**	0.05	0.0016
Cadmium	1.594	**1.06**	0.0034	**0.36**	**5.5**	**2.95**	**3.13**	0.18	0.011	0.05	**5.9**	0.003
Chromium	26.89	0.13	0.027	**0.4**	**0.96**	**0.67**	0.24	0.036	na*	na	**0.6**	0.015
Copper	93.45	**1.02**	0.072	**2.46**	**6.23**	**4.25**	**1.46**	**0.39**	**1.17**	**1.34**	**2.46**	0.023
Cyanide (Total)	0.231	**0.58**	**0.39**	**2.31**	**2.31**	**2.31**	0.00068	0.00035	na	na	0.00075	0.000083
Lead	831.1	**8.75**	**1.32**	**39.58**	**59.36**	**51.94**	**6.93**	**2.52**	**0.49**	**6.93**	**11.54**	0.22
Mercury	0.606	**9.18**	**2.1**	**8.66**	**46.62**	**27.55**	0.2	0.03	**12.12**	0.018	**0.36**	0.0099
Molybdenum	7.802	0.078	0.006	**0.41**	**0.46**	**0.43**	na	na	na	na	na	na
Nickel	5.633	0.047	0.0024	0.035	0.27	0.15	0.28	0.013	0.02	0.15	**0.58**	0.0047
Selenium	0.407	0.095	0.005	**0.41**	**0.54**	**0.47**	**0.49**	0.21	0.1	**0.78**	**0.62**	0.0045
Silver	9.965	**0.71**	0.015	**0.91**	**3.83**	**2.32**	**0.42**	0.071	na	0.018	**0.71**	0.0023
Zinc	422.3	**1.69**	0.18	**1.21**	**8.80**	**4.97**	**2.48**	0.26	**3.52**	**2.64**	**4.31**	0.054
Acenaphthene	0.313	na	na	na	na	na	0.002	0.00071	na	**1.25**	0.0026	0.000013
Aroclor-1254	0.0478	0.22	0.0067	0.037	**1.17**	**0.6**	0.054	0.001	na	0.0003	0.11	0.0081
Benzo(a)anthracene	0.873	0.12	0.026	**1.09**	**0.87**	**0.96**	0.26	0.16	na	0.049	0.29	0.0079
Bis(2-ethylhexyl)phthalate	1.171	**11.71**	0.14	0.059	**58.55**	**29.28**	**1.06**	0.00049	na	na	**1.98**	0.0042
Chrysene	0.972	na	na	na	na	na	**0.31**	0.17	na	na	**0.41**	0.0088
Di-n-butylphthalate	0.35	**5.93**	0.21	**0.9**	**31.82**	**16.67**	0.00095	0.000025	na	0.0022	0.0019	0.0000073
Fluoranthene	3.676	na	na	na	na	na	0.097	0.016	**0.37**	na	0.17	0.0011
Naphthalene	1.7	0.019	0.00081	**0.5**	0.11	0.3	0.18	0.15	na	**1.7**	0.063	0.00033

Table H-5.3-5 (continued)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Phenanthrene	1.825	na	na	na	na	na	0.12	0.035	**0.33**	na	0.18	0.0011
Pyrene	4.866	0.026	0.0016	0.069	0.14	0.11	0.15	0.049	**0.49**	na	0.22	0.0017
TCDD[2,3,7,8-] equivalent	7.94E-07	na	na	na	na	na	**1.37**	0.018	0.00000016	na	**2.74**	0.0096
HI		**41**	**5**	**60**	**228**	**146**	**19**	**4**	**19**	**16**	**33**	0.4

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.3-6
Minimum ESL Comparison for Consolidated Unit 21-023(a)-99

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Antimony	0.311	2.4	Deer mouse	0.13
Arsenic	3.665	6.8	Earthworm	**0.54**
Barium	91.15	110	Plant	**0.83**
Chromium	11.54	28	Robin (insectivore)	**0.41**
Copper	5.257	15	Robin (insectivore)	**0.35**
Lead	199.2	14	Robin (insectivore)	**14.23**
Manganese	237.1	220	Plant	**1.08**
Mercury	0.379	0.013	Robin (insectivore)	**29.15**
Selenium	5.64	0.52	Plant	**10.85**
Organic Chemicals (mg/kg)				
Acenaphthene	0.11	0.25	Plant	**0.44**
Acetone	0.0114	1.2	Deer mouse	0.0095
Anthracene	0.0307	6.8	Plant	0.0045
Aroclor-1254	0.0069	0.041	Robin (insectivore)	0.17
Benzo(a)anthracene	1.97	0.8	Robin (herbivore)	**2.46**
Benzo(a)pyrene	0.275	53	Montane shrew	0.0052
Benzo(b)fluoranthene	0.245	18	Plant	0.014
Benzo(g,h,i)perylene	0.562	24	Montane shrew	0.023
Benzo(k)fluoranthene	0.0324	62	Montane shrew	0.00052
Bis(2-ethylhexyl)phthalate	2.12	0.02	Robin (insectivore)	**106**
Chrysene	0.172	2.4	Montane shrew	0.072
Di-n-butylphthalate	0.0918	0.011	Robin (insectivore)	**8.35**
Fluoranthene	0.213	10	Earthworm	0.021
Fluorene	0.0261	3.7	Earthworm	0.0071
Indeno(1,2,3-cd)pyrene	0.52	62	Montane shrew	0.0084
Methylnaphthalene[2-]	0.0213	16	Montane shrew	0.0013
Naphthalene	0.0609	1.0	Plant	0.061
Phenanthrene	0.0622	5.5	Earthworm	0.011
Pyrene	0.25	10	Earthworm	0.025
TCDD[2,3,7,8-] equivalent	0.000000865	0.00000029	Montane shrew	**2.98**
Tetrachloroethene	0.00145	0.18	Montane shrew	0.0081
Toluene	0.000401	23	Montane shrew	0.000017

Table H-5.3-6 (continued)

COPC	EPC	ESL	Receptor	HQ
Radionuclides (pCi/g)				
Americium-241	0.307	190	Earthworm	0.0016
Cesium-137	0.133	1200	Desert cottontail	1.11E-04
Plutonium-238	0.0342	820	Earthworm	4.17E-05
Plutonium-239/240	0.891	870	Earthworm	0.001
Strontium-90	1.95	340	Robin (herbivore)	0.0057
Tritium	0.919	36000	Plant	2.55E-05
Uranium-234	1.617	440	Plant	0.0037
Uranium-235/236	0.0761	440	Plant	0.00017

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-7
HI Analysis for Consolidated Unit 21-023(a)-99

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	3.665	0.031	0.0043	0.087	0.2	0.14	0.11	0.026	**0.54**	0.2	0.24	0.0045
Barium	91.15	0.011	0.0033	0.11	0.091	0.1	0.051	0.031	0.28	**0.83**	0.07	0.0022
Chromium	11.54	0.058	0.012	0.17	**0.41**	0.29	0.1	0.015	na*	na	0.26	0.0064
Copper	5.257	0.057	0.004	0.14	**0.35**	0.24	0.082	0.022	0.066	0.075	0.14	0.0013
Lead	199.2	**2.1**	**0.32**	**9.49**	**14.23**	**12.45**	**1.66**	**0.6**	0.12	**1.66**	**2.77**	0.054
Manganese	237.1	0.0088	0.0034	0.17	0.076	0.12	0.17	0.13	**0.53**	**1.08**	0.16	0.0058
Mercury	0.379	**5.74**	**1.3**	**5.41**	**29.15**	**17.23**	0.13	0.019	**7.58**	0.011	0.22	0.0062
Selenium	5.64	**1.31**	0.07	**5.64**	**7.52**	**6.48**	**6.8**	**2.97**	**1.38**	**10.85**	**8.55**	0.063
Acenaphthene	0.11	na	na	na	na	na	0.00069	0.00025	na	**0.44**	0.00092	0.0000044
Benzo(a)anthracene	1.97	0.27	0.058	**2.46**	**1.97**	**2.16**	**0.58**	**0.36**	na	0.11	**0.66**	0.018
Bis(2-ethylhexyl)phthalate	2.12	**21.2**	0.26	0.11	**106**	**53**	**1.93**	0.00088	na	na	**3.59**	0.0076
Di-n-butylphthalate	0.0918	**1.56**	0.054	0.24	**8.35**	**4.37**	0.00025	0.0000066	na	0.00057	0.00051	0.0000019
TCDD[2,3,7,8-] equivalent	8.65E-07	na	na	na	na	na	**1.49**	0.02	0.00000017	na	**2.98**	0.01
		32	**2**	**24**	**168**	**97**	**13**	**4**	**10**	**15**	**20**	0.2

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.3-8
Minimum ESL Comparison for SWMU 21-024(b)

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Barium	61.45	110	Plant	**0.56**
Chromium	6.994	28	Robin (insectivore)	0.25
Cyanide (Total)	0.28	0.1	Robin (insectivore)	**2.8**
Lead	10.91	14	Robin (insectivore)	**0.78**
Mercury	0.0455	0.013	Robin (insectivore)	**3.5**
Nickel	4.913	9.7	Montane shrew	**0.51**
Selenium	1.103	0.52	Plant	**2.12**
Zinc	48.14	48	Robin (insectivore)	**1**
Organic Chemicals (mg/kg)				
Benzo(b)fluoranthene	0.0203	18	Plant	0.0011
Bis(2-ethylhexyl)phthalate	0.0764	0.02	Robin (insectivore)	**3.82**
Chrysene	0.0146	2.4	Montane shrew	0.0061
Fluoranthene	0.0248	10	Earthworm	0.0025
Phenanthrene	0.016	5.5	Earthworm	0.0029
Pyrene	0.0232	10	Earthworm	0.0023
Toluene	0.00114	23	Montane shrew	0.00005
Radionuclides (pCi/g)				
Americium-241	1.043	190	Earthworm	0.0055
Cesium-137	0.398	1200	Desert cottontail	0.00033
Plutonium-238	0.196	820	Earthworm	0.00024
Plutonium-239/240	51.11	870	Earthworm	0.059
Tritium	0.0201	36000	Plant	5.58E-07
Uranium-234	1.586	440	Plant	0.0036
Uranium-235/236	0.114	440	Plant	0.00026
Uranium-238	1.473	400	Plant	0.0037

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-9
HI Analysis for SWMU 21-024(b)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Barium	61.45	0.0071	0.0022	0.075	0.061	0.066	0.034	0.021	0.19	**0.56**	0.047	0.0015
Cyanide (Total)	0.28	**0.7**	**0.47**	**2.8**	**2.8**	**2.8**	0.00082	0.00042	na*	na	0.0009	0.0001
Lead	10.91	0.11	0.017	**0.52**	**0.78**	**0.68**	0.091	0.033	0.0064	0.091	0.15	0.0029
Mercury	0.0455	**0.69**	0.16	**0.65**	**3.5**	**2.07**	0.015	0.0023	**0.91**	0.0013	0.027	0.00075
Nickel	4.913	0.041	0.0021	0.031	0.23	0.13	0.25	0.011	0.0175	0.13	**0.51**	0.0041
Selenium	1.103	0.26	0.014	**1.1**	**1.47**	**1.27**	**1.33**	**0.58**	0.27	**2.12**	**1.67**	0.012
Zinc	48.14	0.19	0.02	0.14	**1**	**0.57**	0.28	0.03	**0.4**	0.3	**0.49**	0.0062
Bis(2-ethylhexyl)phthalate	0.0764	**0.76**	0.0094	0.0038	**3.82**	**1.91**	0.069	0.000032	na	na	0.13	0.00027
HI		**3**	1	**5**	**14**	**9**	**2**	1	**2**	**3**	**3**	0.03

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.3-10
Minimum ESL Comparison for SWMU 21-024(k)

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Arsenic	3.092	6.8	Earthworm	**0.45**
Barium	52.91	110	Plant	**0.48**
Beryllium	0.828	2.5	Plant	**0.33**
Chromium	6.403	28	Robin (insectivore)	0.23
Cobalt	1.843	13	Plant	0.14
Copper	6.471	15	Robin (insectivore)	**0.43**
Cyanide (Total)	0.248	0.1	Robin (insectivore)	**2.48**
Lead	13.14	14	Robin (insectivore)	**0.94**
Lithium	8.69	38	Montane shrew	0.23
Mercury	0.333	0.013	Robin (insectivore)	**25.62**
Nickel	5.227	9.7	Montane shrew	**0.54**
Selenium	0.971	0.52	Plant	**1.87**
Strontium	20.08	96	Deer mouse	0.21
Zinc	41.66	48	Robin (insectivore)	**0.87**
Organic Chemicals (mg/kg)				
Acenaphthene	0.0587	0.25	Plant	0.23
Acetone	0.0081	1.2	Deer mouse	0.0068
Anthracene	0.0873	6.8	Plant	0.013
Aroclor-1254	0.0094	0.041	Robin (insectivore)	0.23
Aroclor-1260	0.0097	0.88	Robin (insectivore)	0.011
Benzo(a)anthracene	0.186	0.8	Robin (herbivore)	0.23
Benzo(a)pyrene	0.0349	53	Montane shrew	0.00066
Benzo(b)fluoranthene	0.0465	18	Plant	0.0026
Benzo(g,h,i)perylene	0.216	24	Montane shrew	0.009
Benzo(k)fluoranthene	0.0194	62	Montane shrew	0.00031
Chrysene	0.0401	2.4	Montane shrew	0.017
Fluoranthene	0.0745	10	Earthworm	0.0075
Fluorene	0.0405	3.7	Earthworm	0.011
Indeno(1,2,3-cd)pyrene	0.186	62	Montane shrew	0.003
Methylnaphthalene[2-]	0.00858	16	Montane shrew	0.00054
Phenanthrene	0.0548	5.5	Earthworm	0.01
Pyrene	0.0706	10	Earthworm	0.0071
TCDD[2,3,7,8-] equivalent	2.66E-07	0.00000029	Montane shrew	**0.92**
Toluene	0.000857	23	Montane shrew	0.000037

Table H-5.3-10 (continued)

COPC	EPC	ESL	Receptor	HQ
Radionuclides (pCi/g)				
Americium-241	0.0444	190	Earthworm	0.00023
Cesium-137	0.561	1200	Desert cottontail	0.00047
Plutonium-238	0.096	820	Earthworm	0.00012
Plutonium-239/240	0.422	870	Earthworm	0.00049
Tritium	0.203	36000	Plant	5.64E-06
Uranium-234	1.831	440	Plant	0.0042
Uranium-235/236	0.091	440	Plant	0.00021

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-11
HI Analysis for SWMU 21-024(k)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	3.092	0.026	0.0036	0.074	0.17	0.12	0.097	0.022	**0.45**	0.17	0.21	0.0038
Barium	52.91	0.0062	0.0019	0.065	0.053	0.057	0.029	0.018	0.16	**0.48**	0.041	0.0013
Beryllium	0.828	na*	na	na	na	na	0.015	0.0055	0.021	**0.33**	0.046	0.002
Copper	6.471	0.07	0.005	0.17	**0.43**	0.29	0.1	0.027	0.081	0.092	0.17	0.0016
Cyanide (Total)	0.248	**0.62**	**0.42**	**2.48**	**2.48**	**2.48**	0.00073	0.00038	na	na	0.0008	0.000089
Lead	13.14	0.14	0.021	**0.63**	**0.94**	**0.82**	0.11	0.04	0.0077	0.11	0.18	0.0036
Mercury	0.333	**5.05**	**1.15**	**4.76**	**25.62**	**15.14**	0.11	0.017	**6.66**	0.01	0.2	0.0055
Nickel	5.227	0.044	0.0023	0.033	0.25	0.14	0.26	0.012	0.019	0.14	**0.54**	0.0044
Selenium	0.971	0.23	0.012	**0.97**	**1.29**	**1.12**	**1.17**	**0.51**	0.24	**1.87**	**1.47**	0.011
Zinc	41.66	0.17	0.017	0.12	**0.87**	**0.49**	0.25	0.026	**0.35**	0.26	**0.43**	0.0053
TCDD[2,3,7,8-] equivalent	2.66E-07	na	na	na	na	na	**0.46**	0.0062	5.32E-08	na	**0.92**	0.0032
HI		**6**	**2**	**9**	**32**	**21**	**3**	0.7	**8**	**3**	**4**	0.04

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.3-12
Minimum ESL Comparison for Consolidated Unit 21-024(l)-99

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Barium	116	110	Plant	**1.05**
Cadmium	0.344	0.27	Montane shrew	**1.27**
Chromium	10.39	28	Robin (insectivore)	**0.37**
Cobalt	3.88	13	Plant	0.3
Copper	10.44	15	Robin (insectivore)	**0.7**
Lead	154	14	Robin (insectivore)	**11**
Lithium	11.63	38	Deer mouse	**0.31**
Mercury	0.101	0.013	Robin (insectivore)	**7.77**
Selenium	1.083	0.52	Plant	**2.08**
Zinc	124.5	48	Robin (insectivore)	**2.59**
Organic Chemicals (mg/kg)				
Acenaphthene	0.0792	0.25	Plant	**0.32**
Acenaphthylene	0.0122	120	Montane shrew	0.0001
Acetone	0.35	1.2	Deer mouse	0.29
Anthracene	0.226	6.8	Plant	0.033
Benzo(a)anthracene	0.373	0.8	Robin (herbivore)	**0.47**
Benzo(a)pyrene	0.417	53	Montane shrew	0.0079
Benzo(b)fluoranthene	0.817	18	Plant	0.045
Benzo(g,h,i)perylene	0.213	24	Montane shrew	0.0089
Benzo(k)fluoranthene	0.185	62	Montane shrew	0.003
Bis(2-ethylhexyl)phthalate	0.25	0.02	Robin (insectivore)	**12.5**
Chloroform	0.000215	8	Deer mouse	0.000027
Chrysene	0.591	2.4	Montane shrew	0.25
Dibenzofuran	0.203	6.1	Plant	0.033
Dichlorobenzene[1,4-]	0.000316	0.88	Montane shrew	0.00036
Fluoranthene	1.374	10	Earthworm	0.14
Fluorene	0.0785	3.7	Earthworm	0.021
Indeno(1,2,3-cd)pyrene	0.216	62	Montane shrew	0.0035
Methylene chloride	0.00411	2.6	Deer mouse	0.0016
Methylnaphthalene[2-]	0.0293	2.5	Montane shrew	0.0018
Naphthalene	0.0631	1	Plant	0.063
Phenanthrene	1.017	5.5	Earthworm	0.18
Pyrene	1.231	10	Earthworm	0.12
Toluene	0.0013	23	Montane shrew	0.000057

Table H-5.3-12 (continued)

COPC	EPC	ESL	Receptor	HQ
Radionuclides (pCi/g)				
Americium-241	0.471	190	Earthworm	0.0025
Cesium-137	0.112	1200	Desert cottontail	9.33E-05
Plutonium-238	0.529	820	Earthworm	0.00065
Plutonium-239/240	13.83	870	Earthworm	0.016
Tritium	0.16	36000	Plant	4.44E-06
Uranium-234	1.188	440	Plant	0.0027
Uranium-235/236	0.0736	440	Plant	0.00017

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-13
HI Analysis for Consolidated Unit 21-024(l)-99

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Barium	116	0.013	0.0041	0.14	0.12	0.12	0.064	0.04	**0.35**	**1.05**	0.089	0.0028
Cadmium	0.344	0.23	0.00073	0.078	**1.19**	**0.64**	**0.67**	0.039	0.0025	0.011	**1.27**	0.00065
Chromium	10.39	0.052	0.01	0.15	**0.37**	**0.26**	0.094	0.014	na*	na	0.23	0.0058
Copper	10.44	0.11	0.008	0.27	**0.7**	**0.47**	0.16	0.044	0.13	0.15	0.27	0.0026
Lead	154	**1.62**	0.24	**7.33**	**11**	**9.63**	**1.28**	**0.47**	0.091	**1.28**	**2.14**	0.042
Lithium	11.63	na	na	na	na	na	0.12	0.053	na	na	**0.31**	0.013
Mercury	0.101	**1.53**	**0.35**	**1.44**	**7.77**	**4.59**	0.034	0.0051	**2.02**	0.003	0.059	0.0017
Selenium	1.083	0.25	0.013	**1.08**	**1.44**	**1.24**	**1.3**	**0.57**	0.26	**2.08**	**1.64**	0.012
Zinc	124.5	**0.5**	0.052	**0.36**	**2.59**	**1.46**	**0.73**	0.078	**1.04**	**0.78**	**1.27**	0.016
Acenaphthene	0.0792	na	na	na	na	na	0.0005	0.00018	na	**0.32**	0.00066	0.0000032
Benzo(a)anthracene	0.373	0.05	0.011	**0.47**	**0.37**	**0.41**	0.11	0.068	na	0.021	0.12	0.0034
Bis(2-ethylhexyl)phthalate	0.25	**2.5**	0.031	0.013	**12.5**	**6.25**	0.23	0.0001	na	na	**0.42**	0.00089
		7	0.7	**11**	**38**	**25**	**5**	1	**4**	**6**	**8**	0.1

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.3-14
Minimum ESL Comparison for SWMU 21-024(n)

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Antimony	1.74	2.4	Deer mouse	**0.73**
Arsenic	3.324	6.8	Earthworm	**0.49**
Barium	80.06	110	Plant	**0.73**
Cadmium	0.326	0.27	Montane shrew	**1.21**
Chromium	45.13	28	Robin (insectivore)	**1.61**
Cobalt	3.31	13	Plant	0.25
Copper	40.1	15	Robin (insectivore)	**2.67**
Cyanide (Total)	0.182	0.1	Robin (insectivore)	**1.82**
Lead	32.58	14	Robin (insectivore)	**2.33**
Manganese	307.9	220	Plant	**1.4**
Mercury	0.0363	0.013	Robin (insectivore)	**2.79**
Nickel	5.977	9.7	Montane shrew	**0.64**
Selenium	1.07	0.52	Plant	**2.06**
Silver	0.138	2.6	Robin (insectivore)	0.053
Vanadium	15.84	6.7	Robin (insectivore)	**2.36**
Zinc	123.6	48	Robin (insectivore)	**2.58**
Organic Chemicals (mg/kg				
Acenaphthene	0.0448	0.25	Plant	0.18
Acetone	0.0113	1.2	Deer mouse	0.0094
Anthracene	0.0238	6.8	Plant	0.0035
Aroclor-1254	0.0065	0.041	Robin (insectivore)	0.16
Benzo(a)anthracene	0.109	0.8	Robin (herbivore)	0.14
Benzo(a)pyrene	0.048	53	Montane shrew	0.00091
Benzo(b)fluoranthene	0.205	18	Plant	0.011
Benzo(g,h,i)perylene	0.0869	24	Montane shrew	0.0036
Benzo(k)fluoranthene	0.0785	62	Montane shrew	0.0013
Bis(2-ethylhexyl)phthalate	0.167	0.02	Robin (insectivore)	**8.35**
Butylbenzylphthalate	0.759	90	Montane shrew	0.0084
Chloroform	0.00052	8	Deer mouse	0.000065
Chrysene	0.146	2.4	Montane shrew	0.061
Di-n-butylphthalate	0.27	0.011	Robin (insectivore)	**24.55**
Fluoranthene	0.254	10	Earthworm	0.025
Fluorene	0.0506	3.7	Earthworm	0.014
Hexachlorobenzene	0.0962	0.079	Robin (insectivore)	**1.22**
Indeno(1,2,3-cd)pyrene	0.0778	62	Montane shrew	0.0013
Methylene chloride	0.00232	2.6	Deer mouse	0.00089

Table H-5.3-14 (continued)

COPC	EPC	ESL	Receptor	HQ
Naphthalene	0.0145	1	Plant	0.015
Phenanthrene	0.0904	5.5	Earthworm	0.016
Pyrene	0.408	10	Earthworm	0.041
Styrene	0.000566	1.2	Earthworm	0.00047
TCDD[2,3,7,8-] equivalent	5.49E-06	0.00000029	Montane shrew	**18.93**
Toluene	0.00106	23	Montane shrew	0.000046
Radionuclides (pCi/g)				
Americium-241	0.0385	190	Earthworm	2.03E-04
Cesium-137	0.154	1200	Desert cottontail	1.28E-04
Plutonium-238	0.038	820	Earthworm	4.63E-05
Plutonium-239/240	0.71	870	Earthworm	8.16E-04
Tritium	1.192	36000	Plant	3.31E-05
Uranium-234	2.4	440	Plant	0.0055
Uranium-235/236	0.122	440	Plant	0.00028
Uranium-238	1.019	400	Plant	0.0025

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-15
HI Analysis for SWMU 21-024(n)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Antimony	1.74	na*	na	na	na	na	**0.73**	**0.67**	0.022	0.16	**0.67**	0.038
Arsenic	3.324	0.028	0.0039	0.079	0.18	0.13	0.1	0.024	**0.49**	0.18	0.22	0.0041
Barium	80.06	0.0093	0.0029	0.098	0.08	0.086	0.044	0.028	0.24	**0.73**	0.062	0.002
Cadmium	0.326	0.22	0.00069	0.074	**1.12**	**0.6**	**0.64**	0.037	0.0023	0.01	**1.21**	0.00062
Chromium	45.13	0.23	0.045	**0.66**	**1.61**	**1.13**	**0.41**	0.06	na	na	**1**	0.025
Copper	40.1	**0.44**	0.031	**1.06**	**2.67**	**1.82**	**0.63**	0.17	**0.5**	**0.57**	**1.06**	0.01
Cyanide (Total)	0.182	**0.46**	**0.31**	**1.82**	**1.82**	**1.82**	0.00054	0.00028	na	na	0.00059	0.000065
Lead	32.58	**0.34**	0.052	**1.55**	**2.33**	**2.04**	0.27	0.099	0.019	0.27	**0.45**	0.0088
Manganese	307.9	0.011	0.0045	0.22	0.1	0.16	0.22	0.17	**0.68**	**1.40**	0.21	0.0075
Mercury	0.0363	**0.55**	0.13	**0.52**	**2.79**	**1.65**	0.012	0.0018	**0.73**	0.0011	0.021	0.0006
Nickel	5.977	0.05	0.0026	0.037	0.28	0.16	0.3	0.014	0.021	**0.16**	**0.62**	0.005
Selenium	1.07	0.25	0.013	**1.07**	**1.43**	**1.23**	**1.29**	**0.56**	0.26	**2.06**	**1.62**	0.012
Vanadium	15.84	0.25	0.12	**1.78**	**2.36**	**2.08**	0.033	0.012	na	0.26	0.11	0.0048
Zinc	123.6	**0.49**	0.052	**0.35**	**2.58**	**1.45**	**0.73**	0.077	**1.03**	**0.77**	**1.26**	0.016
Bis(2-ethylhexyl)phthalate	0.167	**1.67**	0.021	0.0084	**8.35**	**4.18**	0.15	0.00007	na	na	0.28	0.0006
Di-n-butylphthalate	0.27	**4.58**	0.16	**0.69**	**24.55**	**12.86**	0.00073	0.000019	na	0.0017	0.0015	0.0000056
Hexachlorobenzene	0.0962	0.23	0.0087	0.00096	**1.22**	**0.64**	0.24	0.00008	0.0096	0.0096	**0.48**	0.0022
TCDD[2,3,7,8-] equivalent	5.49E-06	na	na	na	na	na	**9.47**	0.13	1.10E-06	na	**18.93**	0.066
HI		**10**	0.9	**10**	**53**	**32**	**15**	**2**	**4**	**7**	**28**	0.2

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.3-16
Minimum ESL Comparison for Consolidated Unit 21-026(a)-99

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Antimony	0.214	2.4	Deer mouse	0.089
Arsenic	2.884	6.8	Earthworm	**0.42**
Barium	130.5	110	Plant	**1.19**
Cadmium	1.585	0.27	Montane shrew	**5.87**
Chromium	38.51	28	Robin (insectivore)	**1.38**
Copper	76.55	15	Robin (insectivore)	**5.1**
Cyanide (Total)	2.7	0.1	Robin (insectivore)	**27**
Lead	41	14	Robin (insectivore)	**2.93**
Mercury	2.291	0.013	Robin (insectivore)	**176.2**
Nickel	11.48	9.7	Montane shrew	**1.18**
Selenium	0.555	0.52	Plant	**1.07**
Silver	6.765	2.6	Robin (insectivore)	**2.6**
Uranium	3.215	25	Plant	0.13
Zinc	224.6	48	Robin (insectivore)	**4.68**
Organic Chemicals (mg/kg)				
Acenaphthene	0.281	0.25	Plant	**1.12**
Anthracene	0.65	6.8	Plant	0.096
Aroclor-1254	0.0044	0.041	Robin (insectivore)	0.11
Aroclor-1260	0.0031	0.88	Robin (insectivore)	0.0035
Benzo(a)anthracene	0.552	0.8	Robin (herbivore)	**0.69**
Benzo(a)pyrene	0.418	53	Montane shrew	0.0079
Benzo(b)fluoranthene	0.547	18	Plant	0.031
Benzo(g,h,i)perylene	0.224	24	Montane shrew	0.0093
Benzo(k)fluoranthene	0.438	62	Montane shrew	0.0071
Benzoic acid	0.501	1	Montane shrew	**0.5**
Bis(2-ethylhexyl)phthalate	0.689	0.02	Robin (insectivore)	**34.5**
Butylbenzylphthalate	0.189	90	Montane shrew	0.0021
Chloroform	0.000254	8	Deer mouse	0.000031
Chrysene	0.571	2.4	Montane shrew	0.24
Dibenzo(a,h)anthracene	0.84	12	Montane shrew	0.07
Dibenzofuran	0.055	6.1	Plant	0.009
Dichlorobenzene[1,4-]	0.064	0.88	Montane shrew	0.073
Di-n-butylphthalate	0.239	0.011	Robin (insectivore)	**21.73**
Di-n-octylphthalate	0.1	0.91	Montane shrew	0.11
Fluoranthene	0.599	10	Earthworm	0.06
Fluorene	0.17	3.7	Earthworm	0.046

Table H-5.3-16 (continued)

COPC	EPC	ESL	Receptor	HQ
Indeno(1,2,3-cd)pyrene	0.229	62	Montane shrew	0.0037
Phenanthrene	2.2	5.5	Earthworm	**0.4**
Pyrene	0.537	10	Earthworm	0.054
TCDD[2,3,7,8-] equivalent	0.0000000188	0.00000029	Montane shrew	0.065
Xylene (Total)	0.0015	1.4	Montane shrew	0.0011
Radionuclides (pCi/g)				
Americium-241	6.488	190	Earthworm	0.034
Cesium-137	0.135	1200	Desert cottontail	0.00011
Plutonium-238	0.481	820	Earthworm	0.00059
Plutonium-239/240	9.636	870	Earthworm	0.011
Tritium	0.717	36000	Plant	0.00002
Uranium-234	5.631	440	Plant	0.013
Uranium-235/236	0.167	440	Plant	0.00038
Uranium-238	1.33	400	Plant	0.0033

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-17
HI Analysis for Consolidated Unit 21-026(a)-99

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	2.884	0.024	0.0034	0.069	0.16	0.11	0.09	0.021	**0.42**	0.16	0.19	0.0035
Barium	130.5	0.015	0.0047	0.16	0.13	0.14	0.073	0.045	**0.4**	**1.19**	0.1	0.0032
Cadmium	1.585	**1.06**	0.0034	**0.36**	**5.47**	**2.94**	**3.11**	0.18	0.011	0.05	**5.87**	0.003
Chromium	38.51	0.19	0.039	**0.57**	**1.38**	**0.96**	**0.35**	0.051	na*	na	**0.86**	0.021
Copper	76.55	**0.83**	0.059	**2.01**	**5.1**	**3.48**	**1.2**	**0.32**	**0.96**	**1.09**	**2.01**	0.019
Cyanide (Total)	2.7	**6.75**	**4.58**	**27**	**27**	**27**	0.0079	0.0041	na	na	0.0087	0.001
Lead	41	**0.43**	0.065	**1.95**	**2.93**	**2.56**	**0.34**	0.12	0.024	**0.34**	**0.57**	0.011
Mercury	2.291	**34.71**	**7.9**	**32.73**	**176.2**	**104.14**	**0.76**	0.11	**45.82**	0.067	**1.35**	0.038
Nickel	11.48	0.096	0.005	0.072	**0.55**	0.3	**0.57**	0.026	0.041	0.3	**1.18**	0.0096
Selenium	0.555	0.13	0.0069	**0.56**	**0.74**	**0.64**	**0.67**	0.29	0.14	**1.07**	**0.84**	0.0062
Silver	6.765	**0.48**	0.01	**0.62**	**2.6**	**1.57**	**0.28**	0.048	na	0.012	**0.48**	0.0016
Zinc	224.6	**0.90**	0.094	**0.64**	**4.68**	**2.64**	**1.32**	0.14	**1.87**	**1.4**	**2.29**	0.029
Acenaphthene	0.281	na	na	na	na	na	0.0018	0.00064	na	**1.12**	0.0023	0.000011
Benzo(a)anthracene	0.552	0.075	0.016	**0.69**	**0.55**	**0.61**	0.16	0.1	na	0.031	0.18	0.005
Benzoic acid	0.501	na	na	na	na	na	**0.39**	0.14	na	na	**0.5**	0.00028
Bis(2-ethylhexyl)phthalate	0.689	**6.89**	0.085	0.034	**34.45**	**17.23**	**0.63**	0.00029	na	na	**1.17**	0.0025
Di-n-butyl phthalate	0.239	**4.05**	0.14	**0.61**	**21.73**	**11.38**	0.00065	0.000017	na	0.0015	0.0013	0.000005
Phenanthrene	2.2	na	na	na	na	na	0.15	0.042	0.4	na	0.22	0.0013
		57	**13**	**68**	**284**	**176**	**10**	**2**	**50**	**7**	**18**	0.2

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.3-18
Minimum ESL Comparison for SWMU 21-027(a)

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Arsenic	3.596	6.8	Earthworm	**0.53**
Barium	60.54	110	Plant	**0.55**
Cadmium	1.28	0.27	Montane shrew	**4.74**
Chromium	187	28	Robin (insectivore)	**6.68**
Copper	29.31	15	Robin (insectivore)	**1.95**
Lead	22.59	14	Robin (insectivore)	**1.61**
Lithium	9.234	38	Montane shrew	0.24
Mercury	0.163	0.013	Robin (insectivore)	**12.54**
Selenium	1.3	0.52	Plant	**2.5**
Strontium	18.68	96	Deer mouse	0.19
Zinc	124.6	48	Robin (insectivore)	**2.6**
Organic Chemicals (mg/kg)				
Acenaphthene	0.0557	0.25	Plant	0.22
Acetone	0.0269	1.2	Deer mouse	0.0224
Anthracene	0.0343	6.8	Plant	0.005
Aroclor-1254	0.0518	0.041	Robin (insectivore)	**1.26**
Aroclor-1260	0.0284	0.88	Robin (insectivore)	0.032
Benzo(a)anthracene	0.13	0.8	Robin (herbivore)	0.16
Benzo(a)pyrene	0.819	53	Montane shrew	0.015
Benzo(b)fluoranthene	0.258	18	Plant	0.014
Benzo(g,h,i)perylene	0.0945	24	Montane shrew	0.0039
Bis(2-ethylhexyl)phthalate	0.287	0.02	Robin (insectivore)	**14.35**
Butanone[2-]	0.00581	360	Deer mouse	0.000016
Chrysene	0.15	2.4	Montane shrew	0.063
Di-n-butylphthalate	0.036	0.011	Robin (insectivore)	**3.27**
Fluoranthene	0.506	10	Earthworm	0.051
Fluorene	0.0344	3.7	Earthworm	0.0093
Indeno(1,2,3-cd)pyrene	0.123	62	Montane shrew	0.002
Phenanthrene	0.118	5.5	Earthworm	0.022
Pyrene	0.467	10	Earthworm	0.047
TCDD[2,3,7,8-] equivalent	0.000833	0.00000029	Montane shrew	**2872**
Tetrachloroethene	0.00559	0.18	Montane shrew	0.031
Toluene	0.000642	23	Montane shrew	0.000028

Table H-5.3-18 (continued)

COPC	EPC	ESL	Receptor	HQ
Radionuclides (pCi/g)				
Americium-241	15.65	190	Earthworm	0.082
Cesium-137	0.386	1200	Desert cottontail	3.22E-04
Plutonium-238	9.801	820	Earthworm	0.012
Plutonium-239/240	40.76	870	Earthworm	0.047
Tritium	0.716	36000	Plant	1.99E-05
Uranium-234	17.93	440	Plant	0.041
Uranium-235/236	0.938	440	Plant	0.0021
Uranium-238	1.712	400	Plant	0.0043

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-19
HI Analysis for SWMU 21-027(a)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	3.596	0.03	0.0042	0.086	0.2	0.14	0.11	0.026	**0.53**	0.2	0.24	0.0044
Barium	60.54	0.007	0.0022	0.074	0.061	0.065	0.034	0.021	0.18	**0.55**	0.047	0.0015
Cadmium	1.28	**0.85**	0.0027	0.29	**4.41**	**2.37**	**2.51**	0.15	0.0091	0.04	**4.74**	0.0024
Chromium	187	**0.94**	0.19	**2.75**	**6.68**	**4.68**	**1.7**	0.25	na*	na	**4.16**	0.1
Copper	29.31	**0.32**	0.023	**0.77**	**1.95**	**1.33**	**0.46**	0.12	**0.37**	**0.42**	**0.77**	0.0073
Lead	22.59	0.24	0.036	**1.08**	**1.61**	**1.41**	0.19	0.068	0.013	0.19	**0.31**	0.0061
Mercury	0.163	**2.47**	0.56	**2.33**	**12.54**	**7.41**	0.054	0.0082	**3.26**	0.0048	0.1	0.0027
Selenium	1.3	0.3	0.016	**1.3**	**1.73**	**1.49**	**1.57**	**0.68**	**0.32**	**2.5**	**1.97**	0.014
Zinc	124.6	**0.5**	0.052	**0.36**	**2.6**	**1.47**	**0.73**	0.078	**1.04**	**0.78**	**1.27**	0.016
Aroclor-1254	0.0518	0.24	0.0073	0.04	**1.26**	**0.65**	0.059	0.0011	na	0.00032	0.12	0.0088
Bis(2-ethylhexyl)phthalate	0.287	**2.87**	0.035	0.014	**14.35**	**7.18**	0.26	0.00012	na	na	**0.49**	0.001
Di-n-butylphthalate	0.036	**0.61**	0.021	0.092	**3.27**	**1.71**	0.0001	2.57E-06	na	0.00023	0.0002	0.00000075
TCDD[2,3,7,8-] equivalent	0.000833	na	na	na	na	na	**1436**	**19.4**	0.00017	na	**2872**	**10**
		9	1	**9**	**51**	**30**	**1444**	**21**	**6**	**5**	**2886**	**10**

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.3-20
Minimum ESL Comparison for AOC C-21-027

COPC	EPC	ESL	Receptor	HQ
Inorganic Chemicals (mg/kg)				
Antimony	1.225	2.4	Deer mouse	**0.51**
Barium	99.41	110	Plant	**0.9**
Chromium	24.61	28	Robin (insectivore)	**0.88**
Cyanide (Total)	0.503	0.1	Robin (insectivore)	**5.03**
Lead	20.48	14	Robin (insectivore)	**1.46**
Selenium	1.07(U)	0.52	Plant	**2.06**
Thallium	0.148	0.05	Plant	**2.96**
Zinc	278.6	48	Robin (insectivore)	**5.8**
Organic Chemicals (mg/kg)				
Aroclor-1254	0.0024	0.041	Robin (insectivore)	0.059
Aroclor-1260	0.0025	0.88	Robin (insectivore)	0.0028
Benzo(a)anthracene	0.16	0.8	Robin (herbivore)	0.2
Benzo(a)pyrene	0.16	53	Montane shrew	0.003
Benzo(b)fluoranthene	0.24	18	Plant	0.013
Benzo(g,h,i)perylene	0.1	24	Montane shrew	0.0042
Benzo(k)fluoranthene	0.097	62	Montane shrew	0.0016
Bis(2-ethylhexyl)phthalate	0.1	0.02	Robin (insectivore)	**5**
Chrysene	0.15	2.4	Montane shrew	0.063
Di-n-butylphthalate	0.0732	0.011	Robin (insectivore)	**6.65**
Fluoranthene	0.113	10	Earthworm	0.011
Indeno(1,2,3-cd)pyrene	0.091	62	Montane shrew	0.0015
Phenanthrene	0.0178	5.5	Earthworm	0.0032
Pyrene	0.145	10	Earthworm	0.014
TCDD[2,3,7,8-] equivalent	0.000502	0.00000029	Montane shrew	**1731**
Radionuclides (pCi/g)				
Americium-241	3.937	190	Earthworm	0.021
Cesium-137	0.412	1200	Desert cottontail	3.43E-04
Plutonium-238	1.241	820	Earthworm	0.0015
Plutonium-239/240	102	870	Earthworm	0.12
Tritium	0.488	36000	Plant	1.36E-05
Uranium-234	2.423	440	Plant	0.0055
Uranium-235/236	0.138	440	Plant	0.00031

Note: Bolded values indicate HQ greater than 0.3.

Table H-5.3-21
HI Analysis for AOC C-21-027

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Antimony	1.225	na*	na	na	na	na	**0.51**	**0.47**	0.016	0.11	**0.47**	0.027
Barium	99.41	0.012	0.0036	0.12	0.1	0.11	0.055	0.034	0.3	**0.9**	0.076	0.0024
Chromium	24.61	0.12	0.025	**0.36**	**0.88**	**0.62**	0.22	0.033	na	na	**0.55**	0.014
Cyanide (Total)	0.503	**1.26**	**0.85**	**5.03**	**5.03**	**5.03**	0.0015	0.00076	na	na	0.0016	0.00018
Lead	20.48	0.22	0.033	**0.98**	**1.46**	**1.28**	0.17	0.062	0.012	0.171	0.28	0.0055
Selenium	1.07(U)	0.25	0.013	**1.07**	**1.43**	**1.23**	**1.29**	**0.56**	0.26	**2.06**	**1.62**	0.012
Thallium	0.148	0.0026	0.0012	0.016	0.023	0.02	0.2	0.059	na	**2.96**	**0.67**	0.028
Zinc	278.6	**1.11**	0.12	**0.8**	**5.8**	**3.28**	**1.64**	0.17	**2.32**	**1.74**	**2.84**	0.036
Bis(2-ethylhexyl)phthalate	0.1	**1**	0.012	0.005	**5**	**2.5**	0.091	0.000042	na	na	0.17	0.00036
Di-n-butylphthalate	0.0732	**1.24**	0.043	**0.19**	**6.65**	**3.49**	0.00020	5.23E-06	na	0.00046	0.00041	1.53E-06
TCDD[2,3,7,8-] equivalent	0.000502	na	na	na	na	na	**866**	**11.67**	0.0001	na	**1731**	**6.05**
HI		**5**	1	**9**	**26**	**18**	**870**	**13**	**3**	**8**	**1738**	**6**

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.4-1
PAUFs for Ecological Receptors for Consolidated Unit 21-003-99 and SWMU 21-024(c)

Receptor	Home Range (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000094
American Robin	0.42	16.8	0.024
Deer Mouse	0.077	3	0.13
Desert Cottontail	3.1	124	0.0032
Montane Shrew	0.39	15.6	0.026
Red Fox	1038	41,520	0.0000096
Mexican spotted owl	366	n/a[c]	0.0011[d]

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.4 ha) divided by the population area. If a PAUF is greater than 1, no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-2
PAUFs for Ecological Receptors for SWMU 21-022(h)

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000013
American Robin	0.42	16.8	0.0032
Deer Mouse	0.077	3	0.018
Desert Cottontail	3.1	124	0.00043
Montane Shrew	0.39	15.6	0.0034
Red Fox	1038	41,520	0.0000013
Mexican spotted owl	366	n/a[c]	0.00014[d]

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.053 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-3
PAUFs for Ecological Receptors for Consolidated Unit 21-023(a)-99

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000015
American Robin	0.42	16.8	0.0038
Deer Mouse	0.077	3	0.021
Desert Cottontail	3.1	124	0.00051
Montane Shrew	0.39	15.6	0.004
Red Fox	1038	41,520	0.0000015
Mexican spotted owl	366	n/a[c]	0.00017[d]

[a] Values from EPA 1993, 059384.

[b] PAUF is calculated as the area of the site (0.063 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-4
PAUFs for Ecological Receptors for SWMU 21-024(b)

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000019
American Robin	0.42	16.8	0.0048
Deer Mouse	0.077	3	0.027
Desert Cottontail	3.1	124	0.00065
Montane Shrew	0.39	15.6	0.0051
Red Fox	1038	41,520	0.0000019
Mexican spotted owl	366	n/a[c]	0.00022[d]

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.08 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-5
PAUFs for Ecological Receptors for SWMU 21-024(k)

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000026
American Robin	0.42	16.8	0.0065
Deer Mouse	0.077	3	0.037
Desert Cottontail	3.1	124	0.00089
Montane Shrew	0.39	15.6	0.0071
Red Fox	1038	41,520	0.0000026
Mexican spotted owl	366	n/a[c]	0.0003[d]

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.11 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-6
PAUFs for Ecological Receptors for Consolidated Unit 21-024(l)-99

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000047
American Robin	0.42	16.8	0.012
Deer Mouse	0.077	3	0.067
Desert Cottontail	3.1	124	0.0016
Montane Shrew	0.39	15.6	0.013
Red Fox	1038	41,520	0.0000048
Mexican spotted owl	366	n/a[c]	0.00055

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.2 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

Table H-5.4-7
PAUFs for Ecological Receptors for SWMU 21-024(n)

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000026
American Robin	0.42	16.8	0.0065
Deer Mouse	0.077	3	0.037
Desert Cottontail	3.1	124	0.00089
Montane Shrew	0.39	15.6	0.0071
Red Fox	1038	41,520	0.0000026
Mexican spotted owl	366	n/a[c]	0.0003

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.11 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

Table H-5.4-8
PAUFs for Ecological Receptors for Consolidated Unit 21-026(a)-99

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000028
American Robin	0.42	16.8	0.0071
Deer Mouse	0.077	3	0.04
Desert Cottontail	3.1	124	0.00097
Montane Shrew	0.39	15.6	0.0077
Red Fox	1038	41,520	0.0000029
Mexican spotted owl	366	n/a[c]	0.00033[d]

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.12 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-9
PAUFs for Ecological Receptors for SWMU 21-027(a)

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.000012
American Robin	0.42	16.8	0.003
Deer Mouse	0.077	3	0.017
Desert Cottontail	3.1	124	0.0004
Montane Shrew	0.39	15.6	0.0032
Red Fox	1038	41,520	0.0000012
Mexican spotted owl	366	n/a[c]	0.00014[d]

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.05 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-10
PAUFs for Ecological Receptors for AOC C-21-027

Receptor	HR (ha)	Population Area (ha)[a]	PAUF[b]
American Kestrel	106	4240	0.0000099
American Robin	0.42	16.8	0.0025
Deer Mouse	0.077	3	0.014
Desert Cottontail	3.1	124	0.00034
Montane Shrew	0.39	15.6	0.0027
Red Fox	1038	41,520	0.000001
Mexican spotted owl	366	n/a[c]	0.00011[d]

[a] Values from EPA (1993, 059384).

[b] PAUF is calculated as the area of the site (0.042 ha) divided by the population area. If a PAUF is greater than 1 no adjustment is made.

[c] n/a = Not applicable.

[d] Area use factor for T&E species.

Table H-5.4-11
Adjusted HIs for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	2.803	2.20E-06	3.11E-07	1.59E-03	3.71E-03	2.57E-03	0.011	6.46E-05	**0.41**	0.16	4.79E-03	3.29E-08
Barium	80.97	8.88E-07	2.73E-07	2.35E-03	1.93E-03	2.07E-03	5.84E-03	9.01E-05	0.25	**0.74**	1.60E-03	1.90E-08
Cadmium	0.26	1.64E-05	5.22E-08	1.41E-03	0.021	0.011	0.066	9.53E-05	0.0019	0.0081	0.025	4.73E-09
Chromium	11.63	5.49E-06	1.10E-06	4.07E-03	9.89E-03	6.92E-03	0.014	5.00E-05	na*	na	6.63E-03	6.22E-08
Copper	8.05	8.25E-06	5.84E-07	5.04E-03	0.013	8.71E-03	0.016	1.08E-04	0.1	0.12	5.43E-03	1.94E-08
Lead	13.69	1.36E-05	2.05E-06	0.016	0.023	0.02	0.015	1.34E-04	0.0081	0.11	4.88E-03	3.56E-08
Mercury	0.32	4.57E-04	1.04E-04	0.11	**0.59**	**0.35**	0.014	5.16E-05	**6.4**	0.0094	4.83E-03	5.05E-08
Nickel	5.662	4.45E-06	2.32E-07	8.43E-04	6.42E-03	3.55E-03	0.037	4.15E-05	0.02	0.15	0.015	4.55E-08
Selenium	1.12	2.46E-05	1.30E-06	0.027	0.036	0.031	0.18	1.90E-03	0.27	**2.15**	0.044	1.20E-07
Vanadium	13.53	1.99E-05	9.82E-06	0.036	0.048	0.042	3.66E-03	3.36E-05	na	0.23	2.48E-03	3.95E-08
Zinc	49.43	1.87E-05	1.94E-06	3.36E-03	0.025	0.014	0.038	9.97E-05	**0.41**	**0.31**	0.013	6.11E-08
Acenaphthene	0.381	na	na	na	na	na	3.09E-04	2.79E-06	na	**1.52**	8.14E-05	1.47E-10
Aroclor-1016	0.43	na	na	na	na	na	0.027	3.23E-05	na	na	0.011	2.07E-08
Aroclor-1248	0.00852	3.65E-06	1.39E-07	2.03E-04	4.95E-03	2.57E-03	0.079	5.29E-05	na	na	0.03	5.47E-08
Aroclor-1254	0.102	4.37E-05	1.36E-06	1.87E-03	0.059	0.03	0.015	7.15E-06	na	0.00064	5.94E-03	1.67E-07
Benzoic acid	0.459	na	na	na	na	na	0.046	4.00E-04	na	na	0.012	2.46E-09
Bis(2-ethylhexyl)phthalate	0.232	2.19E-04	2.70E-06	2.76E-04	0.28	0.14	0.027	3.12E-07	na	na	0.01	7.98E-09
Di-n-butylphthalate	0.0579	9.26E-05	3.21E-06	3.53E-03	0.13	0.066	2.03E-05	1.33E-08	na	0.00036	8.25E-06	1.16E-11
Adjusted HI		0.0009	0.0001	0.2	1	0.7	0.6	0.003	**8**	**6**	0.2	7E-07

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.4-12
Adjusted HIs for SWMU 21-022(h)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Barium	65.54	9.53E-08	2.93E-08	2.52E-04	2.07E-04	2.22E-04	6.27E-04	9.66E-06	0.2	**0.6**	1.71E-04	2.04E-09
Cadmium	1.594	1.33E-05	4.24E-08	1.14E-03	0.017	9.31E-03	0.054	7.74E-05	0.011	0.05	0.02	3.84E-09
Chromium	26.89	1.68E-06	3.36E-07	1.25E-03	3.03E-03	2.12E-03	4.21E-03	1.53E-05	na*	na	2.03E-03	1.91E-08
Copper	93.45	1.27E-05	8.99E-07	7.76E-03	0.020	0.013	0.025	1.66E-04	**1.17**	**1.34**	8.36E-03	2.98E-08
Cyanide (Total)	0.231	7.22E-06	4.89E-06	7.29E-03	7.29E-03	7.29E-03	1.17E-05	1.50E-07	na	na	2.53E-06	1.05E-10
Lead	831.1	1.09E-04	1.65E-05	0.12	0.19	0.16	0.12	1.08E-03	**0.49**	**6.93**	0.039	2.87E-07
Mercury	0.606	1.15E-04	2.61E-05	0.027	0.15	0.087	3.48E-03	1.30E-05	**12.12**	0.018	1.21E-03	1.27E-08
Molybdenum	7.802	9.75E-07	7.50E-08	1.30E-03	1.45E-03	1.37E-03	na	na	na	na	na	na
Nickel	5.633	5.87E-07	3.06E-08	1.11E-04	8.46E-04	4.68E-04	4.85E-03	5.47E-06	0.02	0.15	1.97E-03	5.99E-09
Selenium	0.407	1.18E-06	6.28E-08	1.28E-03	1.71E-03	1.48E-03	8.44E-03	9.16E-05	0.1	**0.78**	2.10E-03	5.77E-09
Silver	9.965	8.90E-06	1.86E-07	2.86E-03	0.012	7.31E-03	7.14E-03	3.04E-05	na	0.018	2.42E-03	2.96E-09
Zinc	422.3	2.11E-05	2.20E-06	3.81E-03	0.028	0.016	0.043	1.13E-04	**3.52**	**2.64**	0.015	6.91E-08
Acenaphthene	0.313	na	na	na	na	na	3.37E-05	3.04E-07	na	**1.25**	8.86E-06	1.60E-11
Aroclor-1254	0.0478	2.72E-06	8.42E-08	1.16E-04	3.68E-03	1.88E-03	9.35E-04	4.44E-07	na	0.0003	3.69E-04	1.03E-08
Benzo(a)anthracene	0.873	1.47E-06	3.21E-07	3.44E-03	0.003	3.03E-03	4.42E-03	6.78E-05	na	0.049	9.89E-04	1.01E-08
Bis(2-ethylhexyl)phthalate	1.171	1.46E-04	1.81E-06	1.85E-04	0.185	0.092	0.018	2.09E-07	na	na	6.74E-03	5.34E-09
Chrysene	0.972	na	na	na	na	na	5.40E-03	7.16E-05	na	na	1.38E-03	1.13E-08
Di-n-butylphthalate	0.35	7.42E-05	2.57E-06	2.83E-03	0.1	0.053	1.63E-05	1.07E-08	na	0.0022	6.61E-06	9.31E-12
Fluoranthene	3.676	na	na	na	na	na	1.66E-03	6.83E-06	**0.37**	na	5.68E-04	1.42E-09
Naphthalene	1.7	2.39E-07	1.01E-08	1.58E-03	3.35E-04	9.41E-04	3.02E-03	6.61E-05	na	**1.7**	2.14E-04	4.25E-10

Table H-5.4-12 (continued)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Phenanthrene	1.825	na	na	na	na	na	2.09E-03	1.50E-05	**0.33**	na	6.20E-04	1.37E-09
Pyrene	4.866	3.20E-07	1.96E-08	2.16E-04	4.52E-04	3.34E-04	2.62E-03	2.10E-05	**0.49**	na	7.51E-04	2.22E-09
TCDD[2,3,7,8-] equivalent	7.94E-07	na	na	na	na	na	0.024	7.89E-06	1.60E-07	na	9.30E-03	1.22E-08
Adjusted HI		0.0005	0.00006	0.2	0.7	0.5	0.3	0.002	**19**	**16**	0.1	5E-07

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.4-13
Adjusted HIs for Consolidated Unit 21-023(a)-99

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	3.665	4.54E-07	6.41E-08	3.27E-04	7.64E-04	5.29E-04	2.34E-03	1.33E-05	**0.54**	0.2	9.87E-04	6.78E-09
Barium	91.15	1.57E-07	4.84E-08	4.17E-04	3.42E-04	3.68E-04	1.04E-03	1.60E-05	0.28	**0.83**	2.83E-04	3.37E-09
Chromium	11.54	8.57E-07	1.71E-07	6.36E-04	1.55E-03	1.08E-03	2.15E-03	7.82E-06	na*	na	1.04E-03	9.73E-09
Copper	5.257	8.49E-07	6.01E-08	5.19E-04	1.31E-03	8.96E-04	1.68E-03	1.11E-05	0.066	0.075	5.59E-04	1.99E-09
Lead	199.2	3.12E-05	4.70E-06	0.036	0.053	0.047	0.034	3.07E-04	0.12	**1.66**	0.011	8.17E-08
Manganese	237.1	1.30E-07	5.11E-08	6.35E-04	2.87E-04	4.68E-04	3.46E-03	6.69E-05	**0.53**	**1.08**	6.38E-04	8.77E-09
Mercury	0.379	8.53E-05	1.94E-05	0.02	0.11	0.065	2.58E-03	9.63E-06	**7.58**	0.011	9.00E-04	9.43E-09
Selenium	5.64	1.95E-05	1.03E-06	0.021	0.028	0.024	0.14	1.51E-03	**1.38**	**10.85**	0.035	9.51E-08
Acenaphthene	0.11	na	na	na	na	na	1.41E-04	1.27E-06	na	**0.44**	3.70E-05	6.68E-11
Benzo(a)anthracene	1.97	3.96E-06	8.61E-07	9.23E-03	7.39E-03	8.12E-03	0.012	1.82E-04	na	0.11	2.65E-03	2.72E-08
Bis(2-ethylhexyl)phthalate	2.12	3.15E-04	3.89E-06	3.98E-04	**0.4**	0.2	0.039	4.49E-07	na	na	0.015	1.15E-08
Di-n-butylphthalate	0.0918	2.31E-05	8.02E-07	8.83E-04	0.031	0.016	5.07E-06	3.33E-09	na	0.00057	2.06E-06	2.90E-12
TCDD[2,3,7,8-] equivalent	8.65E-07	na	na	na	na	na	0.031	1.02E-05	1.70E-07	na	0.012	1.58E-08
Adjusted HI		0.0005	0.00003	0.09	0.6	0.4	0.3	0.002	**10**	**15**	0.08	3E-07

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-14
Adjusted HIs for SWMU 21-024(b)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Barium	61.45	1.35E-07	4.14E-08	3.57E-04	2.93E-04	3.15E-04	8.87E-04	1.37E-05	0.19	**0.56**	2.42E-04	2.89E-09
Cyanide (Total)	0.28	1.32E-05	8.95E-06	1.33E-02	0.013	0.013	2.14E-05	2.74E-07	na*	na	4.63E-06	1.93E-10
Lead	10.91	2.17E-06	3.27E-07	2.47E-03	3.71E-03	3.25E-03	0.002	2.13E-05	0.0064	0.091	7.77E-04	5.68E-09
Mercury	0.0455	1.30E-05	2.96E-06	3.10E-03	0.017	9.85E-03	3.94E-04	1.47E-06	**0.91**	0.0013	1.37E-04	1.44E-09
Nickel	4.913	7.72E-07	4.03E-08	1.46E-04	1.11E-03	6.16E-04	6.38E-03	7.20E-06	0.0175	0.13	2.60E-03	7.89E-09
Selenium	1.103	4.84E-06	2.57E-07	5.25E-03	7.00E-03	6.04E-03	0.035	3.75E-04	0.27	**2.12**	8.57E-03	2.36E-08
Zinc	48.14	3.63E-06	3.78E-07	6.55E-04	4.78E-03	2.70E-03	7.36E-03	1.94E-05	**0.4**	0.3	2.52E-03	1.19E-08
Bis(2-ethylhexyl)phthalate	0.0764	1.44E-05	1.78E-07	1.82E-05	0.018	9.10E-03	1.80E-03	2.05E-08	na	na	6.64E-04	5.26E-10
Adjusted HI		0.00005	0.00001	0.03	0.07	0.05	0.1	0.0004	**2**	**3**	0.02	5E-08

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.4-15
Adjusted HIs for SWMU 21-024(k)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	3.092	6.68E-07	9.44E-08	4.82E-04	1.12E-03	7.79E-04	3.45E-03	1.96E-05	**0.45**	0.17	1.45E-03	9.99E-09
Barium	52.91	1.60E-07	4.90E-08	4.22E-04	3.46E-04	3.73E-04	1.05E-03	1.62E-05	0.16	**0.48**	2.87E-04	3.42E-09
Beryllium	0.828	na*	na	na	na	na	5.28E-04	4.90E-06	0.021	**0.33**	3.24E-04	5.22E-09
Copper	6.471	1.82E-06	1.29E-07	1.11E-03	2.82E-03	1.93E-03	3.61E-03	2.39E-05	0.081	0.092	1.20E-03	4.29E-09
Cyanide (Total)	0.248	1.61E-05	1.09E-05	0.016	0.016	0.016	2.61E-05	3.33E-07	na	na	5.64E-06	2.35E-10
Lead	13.14	3.59E-06	5.41E-07	4.10E-03	6.15E-03	5.38E-03	3.91E-03	3.53E-05	0.0077	0.11	1.29E-03	9.41E-09
Mercury	0.333	1.31E-04	2.98E-05	0.031	0.17	0.099	3.96E-03	1.48E-05	**6.66**	0.01	1.38E-03	1.45E-08
Nickel	5.227	1.13E-06	5.90E-08	2.14E-04	1.63E-03	9.01E-04	9.33E-03	1.05E-05	0.019	0.14	3.80E-03	1.15E-08
Selenium	0.971	5.86E-06	3.11E-07	0.006	0.008	0.007	0.042	4.53E-04	0.24	**1.87**	0.01	2.86E-08
Zinc	41.66	4.32E-06	4.50E-07	7.79E-04	5.68E-03	3.21E-03	8.75E-03	2.31E-05	**0.35**	0.26	3.00E-03	1.42E-08
TCDD[2,3,7,8-] equivalent	2.66E-07	na	na	na	na	na	0.016	5.49E-06	5.32E-08	na	6.47E-03	8.49E-09
Adjusted HI		0.0002	0.00004	0.06	0.2	0.1	0.1	0.0006	**8**	**3**	0.03	1E-07

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.4-16
Adjusted HIs for Consolidated Unit 21-024(l)-99

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Barium	116	6.36E-07	1.95E-07	1.68E-03	1.38E-03	1.48E-03	4.18E-03	6.45E-05	**0.35**	**1.05**	1.14E-03	1.36E-08
Cadmium	0.344	1.08E-05	3.45E-08	9.31E-04	0.014	7.58E-03	0.044	6.30E-05	0.0025	0.011	0.016	3.13E-09
Chromium	10.39	2.45E-06	4.90E-07	1.82E-03	4.42E-03	3.09E-03	0.006	2.23E-05	na*	na	2.96E-03	2.78E-08
Copper	10.44	5.35E-06	3.79E-07	3.27E-03	8.29E-03	5.65E-03	0.011	7.02E-05	0.13	0.15	3.52E-03	1.26E-08
Lead	154	7.65E-05	1.15E-05	0.087	0.13	0.11	0.083	7.53E-04	0.091	**1.28**	0.027	2.00E-07
Lithium	11.63	na	na	na	na	na	7.55E-03	8.53E-05	na	na	3.92E-03	6.29E-08
Mercury	0.101	7.22E-05	1.64E-05	0.017	0.092	0.055	2.19E-03	8.15E-06	**2.02**	0.003	7.62E-04	7.98E-09
Selenium	1.083	1.19E-05	6.31E-07	0.013	0.017	0.015	0.085	9.19E-04	0.26	**2.08**	0.021	5.80E-08
Zinc	124.5	2.35E-05	2.45E-06	0.004	0.031	0.017	0.048	1.26E-04	**1.04**	**0.78**	0.016	7.69E-08
Acenaphthene	0.0792	na	na	na	na	na	3.21E-05	2.90E-07	na	**0.32**	8.46E-06	1.53E-11
Benzo(a)anthracene	0.373	2.38E-06	5.17E-07	5.55E-03	4.44E-03	4.88E-03	7.12E-03	1.09E-04	na	0.021	1.59E-03	1.63E-08
Bis(2-ethylhexyl)phthalate	0.25	1.18E-04	1.46E-06	1.49E-04	0.15	0.074	0.015	1.68E-07	na	na	5.43E-03	4.30E-09
Adjusted HI		0.0003	0.00003	0.1	0.5	0.3	0.3	0.002	**4**	**6**	0.1	5E-07

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.4-17
Adjusted HIs for SWMU 21-024(n)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Antimony	1.74	na*	na	na	na	na	0.026	5.94E-04	0.022	0.16	4.72E-03	1.00E-07
Arsenic	3.324	7.19E-07	1.01E-07	5.18E-04	1.21E-03	8.37E-04	3.71E-03	2.11E-05	**0.49**	0.18	1.56E-03	1.07E-08
Barium	80.06	2.42E-07	7.42E-08	6.39E-04	5.24E-04	5.64E-04	0.002	2.45E-05	0.24	**0.73**	4.34E-04	5.17E-09
Cadmium	0.326	5.64E-06	1.80E-08	4.85E-04	7.36E-03	3.95E-03	0.023	3.29E-05	0.0023	0.01	8.51E-03	1.63E-09
Chromium	45.13	5.85E-06	1.17E-06	4.35E-03	0.011	7.39E-03	0.015	5.34E-05	na	na	7.07E-03	6.64E-08
Copper	40.1	1.13E-05	8.00E-07	6.91E-03	0.018	0.012	0.022	1.48E-04	**0.5**	**0.57**	7.44E-03	2.66E-08
Cyanide (Total)	0.182	1.18E-05	8.00E-06	0.012	0.012	0.012	1.91E-05	2.45E-07	na	na	4.14E-06	1.72E-10
Lead	32.58	8.90E-06	1.34E-06	0.01	0.015	0.013	9.70E-03	8.76E-05	0.019	0.27	3.19E-03	2.33E-08
Manganese	307.9	2.96E-07	1.16E-07	1.44E-03	6.50E-04	1.06E-03	7.85E-03	1.52E-04	**0.68**	**1.4**	1.45E-03	1.99E-08
Mercury	0.0363	1.43E-05	3.25E-06	3.40E-03	0.018	0.011	4.32E-04	1.61E-06	**0.73**	0.0011	1.51E-04	1.58E-09
Nickel	5.977	1.29E-06	6.74E-08	2.45E-04	1.86E-03	1.03E-03	0.011	1.21E-05	0.021	0.16	4.34E-03	1.32E-08
Selenium	1.07	6.46E-06	3.43E-07	7.01E-03	9.34E-03	8.05E-03	0.046	5.00E-04	0.26	**2.06**	0.011	3.15E-08
Vanadium	15.84	6.42E-06	3.16E-06	0.012	0.015	0.014	1.18E-03	1.08E-05	na	0.26	7.98E-04	1.27E-08
Zinc	123.6	1.28E-05	1.34E-06	2.31E-03	0.017	9.52E-03	0.026	6.85E-05	**1.03**	**0.77**	8.89E-03	4.20E-08
Bis(2-ethylhexyl)phthalate	0.167	4.33E-05	5.35E-07	5.47E-05	0.055	0.027	5.42E-03	6.17E-08	na	na	2.00E-03	1.58E-09
Di-n-butylphthalate	0.27	1.19E-04	4.12E-06	4.53E-03	0.16	0.084	2.61E-05	1.71E-08	na	0.0017	1.06E-05	1.49E-11
Hexachlorobenzene	0.0962	5.98E-06	2.26E-07	6.24E-06	0.0079	0.0042	0.0089	7.12E-08	0.0096	0.0096	0.0034	5.72E-09
TCDD[2,3,7,8-] equivalent	5.49E-06	na	na	na	na	na	**0.34**	1.13E-04	1.10E-06	na	0.13	1.75E-07
Adjusted HI		0.0002	0.00002	0.07	0.3	0.2	0.5	0.002	**4**	**7**	0.2	5E-07

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*na = Not available.

Table H-5.4-18
Adjusted HIs for Consolidated Unit 21-026(a)-99

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	2.884	6.80E-07	9.60E-08	4.90E-04	1.14E-03	7.92E-04	3.51E-03	1.99E-05	**0.42**	0.16	1.48E-03	1.02E-08
Barium	130.5	4.29E-07	1.32E-07	1.14E-03	9.32E-04	1.00E-03	2.82E-03	4.35E-05	**0.4**	**1.19**	7.72E-04	9.20E-09
Cadmium	1.585	2.99E-05	9.54E-08	2.57E-03	0.039	0.021	0.12	1.74E-04	0.011	0.05	0.045	8.64E-09
Chromium	38.51	5.45E-06	1.09E-06	4.05E-03	9.82E-03	6.88E-03	0.014	4.97E-05	na*	na	6.58E-03	6.18E-08
Copper	76.55	2.35E-05	1.67E-06	0.014	0.036	0.025	0.047	3.09E-04	**0.96**	**1.09**	0.015	5.53E-08
Cyanide (Total)	2.7	1.91E-04	1.30E-04	0.19	0.19	0.19	3.09E-04	3.96E-06	na	na	6.70E-05	2.79E-09
Lead	41	1.22E-05	1.84E-06	0.014	0.021	0.018	0.013	1.20E-04	0.024	**0.34**	4.38E-03	3.20E-08
Mercury	2.291	9.82E-04	2.24E-04	0.23	**1.26**	**0.74**	0.03	1.11E-04	**45.82**	0.067	0.01	1.09E-07
Nickel	11.48	2.71E-06	1.41E-07	5.13E-04	3.90E-03	2.16E-03	0.022	2.52E-05	0.041	0.3	9.10E-03	2.76E-08
Selenium	0.555	3.65E-06	1.94E-07	3.96E-03	5.29E-03	4.56E-03	0.026	2.83E-04	0.14	**1.07**	6.47E-03	1.78E-08
Silver	6.765	1.37E-05	2.86E-07	4.39E-03	0.019	0.011	0.011	4.68E-05	na	0.012	3.72E-03	4.55E-09
Zinc	224.6	2.54E-05	2.65E-06	4.58E-03	0.033	0.019	0.051	1.36E-04	**1.87**	**1.4**	0.018	8.32E-08
Acenaphthene	0.281	na	na	na	na	na	6.84E-05	6.18E-07	na	**1.12**	1.80E-05	3.25E-11
Benzo(a)anthracene	0.552	2.11E-06	4.59E-07	4.93E-03	3.94E-03	4.33E-03	6.33E-03	9.71E-05	na	0.031	1.42E-03	1.45E-08
Benzoic acid	0.501	na	na	na	na	na	0.015	1.31E-04	na	na	3.85E-03	8.04E-10
Bis(2-ethylhexyl)phthalate	0.689	1.95E-04	2.41E-06	2.46E-04	0.25	0.12	0.024	2.78E-07	na	na	8.98E-03	7.11E-09
Di-n-butylphthalate	0.239	1.15E-04	3.98E-06	4.38E-03	0.16	0.081	2.52E-05	1.65E-08	na	0.0015	1.02E-05	1.44E-11
Phenanthrene	2.2	na	na	na	na	na	5.71E-03	4.09E-05	**0.4**	na	1.69E-03	3.74E-09
Adjusted HI		0.002	0.0004	0.5	**2**	1	0.4	0.002	**50**	**7**	0.1	4E-07

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.4-19
Adjusted HI for SWMU 21-027(a)

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Arsenic	3.596	3.53E-07	4.99E-08	2.55E-04	5.95E-04	4.12E-04	1.82E-03	1.04E-05	**0.53**	0.2	7.68E-04	5.28E-09
Barium	60.54	8.30E-08	2.55E-08	2.20E-04	1.80E-04	1.94E-04	5.46E-04	8.42E-06	0.18	**0.55**	1.49E-04	1.78E-09
Cadmium	1.28	1.01E-05	3.21E-08	8.66E-04	0.013	7.05E-03	0.041	5.87E-05	0.0091	0.04	0.015	2.91E-09
Chromium	187	1.10E-05	2.21E-06	8.18E-03	0.02	0.014	0.028	1.01E-04	na*	na	0.013	1.25E-07
Copper	29.31	3.76E-06	2.66E-07	2.30E-03	5.82E-03	3.97E-03	7.43E-03	4.92E-05	**0.37**	**0.42**	2.47E-03	8.82E-09
Lead	22.59	2.80E-06	4.23E-07	3.20E-03	4.80E-03	4.20E-03	3.06E-03	2.76E-05	0.013	0.19	1.01E-03	7.35E-09
Mercury	0.163	2.91E-05	6.63E-06	6.93E-03	0.037	0.022	8.82E-04	3.29E-06	**3.26**	0.0048	3.07E-04	3.22E-09
Selenium	1.3	3.57E-06	1.89E-07	3.87E-03	5.16E-03	4.45E-03	0.025	2.76E-04	**0.32**	**2.5**	6.31E-03	1.74E-08
Zinc	124.6	5.88E-06	6.12E-07	1.06E-03	7.73E-03	4.36E-03	0.012	3.14E-05	**1.04**	**0.78**	4.08E-03	1.92E-08
Aroclor-1254	0.0518	2.78E-06	8.60E-08	1.19E-04	3.76E-03	1.93E-03	9.56E-04	4.54E-07	na	0.00032	3.77E-04	1.06E-08
Bis(2-ethylhexyl)phthalate	0.287	3.38E-05	4.18E-07	4.27E-05	0.043	0.021	4.24E-03	4.82E-08	na	na	1.56E-03	1.23E-09
Di-n-butylphthalate	0.036	7.20E-06	2.50E-07	2.75E-04	9.74E-03	5.10E-03	1.58E-06	1.04E-09	na	0.00023	6.41E-07	9.03E-13
TCDD[2,3,7,8-] equivalent	8.33E-04	na	na	na	na	na	**23.3**	0.0078	0.0004	na	**9.21**	1.21E-05
Adjusted HI		0.0001	0.00001	0.03	0.2	0.09	**24**	0.008	**6**	**5**	**9**	0.00001

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.4-20
Adjusted HIs for AOC C-21-027

COPEC	EPC (mg/kg)	American Kestrel (avian intermediate carnivore)	American Kestrel (avian top carnivore)	American Robin (avian herbivore)	American Robin (avian insectivore)	American Robin (avian omnivore)	Deer Mouse (mammalian omnivore)	Desert Cottontail (mammalian herbivore)	Earthworm (soil dwelling invertebrate)	Plant (terrestrial autotroph-producer)	Montane Shrew (mammalian insectivore)	Red Fox (mammalian top carnivore)
Antimony	1.225	na*	na	na	na	na	6.96E-03	1.60E-04	0.016	0.11	1.27E-03	2.69E-08
Barium	99.41	1.15E-07	3.52E-08	3.03E-04	2.49E-04	2.67E-04	7.53E-04	1.16E-05	0.3	**0.9**	2.06E-04	2.45E-09
Chromium	24.61	1.22E-06	2.44E-07	9.05E-04	2.20E-03	1.54E-03	0.003	1.11E-05	na	na	1.47E-03	1.38E-08
Cyanide (Total)	0.503	1.25E-05	8.44E-06	0.013	0.013	0.013	2.02E-05	2.58E-07	na	na	4.37E-06	1.82E-10
Lead	20.48	2.14E-06	3.22E-07	2.44E-03	3.66E-03	3.20E-03	2.33E-03	2.10E-05	0.012	0.171	7.66E-04	5.60E-09
Selenium	1.07(U)	2.46E-06	1.31E-07	2.68E-03	3.57E-03	3.07E-03	0.018	1.91E-04	0.26	**2.06**	4.36E-03	1.20E-08
Thallium	0.148	2.62E-08	1.22E-08	4.02E-05	5.87E-05	4.93E-05	2.76E-03	2.01E-05	na	**2.96**	1.81E-03	2.82E-08
Zinc	278.6	1.10E-05	1.15E-06	1.99E-03	0.015	8.19E-03	0.022	5.90E-05	**2.32**	**1.74**	7.65E-03	3.61E-08
Bis(2-ethylhexyl)phthalate	0.1	9.91E-06	1.22E-07	0.005	0.013	0.006	1.24E-03	1.41E-08	na	na	4.56E-04	3.61E-10
Di-n-butylphthalate	0.0732	1.23E-05	4.27E-07	4.69E-04	0.017	8.71E-03	2.70E-06	1.77E-09	na	0.00046	1.09E-06	1.54E-12
TCDD[2,3,7,8-] equivalent	0.000502	na	na	na	na	na	**11.8**	3.95E-03	0.0001	na	**4.66**	6.12E-06
Adjusted HI		0.00005	0.00001	0.02	0.07	0.04	**12**	0.004	**3**	**8**	**7**	0.000006

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*na = Not available.

Table H-5.4-21
LOAEL-Based ESLs for Terrestrial Receptors

COPEC	Receptor	LOAEL–Based ESL* (mg/kg)
Arsenic	Earthworm	68
Barium	Earthworm	3200
	Plant	260
Beryllium	Plant	25
Copper	Earthworm	530
	Plant	490
Lead	Plant	570
	Earthworm	8400
Manganese	Earthworm	4500
	Plant	1100
Mercury	Earthworm	0.5
	Robin (insectivore)	0.13
	Robin (omnivore)	0.22
Nickel	Plant	270
Selenium	Earthworm	41
	Plant	3.4
Thallium	Plant	0.5
Zinc	Earthworm	930
	Plant	810
Acenaphthene	Plant	2.5
Fluoranthene	Earthworm	23
Naphthalene	Plant	10
Phenanthrene	Earthworm	12
Pyrene	Earthworm	20
TCDD[2,3,7,8-]	Deer mouse	0.0000039
	Montane shrew	0.0000019

*LOAEL-based ESLs from ECORISK Database, Version 3.2 (LANL 2014, 262559).

Table H-5.4-22
HI Analysis Using LOAEL-Based ESLs
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPEC	EPC (mg/kg)	Robin (insectivore)	Earthworm	Plant
Arsenic	2.803	n/a*	0.041	n/a
Barium	80.97	n/a	n/a	**0.31**
Mercury	0.32	**2.46**	**0.64**	n/a
Selenium	1.12	n/a	n/a	**0.33**
Zinc	49.43	n/a	0.053	0.061
Acenaphthene	0.381	n/a	n/a	0.15
	HI	**2**	0.7	0.9

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-23
Adjusted HI Analysis for LOAEL-Based ESLs
for Consolidated Unit 21-003-99 and SWMU 21-024(c)

COPEC	EPC (mg/kg)	Robin (insectivore)
Mercury	0.32	0.0098
	HI	0.01

Table H-5.4-24
HI Analysis Using LOAEL-Based ESLs for SWMU 21-022(h)

COPEC	EPC (mg/kg)	Earthworm	Plant
Barium	65.54	n/a*	0.25
Copper	93.45	0.18	0.19
Lead	831.1	0.1	**1.46**
Mercury	0.606	**1.21**	n/a
Selenium	0.407	n/a	0.12
Zinc	422.3	**0.45**	**0.52**
Acenaphthene	0.313	n/a	0.13
Fluoranthene	3.767	0.16	n/a
Naphthalene	1.7	n/a	0.17
Phenanthrene	1.825	0.15	n/a
Pyrene	4.866	0.24	n/a
	HI	**2**	**3**

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-25
HI Analysis Using LOAEL-Based ESLs for Consolidated Unit 21-023(a)-99

COPEC	EPC (mg/kg)	Earthworm	Plant
Arsenic	3.665	0.054	n/a*
Barium	91.15	n/a	**0.35**
Lead	199.2	n/a	**0.35**
Manganese	237.1	0.053	0.22
Mercury	0.379	**0.76**	n/a
Selenium	5.64	0.14	**1.66**
Acenaphthene	0.11	n/a	0.044
HI		1	**3**

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-26
HI Analysis Using LOAEL-Based ESLs for SWMU 21-024(b)

COPEC	EPC (mg/kg)	Earthworm	Plant
Barium	61.45	n/a*	0.24
Mercury	0.0455	0.091	n/a
Selenium	1.103	n/a	**0.32**
Zinc	48.14	0.052	n/a
HI		0.1	0.6

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-27
HI Analysis Using LOAEL-Based ESLs for SWMU 21-024(k)

COPEC	EPC (mg/kg)	Earthworm	Plant
Arsenic	3.092	0.045	n/a*
Barium	52.91	n/a	0.2
Beryllium	0.828	n/a	0.033
Mercury	0.333	**0.67**	n/a
Selenium	0.971	n/a	0.29
Zinc	41.66	0.045	n/a
HI		0.8	0.5

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-28
HI Analysis Using LOAEL-Based ESLs for Consolidated Unit 21-024(l)-99

COPEC	EPC (mg/kg)	Earthworm	Plant
Barium	116	0.036	**0.45**
Lead	154	n/a*	0.27
Mercury	0.101	0.2	n/a
Selenium	1.083	n/a	**0.32**
Zinc	124.5	0.13	0.15
Acenaphthene	0.0792	n/a	0.032
	HI	0.4	1

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-29
HI Analysis Using LOAEL-Based ESLs for SWMU 21-024(n)

COPEC	EPC (mg/kg)	Earthworm	Plant
Arsenic	3.324	0.049	n/a*
Barium	80.06	n/a	**0.31**
Copper	40.1	0.076	0.082
Manganese	307.9	0.068	0.28
Mercury	0.0363	0.073	n/a
Selenium	1.07	n/a	**0.31**
Zinc	123.6	0.13	0.15
	HI	0.4	1

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-30
HI Analysis Using LOAEL-Based ESLs for Consolidated Unit 21-026(a)-99

COPEC	EPC (mg/kg)	Robin (insectivore)	Robin (omnivore)	Earthworm	Plant
Arsenic	2.884	n/a*	n/a*	0.042	n/a
Barium	130.5	n/a	n/a	0.041	**0.48**
Copper	76.55	n/a	n/a	0.14	0.16
Lead	41	n/a	n/a	n/a	0.072
Mercury	2.291	**17.6**	**10.4**	**4.58**	n/a
Selenium	0.555	n/a	n/a	n/a	0.16
Zinc	224.6	n/a	n/a	0.24	0.28
Acenaphthene	0.281	n/a	n/a	n/a	0.11
Phenanthrene	2.2	n/a	n/a	0.18	n/a
HI		**18**	**10**	**5**	1

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-31
Adjusted HI Analysis for LOAEL-Based
ESLs for Consolidated Unit 21-026(a)-99

COPEC	EPC (mg/kg)	Robin (insectivore)	Robin (omnivore)
Mercury	2.291	0.13	0.074
HI		0.1	0.07

Table H-5.4-32
HI Analysis Using LOAEL-Based ESLs for SWMU 21-027(a)

COPEC	EPC (mg/kg)	Deer Mouse	Montane Shrew	Earthworm	Plant
Arsenic	3.596	n/a*	n/a	0.053	n/a
Barium	99.41	n/a	n/a	n/a	0.23
Copper	29.31	n/a	n/a	0.055	0.06
Mercury	0.163	n/a	n/a	**0.33**	n/a
Selenium	1.3	n/a	n/a	n/a	**0.38**
Zinc	124.6	n/a	n/a	0.13	0.15
TCDD[2,3,7,8-] equivalent	0.000833	**213.6**	**438.4**	n/a	n/a
HI		**214**	**438**	0.6	0.8

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.
*n/a = Not applicable.

Table H-5.4-33
Adjusted HI Analysis for LOAEL-Based ESLs for SWMU 21-027(a)

COPEC	EPC (mg/kg)	Deer Mouse	Montane Shrew
TCDD[2,3,7,8-] equivalent	0.000833	**3.63**	**1.4**
	HI	**4**	1

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

Table H-5.4-34
HI Analysis Using LOAEL-Based ESLs for AOC C-21-027

COPEC	EPC (mg/kg)	Deer Mouse	Montane Shrew	Earthworm	Plant
Barium	99.41	n/a[a]	n/a	n/a	**0.38**
Selenium	1.07 (U)	n/a	n/a	n/a	**0.31**
Thallium	0.148	n/a	n/a	n/a	0.3
Zinc	278.6	n/a	n/a	0.3	**0.34**
TCDD[2,3,7,8-] equivalent	0.000502[b]	**128.7**	**264.2**	n/a	n/a
	HI	**129**	**264**	0.3	1

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

[a] n/a = Not applicable.

[b] Maximum equivalent concentration.

Table H-5.4-35
Adjusted HI Analysis for LOAEL-Based ESLs for AOC C-21-027

COPEC	EPC (mg/kg)	Deer Mouse	Montane Shrew
TCDD[2,3,7,8-] equivalent	0.000502*	**1.8**	**0.71**
	HI	**2**	0.7

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

*Maximum equivalent concentration.

Table H-5.4-36
HI Analysis Using LOAEL-Based ESLs and 95% UCLs for AOC C-21-027

COPEC	EPC (mg/kg)	Deer Mouse	Montane Shrew
TCDD[2,3,7,8-] equivalent	0.00021/0.00039*	**53.9/100**	**110.5/205.3**
	HI	**54/100**	**111/205**

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

* EPCs are the 95% UCLs based on Chebyshev (MVUE) and Chebyshev (Mean, Sd), respectively (Attachment H-2).

Table H-5.4-37
Adjusted HI Analysis for LOAEL-Based ESLs and 95% UCLs for AOC C-21-027

COPEC	EPC (mg/kg)	Deer Mouse	Montane Shrew
TCDD[2,3,7,8-] equivalent	0.00021/0.00039*	**0.75/1.4**	0.3/**0.55**
	HI	0.8/1	0.3/0.6

Note: Bolded values indicate HQ greater than 0.3 or HI greater than 1.

* EPCs are the 95% UCLs based on Chebyshev (MVUE) and Chebyshev (Mean, Sd), respectively (Attachment H-2).

Attachment H-1

TEF Calculations for Dioxin/Furan Congeners
(on CD included with this document)

Attachment H-2

ProUCL Files
(on CD included with this document)

Attachment H-3

Vapor Intrusion Model Spreadsheets
(on CD included with this document)

Attachment H-4

Ecological Scoping Checklists

H2-1.0 ECOLOGICAL SCOPING CHECKLIST FOR MESA TOP SITES

Part A—Scoping Meeting Documentation

Site ID	Mesa-top areas for Consolidated Unit 21-003-99, Solid Waste Management Unit (SWMU) 21-024(c), SWMU 21-024(g), Consolidated Unit 21-024(l)-99, Consolidated Unit 21-006(c)-99, SWMU 21-022(h), SWMU 21-022(j), Consolidated Unit 21-023(a)-99, SWMU 21-024(b), SWMU 21-024(d), SWMU 21-024(k), SWMU 21-024(n), SWMU 21-027(a), Area of Concern (AOC) C-21-027
Form of site releases (solid, liquid, vapor). Describe all relevant known or suspected mechanisms of release (spills, dumping, material disposal, outfall, explosive testing, etc.) and describe potential areas of release. Reference locations on a map as appropriate.	From 1945 to 1978, Technical Area 21 (TA-21) was used for plutonium research and metal production. The site has been used for various administrative and chemical research activities since 1978. The following sections describe each consolidated unit, SWMU, and AOC along with known or suspected mechanisms of release. *Consolidated Unit 21-006(c)-99* includes inactive underground seepage pits associated with buildings 21-002 and SWMU 21-003; SWMU 21-006(a), seepage disposal pit; SWMU 21-006(b), seepage disposal pit, drainline, and outfall; SWMU 21-006(c), seepage disposal pit; and SWMU 21-006(d), seepage disposal pit. SWMU 21-006(a), SWMU 21-006(c) and SWMU 21-006(d) are located on the mesa top; seepage disposal pits SWMU 21-006(a, c, and d) are all the same pit based on a reported location in the same area. All pits have been paved over. The form of site releases would be liquids, and the most likely mechanisms are seepage into the subsurface and leaks from conveyance lines. *SWMUs 21-022(h) and 21-022(j)* include sumps, pipelines, and outfalls associated buildings 21-150 and 21-003, specifically SWMUs 21-022(h) sump, drainline, and outfall and SWMU 21-022(j), sump. The form of release was liquid and the most likely mechanisms are seepage into the subsurface and leaks from conveyance lines. *Consolidated Unit 21-023(a)-99* includes SWMU 21-023(a), a septic tank and drainlines that reportedly serviced a janitor's mop sink in building 21-003; SWMU 21-023(b), a septic tank and drainlines that received wastewater from the shower room in building 21-003; and SWMU 21-023(d), a septic tank and drainlines that received industrial waste and sewage from building 21-003. The form of release was liquid, and the most likely mechanisms are seepage into the subsurface and leaks from conveyance lines and septic tanks. *SWMU 21-024(b)* is a septic tank, pipelines, and associated outfall that formerly routed sewage from building 21-17 (a passageway connecting buildings 21-004 and 21-005). The form of release was liquid, and the most likely mechanisms are seepage into the subsurface and leaks from conveyance lines and septic tanks. *SWMU 21-024(d)* is an inactive septic tank, pipelines, and associated outfall that routed sewage from an office building (21-001) to the south rim of the mesa above Los Alamos Canyon. The form of release was liquid and the most likely mechanisms are seepage into the subsurface and leaks from conveyance lines and septic tanks. *SWMU 21-024(k)* is an inactive septic tank, tile leach field, pipelines, and associated outfall that received sewage from building 21-209, a high-temperature chemistry building. SWMU 21-024(k) is located on the mesa top; directly south of building 21-155 and is outside of the fenced area. The form of release was liquid and the most likely mechanisms are seepage into the subsurface and leaks from conveyance lines and septic tanks.

	SWMU 21-024(n) originally consisted of a corrugated metal pipe, which exited building 21-155, and an outfall. Three additional pipelines and outfalls were identified in the same vicinity during a 2004 geophysical survey and/or from as-built engineering drawings. SWMU 21-024(n) is located on mesa top, approximately 100 ft east of building 21-213. The form of release was liquid and the most likely mechanisms are seepage into the subsurface and leaks from conveyance lines. *SWMU 21-027(a)* consists of a surface drainage and outfall in addition to drain lines that received effluent from floor drains in building 21-003. The form of release was liquid and the most likely mechanisms are seepage into the subsurface and leaks from conveyance. *Consolidated Unit 21-003-99* consists of SWMU 21-003 and SWMU 21-013(f). SWMU 21-013(f) is contained entirely within SWMU 21-003. SWMU 21-003 was a polychlorinated biphenyl (PCB) container storage area inside building 21-061, including the area immediately outside and east of the building. SWMU 21-003 is located on the mesa top and on a bench in the canyon. SWMU 21-013(f) is on the mesa top, south of building 21-61, stretching to the edge of the mesa, but not over the edge to Los Alamos Canyon. It was the site of soil piles and possibly a surface disposal area within the boundaries of building 21-003. The release was liquid or solid and likely from spills, leaking drums, or surface disposal of materials. *SWMU 21-024(c)* is an inactive septic system that formerly routed sewage from two buildings (21-54 and 21-61) through a septic tank (structure 21-56). *Consolidated Unit 21-024(l)-99* consists of SWMU 21-022(a), a sump and associated lines; SWMU 21-024(l), an outfall; and AOC 21-004(a), an aboveground storage tank and associated lines. The form of release was liquid and the most likely release mechanisms are seepage into the subsurface and leaks from conveyance lines, the septic tank and the aboveground storage tank. *AOC C-21-027* consists of a former cooling tower (chilled water recirculator) structure TA-21-143. The tower received water from building TA-21-003, circulated it, and returned it to the building in a closed loop. The cooling tower was connected to an acid tank and also had a 3-in. cast-iron drain that discharged into Los Alamos Canyon to the south.
List of Primary Impacted Media **(Indicate all that apply.)**	**Surface soil** – X **Surface water/sediment** – NA **Subsurface** – X **Groundwater** – NA **Other, explain** – None
Vegetation class based on GIS vegetation coverage **(Indicate all that apply.)**	**Water** – NA **Bare Ground/Unvegetated** – X **Spruce/fir/aspen/mixed conifer** – NA **Ponderosa pine** – A few immature pine trees can be found at the edge of the parking areas **Piñon juniper/juniper savannah** – NA **Grassland/shrubland** – NA **Developed** – Paved roads, buildings, construction areas and fences. Some forbs are coming through the cracks in the asphalt and concrete. **Burned** – NA

Is T&E Habitat Present? **If applicable, list species known or suspected of using the site for breeding or foraging.**	The only threatened or endangered (T&E) species known to frequent the Los Alamos National Laboratory (LANL) area is the Mexican spotted owl. The owl's primary habitat is densely forested canyons and it has not been observed to roost in DP Canyon and Los Alamos Canyon or on DP Mesa; however, the owl may use the canyon and surrounding area as foraging habitat [personnel communication, WES-EDA-GIS Team, Areas of Environmental Interest Metadata].
Provide list, of Neighboring/ Contiguous/ Upgradient sites, includes a brief summary of COPCs and the form of releases for relevant sites and reference a map as appropriate. **(Use this information to evaluate the need to aggregate sites for screening.)**	Consolidated Unit 21-006(e)-99, AOC 21-028(c), SWMU 21-022(i), Material Disposal Area (MDA) B, MDA V, MDA T, MDA A, MDA U, and SWMU 21-013(c) Releases from these sites include hazardous constituents and radionuclides in liquid, vapor, and solid forms through the mechanisms of spills, dumping, drainages, outfalls, and material disposal/storage. The chemicals of potential concern (COPCs) for the upgradient sites include, but are not limited to, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), inorganic chemicals, and radionuclides.
Surface Water Erosion Potential Information **Summarize information from SOP 2.01, including the total score and the runoff subscore (maximum of 46); terminal point of surface water transport; slope; and surface water run-on sources.**	The terminal point of surface water transport is DP Canyon or Los Alamos canyon. The DP Mesa ground surface is typically flat (<10% slope) with some areas gradually sloping (10–30%) toward the canyons. The mesa top contains very few sites with steep slopes (>30%) because of rubble mounds or other disturbances. Surface water run-on sources are not present.

Part B—Site Visit Documentation

Site ID	Mesa top areas for Consolidated Unit 21-003-99, SWMU 21-024(c), SWMU 21-024(g), Consolidated Unit 21-024(l)-99, Consolidated Unit 21-006(c)-99, SWMU 21-022(h), SWMU 21-022(j), Consolidated Unit 21-023(a)-99, SWMU 21-024(b), SWMU 21-024(d), SWMU 21-024(k), SWMU 21-024(n), SWMU 21-027(a), and AOC C-21-027
Date of Site Visit	November 4, 2009
Site Visit Conducted by	Jennifer Weidhaas, North Wind, Inc. Linda Causey, Weston Solutions Emily Day, Weston Solutions Richard Mirenda, LANL

Receptor Information:

Estimate cover	**Relative vegetative cover (high, medium, low, none)** = low to none **Relative wetland cover (high, medium, low, none)** = none **Relative structures/asphalt, etc., cover (high, medium, low, none)** = high
Field notes on the GIS vegetation class to assist in verifying the Arcview information	The mesa-top sites are highly disturbed with rock, concrete, asphalt, gravel, construction debris, and structures covering the entire area. Some forbs are pushing through cracks in the asphalt in various places, and some weeds can be observed at the edge of the parking lots and paved areas. A few isolated, immature Ponderosa pines can be found at the edge of the paved areas.
Field notes on T&E Habitat, if applicable. Consider the need for a site visit by a T&E subject matter expert to support the use of the site by T&E receptors.	See previous page.
Are ecological receptors present at the site? **(yes/no/uncertain)** **Describe the general types of receptors present at the site (terrestrial and aquatic), and make notes on the quality of habitat present at the site.**	Yes. DP Mesa contains terrestrial biota such as reptiles, small mammals, insects, birds, and plants. Deer use the area, and deer tracks were observed during the visit at the boundary of the parking areas near the edge of the mesa. The quality of the habitat at the sites is not ideal for native plant and animal species. No aquatic community exists on DP Mesa.

Contaminant Transport Information:

Surface water transport **Field notes on the erosion potential, including a discussion of the terminal point of surface water transport (if applicable).**	The DP Mesa sites have a small potential for surface water transport. The DP Mesa ground surface is typically flat (<10% slope) with some areas gradually sloping (10–30%) toward the canyons. The mesa top contains very few sites with steep slopes (>30%) because of rubble mounds or other disturbances. Although much of the area is highly developed, there is a large amount of demolition in the area, which contributes to poor stabilization of the surface media. This destabilization of the surface media results in a higher potential for erosion and surface water transport. Runoff is evident in some locations and may infiltrate unpaved areas, but flow will likely move as sheet flow down into the canyons. The terminal point of surface water transport is DP Canyon and Los Alamos Canyon.
Are there any off-site transport pathways (surface water, air, or groundwater)? **(yes/no/uncertain)** **Provide explanation**	Yes. There is potential for surface water transport off-site because of surface soil disturbance during demolition activities. There is a potential for air transport of contamination present in surface soil as fugitive dust. There is no potential for groundwater contamination as the depth to groundwater at TA-21 is ~1100 ft below ground surface (bgs).

Ecological Effects Information:

Physical Disturbance **(Provide list of major types of disturbances, including erosion and construction activities, review historical aerial photos where appropriate.)**	There is a large amount of disturbance on DP Mesa. Numerous demolition activities make the physical disturbance of the area quite substantial.
Are there obvious ecological effects? **(yes/no/uncertain)** **Provide explanation and apparent cause (e.g., contamination, physical disturbance, other).**	No. The only effects are the result of the physical disturbances from demolition activities.
Interim action needed to limit apparent ecological effects? **(yes/no/uncertain)** **Provide explanation and recommendations to mitigate apparent exposure pathways to project lead for IA SMDP.**	No.

No Exposure/Transport Pathways:

If there are no complete exposure pathways to ecological receptors onsite and no transport pathways to off-site receptors, the remainder of the checklist should not be completed. Stop here and provide additional explanation/justification for proposing an ecological No Further Action recommendation (if needed). At a minimum, the potential for future transport should include the likelihood that future construction activities could make contamination more available for exposure or transport. Not applicable.

Adequacy of Site Characterization:

Do existing or proposed data provide information on the nature and extent of contamination? **(yes/no/uncertain)** **Provide explanation** **(Consider if the maximum value was captured by existing sample data.)**	Yes. Ongoing investigations at some SWMUs, AOCs, and consolidated units will define the nature and extent of contamination.
Do existing or proposed data for the site address potential transport pathways of site contamination? **(yes/no/uncertain)** **Provide explanation** **(Consider if other sites should be aggregated to characterize potential ecological risk.)**	Yes. Ongoing investigations at some SWMUs, AOCs, and consolidated units will define the nature and extent of contamination.

Part C—Ecological Pathways Conceptual Exposure Model

Provide answers to Questions A to V to develop the Ecological Pathways Conceptual Exposure Model

Question A:

Could soil contaminants reach receptors through vapors?

- **Volatility of the hazardous substance (volatile chemicals generally have Henry's Law constant >10^{-5} atm-m^3/mol and molecular weight <200 g/mol).**

Answer (likely/unlikely/uncertain): Likely

Provide explanation: Volatile contaminants were detected at low levels in the subsurface.

Question B:

Could the soil contaminants reach receptors through fugitive dust carried in air?

- **Soil contamination would have to be on the actual surface of the soil to become available for dust.**
- **In the case of dust exposures to burrowing animals, the contamination would have to occur in the depth interval where these burrows occur.**

Answer (likely/unlikely/uncertain): Likely in some areas, unlikely in paved SWMUs and AOCs.

Provide explanation: Potential soil contaminants reaching receptors through fugitive dust is likely in areas with demolition disturbance, which could bring contaminants to the surface, and in areas where burrowing is likely. However, it is unlikely that soil contaminants will reach receptors as fugitive dust from paved SWMUs.

Question C:

Can contaminated soil be transported to aquatic ecological communities (use SOP 2.01 run-off score and terminal point of surface water runoff to help answer this question)?

- **If the SOP 2.01 run-off score* for each SWMU and/or AOC included in the site is equal to zero, this suggests that erosion at the site is not a transport pathway. (* note that the runoff score is not the entire erosion potential score, rather it is a subtotal of this score with a maximum value of 46 points).**
- **If erosion is a transport pathway, evaluate the terminal point to see if aquatic receptors could be affected by contamination from this site.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no aquatic ecological communities on or within close proximity to the sites and there is limited runoff from the sites.

Question D:

Is contaminated groundwater potentially available to biological receptors through seeps or springs or shallow groundwater?

- **Known or suspected presence of contaminants in groundwater.**
- **The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.**
- **Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.**
- **Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no seeps, springs, or perched groundwater present on or near the sites. The depth of groundwater is greater than 1000 ft bgs.

Question E:

Is infiltration/percolation from contaminated subsurface material a viable transport and exposure pathway?

- **The potential for contaminants to migrate to groundwater.**
- **The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.**
- **Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.**
- **Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: Contaminants are unlikely to migrate to the regional aquifer given the depth to groundwater. The lack of a significant hydraulic driver (e.g., no standing surface water) facilitating infiltration also mitigates the potential for contaminants reaching groundwater.

Question F:

Might erosion or mass wasting events be a potential release mechanism for contaminants from subsurface materials or perched aquifers to the surface?

- **This question is only applicable to release sites located on or near the mesa edge.**
- **Consider the erodability of surficial material and the geologic processes of canyon/mesa edges.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no perched aquifers on or near these sites. While erosion potential is high in some of the outfall areas, there is no evidence of mass-wasting events in these areas.

Question G:

Could airborne contaminants interact with receptors through the respiration of vapors?

- **Contaminants must be present as volatiles in the air.**
- **Consider the importance of the inhalation of vapors for burrowing animals.**
- **Foliar uptake of vapors is typically not a significant exposure pathway.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 1

Terrestrial Animals: 2

Provide explanation: Demolition activities and burrowing in the outfall areas and along conveyance lines may bring receptors in contact with vapors.

Question H:

Could airborne contaminants interact with plants through the deposition of particulates or with animals through the inhalation of fugitive dust?

- **Contaminants must be present as particulates in the air or as dust for this exposure pathway to be complete.**
- **Exposure through the inhalation of fugitive dust is particularly applicable to ground-dwelling species that would be exposed to dust disturbed by their foraging or burrowing activities or by wind movement.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Terrestrial Animals: 2

Provide explanation: Demolition activities and burrowing in the outfall areas and along conveyance lines may bring receptors in contact with particulates.

Question I:

Could contaminants interact with plants through root uptake or rain splash from surficial soils?

- **Contaminants in bulk soil may partition into soil solution, making them available to roots.**
- **Exposure of terrestrial plants to contaminants present in particulates deposited on leaf and stem surfaces by rain striking contaminated soils (i.e., rain splash).**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Provide explanation: Low concentrations of COPCs were detected in surface soil.

Question J:

Could contaminants interact with receptors through food-web transport from surficial soils?

- **The chemicals may bioaccumulate in animals.**
- **Animals may ingest contaminated food items.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: COPCs known to bioaccumulate were found in low concentrations in surface soil, indicating that food web transport is a minor pathway

Question K:

Could contaminants interact with receptors through the incidental ingestion of surficial soils?

- **Incidental ingestion of contaminated soil could occur while animals grub for food resident in the soil, feed on plant matter covered with contaminated soil, or while grooming themselves clean of soil.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: COPCs were found in surface soil.

Question L:

Could contaminants interact with receptors through dermal contact with surficial soils?

- **Significant exposure through dermal contact would generally be limited to organic contaminants that are lipophilic and can cross epidermal barriers.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: Lipophilic chemicals were detected at low concentrations at these sites.

Question M:

Could contaminants interact with plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **Burial of contamination attenuates radiological exposure.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Terrestrial Animals: 2

Provide explanation: Gamma-emitting radionuclides were detected infrequently.

Question N:

Could contaminants interact with plants through direct uptake from water and sediment or sediment rain splash?

- **Contaminants may be taken up by terrestrial plants whose roots are in contact with surface waters.**
- **Terrestrial plants may be exposed to particulates deposited on leaf and stem surfaces by rain striking contaminated sediments (i.e., rain splash) in an area that is only periodically inundated with water.**
- **Contaminants in sediment may partition into soil solution, making them available to roots.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Provide explanation: There are no aquatic environments on-site.

Question O:

Could contaminants interact with receptors through food-web transport from water and sediment?

- **The chemicals may bioconcentrate in food items.**
- **Animals may ingest contaminated food items.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question P:

Could contaminants interact with receptors through the ingestion of water and suspended sediments?

- **If sediments are present in an area that is only periodically inundated with water, terrestrial receptors may incidentally ingest sediments.**
- **Terrestrial receptors may ingest water-borne contaminants if contaminated surface waters are used as a drinking water source.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question Q:

Could contaminants interact with receptors through dermal contact with water and sediment?

- **If sediments are present in an area that is only periodically inundated with water, terrestrial species may be dermally exposed during dry periods.**
- **Terrestrial organisms may be dermally exposed to water-borne contaminants as a result of wading or swimming in contaminated waters.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question R:

Could suspended or sediment-based contaminants interact with plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **Burial of contamination attenuates radiological exposure.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question S:

Could contaminants bioconcentrate in free-floating aquatic, attached aquatic plants, or emergent vegetation?

- **Aquatic plants are in direct contact with water.**
- **Contaminants in sediment may partition into pore water, making them available to submerged roots.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Plants/Emergent Vegetation: 0

Provide explanation: There are no aquatic environments on-site.

Question T:

Could contaminants bioconcentrate in sedimentary or water-column organisms?

- **Aquatic receptors may actively or incidentally ingest sediment while foraging.**
- **Aquatic receptors may be directly exposed to contaminated sediments or may be exposed to contaminants through osmotic exchange, respiration, or ventilation of sediment pore waters.**
- **Aquatic receptors may be exposed through osmotic exchange, respiration, or ventilation of surface waters.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question U:

Could contaminants bioaccumulate in sedimentary or water column organisms?

- **Lipophilic organic contaminants and some metals may concentrate in an organism's tissues.**
- **Ingestion of contaminated food items may result in contaminant bioaccumulation through the food web.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question V:

Could contaminants interact with aquatic plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **The water column acts to absorb radiation; therefore, external irradiation is typically more important for sediment dwelling organisms.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

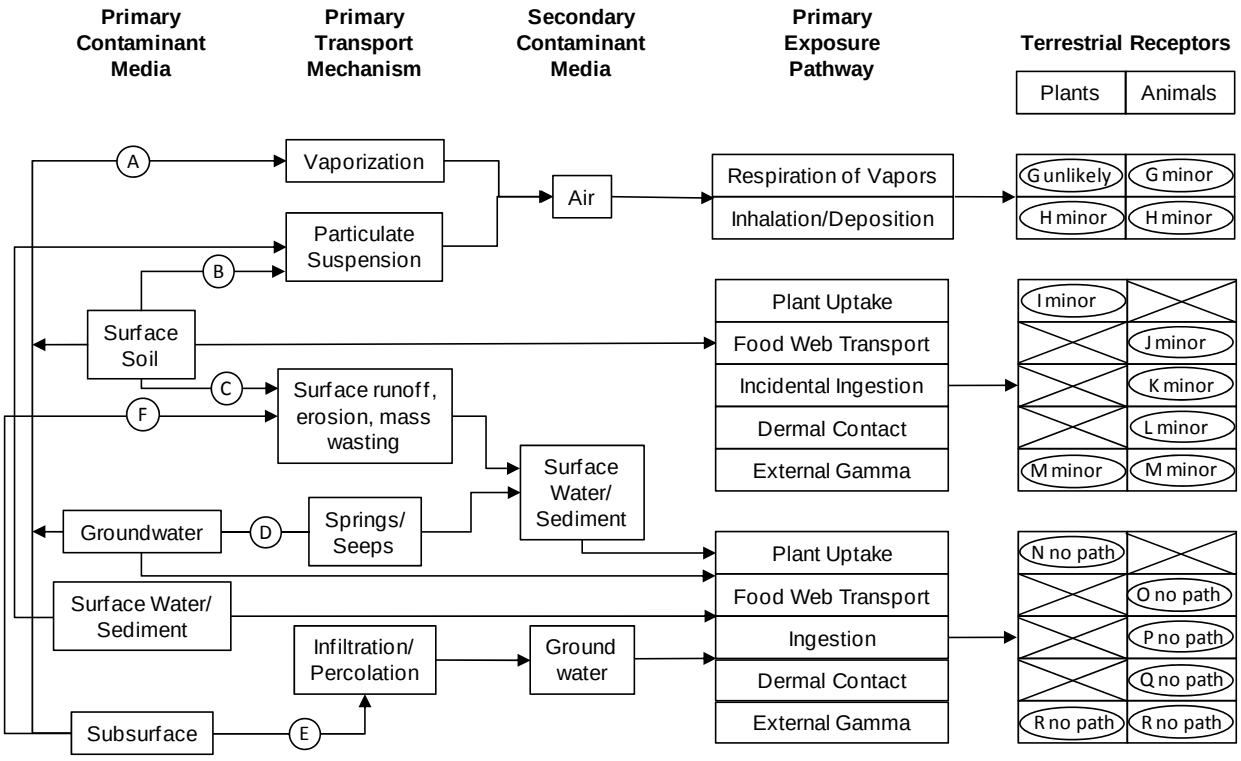
Aquatic Plants: 0

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

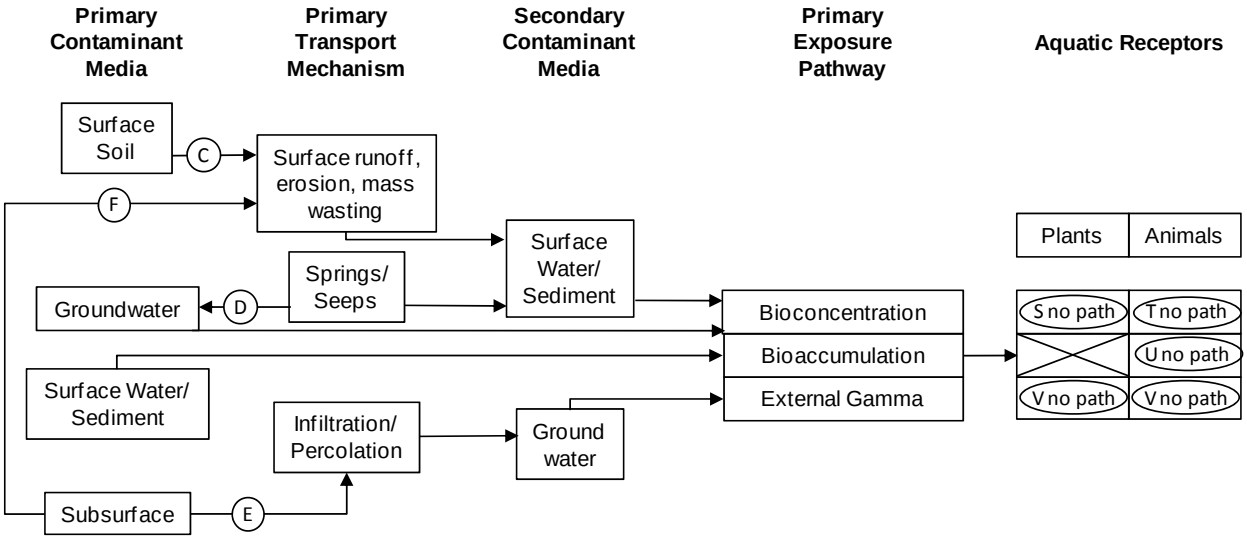
Ecological Scoping Checklist
Terrestrial Receptors
Ecological Pathways Conceptual Exposure Model

NOTE:
Letters in circles refer to questions of the Scoping Checklist



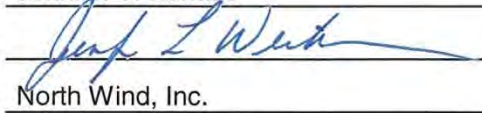
Ecological Scoping Checklist
Aquatic Receptors
Ecological Pathways Conceptual Exposure Model

NOTE:
Letters in circles refer to questions of the Scoping Checklist

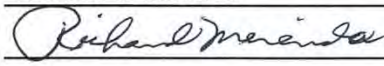


Signatures and certifications:

Checklist completed by (provide name, organization and phone number):

Name (printed): Jennifer Weidhaas
Name (signature): 
Organization: North Wind, Inc.
Phone number: 208-528-8718

Verification by another party (provide name, organization and phone number):

Name (printed): Richard J. Mirenda
Name (signature): 
Organization: Los Alamos National Laboratory, EP-WES-EDA
Phone number: 505-665-6953

H2-2.0 ECOLOGICAL SCOPING CHECKLIST FOR CANYON OUTFALL SITES

Part A—Scoping Meeting Documentation

Site ID	Canyon outfall areas
Form of site releases (solid, liquid, vapor). Describe all relevant known or suspected mechanisms of release (spills, dumping, material disposal, outfall, explosive testing, etc.) and describe potential areas of release. Reference locations on a map as appropriate.	From 1945 to 1978, TA-21 was used for plutonium research and metal production. The site has been used for various administrative and chemical research activities since 1978. The following sections describe each consolidated unit and SWMU along with known or suspected mechanisms of release.
List of Primary Impacted Media **(Indicate all that apply.)**	**Surface soil** – X **Surface water/sediment** – NA **Subsurface** – X **Groundwater** – NA **Other, explain** – None
Vegetation class based on GIS vegetation coverage **(Indicate all that apply.)**	**Water** – NA **Bare Ground/Unvegetated** – NA **Spruce/fir/aspen/mixed conifer** – X **Ponderosa pine** – X **Piñon juniper/juniper savannah** – X **Grassland/shrubland** – NA **Developed** – NA **Burned** – NA
Is T&E Habitat Present? **If applicable, list species known or suspected of using the site for breeding or foraging.**	The only T&E species known to frequent the LANL area is the Mexican spotted owl. The owl's primary habitat is densely forested canyons, and it has not been observed to roost in DP Canyon and Los Alamos Canyon or on DP Mesa; however, the owl may use the canyon and surrounding area as foraging habitat [personnel communication, WES-EDA-GIS Team, Areas of Environmental Interest Metadata].
Provide list, of Neighboring/Contiguous/ Upgradient sites, includes a brief summary of COPCs and the form of releases for relevant sites and reference a map as appropriate. **(Use this information to evaluate the need to aggregate sites for screening.)**	Consolidated Unit 21-006(e)-99, SWMU 21-028(c), SWMU 21-022(i), SWMU 21-009, SWMU 21-021(b), Consolidated Unit 21-024(l)-99, SWMU 21-023(a)-99, MDA B, MDA V, MDA T, MDA A, MDA U, SWMU 21-013(c) Releases from these sites include hazardous constituents and radionuclides in liquid, vapor, and solid forms through the mechanisms of spills, dumping, drainages, outfalls, and material disposal/storage. The COPCs for the upgradient sites include, but are not limited to, VOCs, SVOCs, inorganic chemicals, and radionuclides.
Surface Water Erosion Potential Information **Summarize information from SOP 2.01, including the total score and the runoff subscore (maximum of 46); terminal point of surface water transport; slope; and surface water run-on sources.**	The terminal point of surface water transport is DP canyon or Los Alamos Canyon. The canyons are typically steep (>30% slope) with some areas extending into the canyon very steeply (>75% slope). Runoff is evident in some locations.

Part B—Site Visit Documentation

Site ID	Canyon outfall areas
Date of Site Visit	November 4, 2009
Site Visit Conducted by	Jennifer Weidhaas, North Wind, Inc. Linda Causey, Weston Solutions Emily Day, Weston Solutions Richard Mirenda, LANL

Receptor Information:

Estimate cover	**Relative vegetative cover (high, medium, low, none)** = medium to high **Relative wetland cover (high, medium, low, none)** = none **Relative structures/asphalt, etc., cover (high, medium, low, none)** = none to low
Field notes on the GIS vegetation class to assist in verifying the Arcview information	The canyon sites are relatively undisturbed and the vegetation is typical of the native vegetation and habitats of the canyons. Native vegetation includes piñon-juniper woodlands, and stands of Gambel's oak, Russian olive trees, one-seed juniper, elm trees, and Ponderosa pine trees.
Field notes on T&E Habitat, if applicable. Consider the need for a site visit by a T&E subject matter expert to support the use of the site by T&E receptors.	See previous page.
Are ecological receptors present at the site? **(yes/no/uncertain)** **Describe the general types of receptors present at the site (terrestrial and aquatic), and make notes on the quality of habitat present at the site.**	Yes. The DP Canyon and Los Alamos Canyon contains terrestrial biota such as reptiles, small mammals, insects, birds, and plants. Deer use the area, and deer tracks were observed during the visit at the boundary of the parking areas near the edge of the mesa. Various songbirds were observed in the trees and circling raptors were observed. Evidence of burrowing was observed in the area. Other large mammals, such as deer, elk, coyotes, and raccoons, may be in the area. Plant life is abundant and healthy. No aquatic community exists in the SWMUs and consolidated units affected by the canyon sites.

Contaminant Transport Information:

Surface water transport **Field notes on the erosion potential, including a discussion of the terminal point of surface water transport (if applicable).**	The sites have a potential for surface-water transport. The canyons are typically steep (>30% slope) with some areas extending into the canyons very steeply (>75% slope). Runoff is evident in some locations. Runoff may infiltrate unpaved areas, but flow will likely move as sheet flow down into canyons in most developed areas of the DP Mesa. The terminal point of surface water transport is DP and Los Alamos Canyons.
Are there any off-site transport pathways (surface water, air, or groundwater)? **(yes/no/uncertain)** **Provide explanation**	Yes. There is potential for surface water transport off-site. There is little potential for air transport of contamination present in surface soil as fugitive dust because of the vegetation cover. There is no potential for groundwater contamination as the depth to groundwater at TA-21 is ~1100 ft (bgs).

Ecological Effects Information:

Physical Disturbance **(Provide list of major types of disturbances, including erosion and construction activities, review historical aerial photos where appropriate.)**	There is minimal disturbance in the outfall site areas because the extreme slope precludes accessibility in most cases. Some erosion is evident in various locations.
Are there obvious ecological effects? **(yes/no/uncertain)** **Provide explanation and apparent cause (e.g., contamination, physical disturbance, other).**	No.
Interim action needed to limit apparent ecological effects? **(yes/no/uncertain)** **Provide explanation and recommendations to mitigate apparent exposure pathways to project lead for IA SMDP.**	No.

No Exposure/Transport Pathways:

If there are no complete exposure pathways to ecological receptors onsite and no transport pathways to off-site receptors, the remainder of the checklist should not be completed. Stop here and provide additional explanation/justification for proposing an ecological No Further Action recommendation (if needed). At a minimum, the potential for future transport should include the likelihood that future construction activities could make contamination more available for exposure or transport. Not applicable.

Adequacy of Site Characterization:

Do existing or proposed data provide information on the nature and extent of contamination? **(yes/no/uncertain)** **Provide explanation** **(Consider if the maximum value was captured by existing sample data.)**	Yes. Ongoing investigations at some SWMUs and consolidated units will define the nature and extent of contamination.
Do existing or proposed data for the site address potential transport pathways of site contamination? **(yes/no/uncertain)** **Provide explanation** **(Consider if other sites should be aggregated to characterize potential ecological risk.)**	Yes. Ongoing investigations at some SWMUs and consolidated units will define the nature and extent of contamination.

Part C—Ecological Pathways Conceptual Exposure Model

Provide answers to Questions A to V to develop the Ecological Pathways Conceptual Exposure Model

Question A:

Could soil contaminants reach receptors through vapors?

- **Volatility of the hazardous substance (volatile chemicals generally have Henry's Law constant >10^{-5} atm-m^3/mol and molecular weight <200 g/mol).**

Answer (likely/unlikely/uncertain): Likely

Provide explanation: Volatile contaminants were detected at low levels in the subsurface.

Question B:

Could the soil contaminants reach receptors through fugitive dust carried in air?

- **Soil contamination would have to be on the actual surface of the soil to become available for dust.**
- **In the case of dust exposures to burrowing animals, the contamination would have to occur in the depth interval where these burrows occur.**

Answer (likely/unlikely/uncertain): Likely in some areas

Provide explanation: Potential soil contaminants reaching receptors through fugitive dust is likely in areas where burrowing occurs (e.g., in Los Alamos and DP Canyons).

Question C:

Can contaminated soil be transported to aquatic ecological communities (use SOP 2.01 run-off score and terminal point of surface water runoff to help answer this question)?

- **If the SOP 2.01 run-off score* for each SWMU and/or AOC included in the site is equal to zero, this suggests that erosion at the site is not a transport pathway. (* note that the runoff score is not the entire erosion potential score, rather it is a subtotal of this score with a maximum value of 46 points).**
- **If erosion is a transport pathway, evaluate the terminal point to see if aquatic receptors could be affected by contamination from this site.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no aquatic ecological communities on or within close proximity to the sites and there is limited runoff from the sites.

Question D:

Is contaminated groundwater potentially available to biological receptors through seeps or springs or shallow groundwater?

- **Known or suspected presence of contaminants in groundwater.**
- **The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.**
- **Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.**
- **Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no seeps, springs or perched groundwater present on or near the sites. The depth of groundwater is greater than 1000 ft (bgs).

Question E:

Is infiltration/percolation from contaminated subsurface material a viable transport and exposure pathway?

- **The potential for contaminants to migrate to groundwater.**
- **The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.**
- **Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.**
- **Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: Contaminants are unlikely to migrate to the regional aquifer given the depth to groundwater. The lack of a significant hydraulic driver (e.g., no standing surface water) facilitating infiltration also mitigates the potential for contaminants reaching groundwater.

Question F:

Might erosion or mass wasting events be a potential release mechanism for contaminants from subsurface materials or perched aquifers to the surface?

- **This question is only applicable to release sites located on or near the mesa edge.**
- **Consider the erodability of surficial material and the geologic processes of canyon/mesa edges.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no perched aquifers on or near these sites. While erosion potential is high in some of the outfall areas in Los Alamos and DP Canyons, there is no evidence of mass-wasting events in these areas.

Question G:

Could airborne contaminants interact with receptors through the respiration of vapors?

- **Contaminants must be present as volatiles in the air.**
- **Consider the importance of the inhalation of vapors for burrowing animals.**
- **Foliar uptake of vapors is typically not a significant exposure pathway.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 1

Terrestrial Animals: 2

Provide explanation: Burrowing in the outfall areas and along conveyance lines may bring receptors in contact with vapors.

Question H:

Could airborne contaminants interact with plants through the deposition of particulates or with animals through the inhalation of fugitive dust?

- **Contaminants must be present as particulates in the air or as dust for this exposure pathway to be complete.**
- **Exposure through the inhalation of fugitive dust is particularly applicable to ground-dwelling species that would be exposed to dust disturbed by their foraging or burrowing activities or by wind movement.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Terrestrial Animals: 2

Provide explanation: Burrowing in the outfall areas and along conveyance lines may bring receptors in contact with particulates.

Question I:

Could contaminants interact with plants through root uptake or rain splash from surficial soils?

- **Contaminants in bulk soil may partition into soil solution, making them available to roots.**
- **Exposure of terrestrial plants to contaminants present in particulates deposited on leaf and stem surfaces by rain striking contaminated soils (i.e., rain splash).**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Provide explanation: Low concentrations of COPCs were detected in surface soil.

Question J:

Could contaminants interact with receptors through food-web transport from surficial soils?

- **The chemicals may bioaccumulate in animals.**
- **Animals may ingest contaminated food items.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: COPCs known to bioaccumulate were found in low concentrations in surface soil, indicating that food web transport is a minor pathway

Question K:

Could contaminants interact with receptors through the incidental ingestion of surficial soils?

- **Incidental ingestion of contaminated soil could occur while animals grub for food resident in the soil, feed on plant matter covered with contaminated soil, or while grooming themselves clean of soil.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: COPCs were found in surface soil.

Question L:

Could contaminants interact with receptors through dermal contact with surficial soils?

- **Significant exposure through dermal contact would generally be limited to organic contaminants that are lipophilic and can cross epidermal barriers.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: Lipophilic chemicals were detected at low concentrations at these sites.

Question M:

Could contaminants interact with plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **Burial of contamination attenuates radiological exposure.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Terrestrial Animals: 2

Provide explanation: Gamma-emitting radionuclides were detected infrequently.

Question N:

Could contaminants interact with plants through direct uptake from water and sediment or sediment rain splash?

- **Contaminants may be taken up by terrestrial plants whose roots are in contact with surface waters.**
- **Terrestrial plants may be exposed to particulates deposited on leaf and stem surfaces by rain striking contaminated sediments (i.e., rain splash) in an area that is only periodically inundated with water.**
- **Contaminants in sediment may partition into soil solution, making them available to roots.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Provide explanation: There are no aquatic environments on-site.

Question O:

Could contaminants interact with receptors through food-web transport from water and sediment?

- **The chemicals may bioconcentrate in food items.**
- **Animals may ingest contaminated food items.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question P:

Could contaminants interact with receptors through the ingestion of water and suspended sediments?

- **If sediments are present in an area that is only periodically inundated with water, terrestrial receptors may incidentally ingest sediments.**
- **Terrestrial receptors may ingest water-borne contaminants if contaminated surface waters are used as a drinking water source.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question Q:

Could contaminants interact with receptors through dermal contact with water and sediment?

- **If sediments are present in an area that is only periodically inundated with water, terrestrial species may be dermally exposed during dry periods.**
- **Terrestrial organisms may be dermally exposed to water-borne contaminants as a result of wading or swimming in contaminated waters.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question R:

Could suspended or sediment-based contaminants interact with plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **Burial of contamination attenuates radiological exposure.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question S:

Could contaminants bioconcentrate in free-floating aquatic, attached aquatic plants, or emergent vegetation?

- **Aquatic plants are in direct contact with water.**
- **Contaminants in sediment may partition into pore water, making them available to submerged roots.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Plants/Emergent Vegetation: 0

Provide explanation: There are no aquatic environments on-site

Question T:

Could contaminants bioconcentrate in sedimentary or water-column organisms?

- **Aquatic receptors may actively or incidentally ingest sediment while foraging.**
- **Aquatic receptors may be directly exposed to contaminated sediments or may be exposed to contaminants through osmotic exchange, respiration, or ventilation of sediment pore waters.**
- **Aquatic receptors may be exposed through osmotic exchange, respiration, or ventilation of surface waters.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question U:

Could contaminants bioaccumulate in sedimentary or water column organisms?

- **Lipophilic organic contaminants and some metals may concentrate in an organism's tissues.**
- **Ingestion of contaminated food items may result in contaminant bioaccumulation through the food web.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question V:

Could contaminants interact with aquatic plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **The water column acts to absorb radiation; therefore, external irradiation is typically more important for sediment dwelling organisms.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

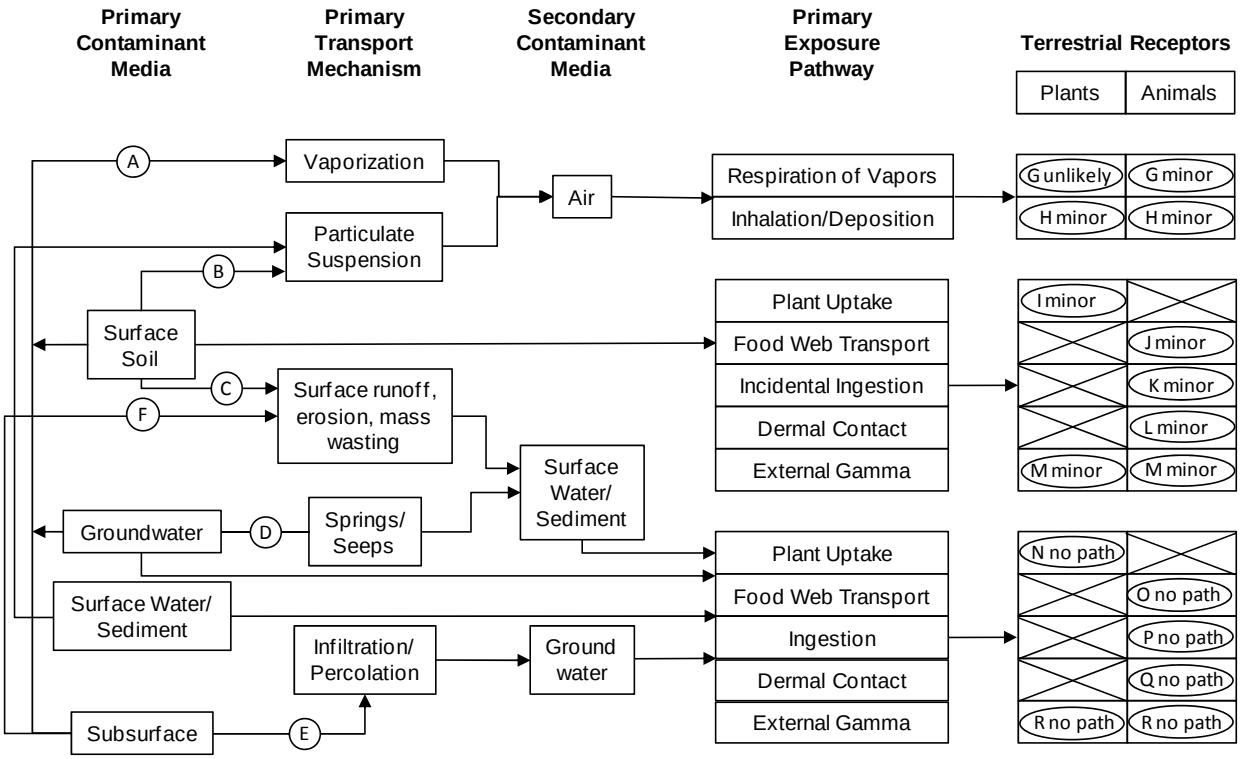
Aquatic Plants: 0

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

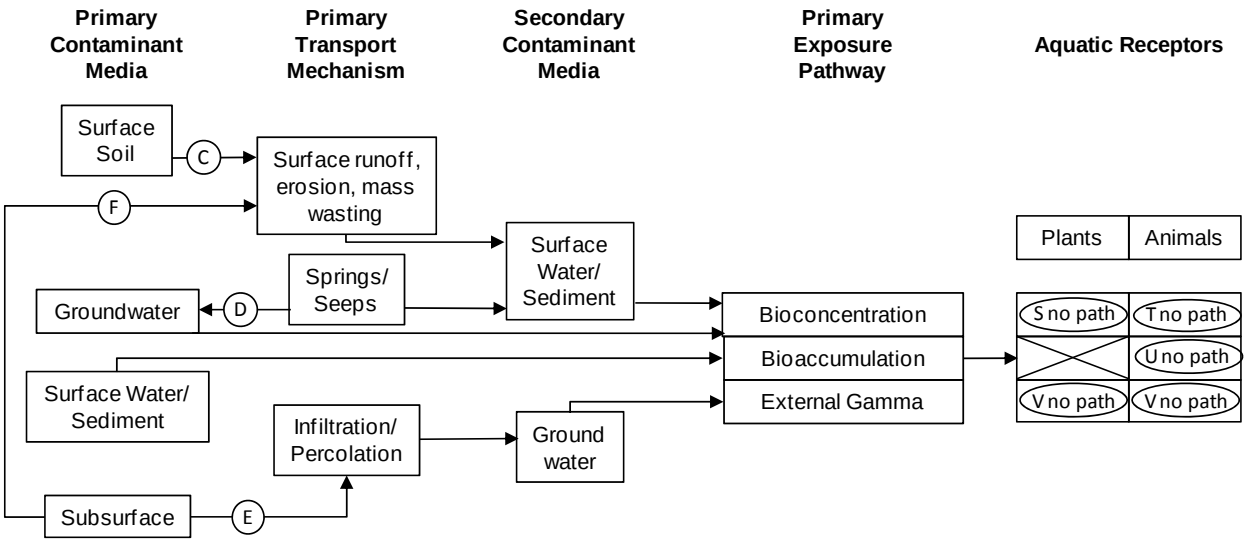
Ecological Scoping Checklist
Terrestrial Receptors
Ecological Pathways Conceptual Exposure Model

NOTE:
Letters in circles refer to questions of the Scoping Checklist



Ecological Scoping Checklist
Aquatic Receptors
Ecological Pathways Conceptual Exposure Model

NOTE:
Letters in circles refer to questions of the Scoping Checklist



Signatures and certifications:

Checklist completed by (provide name, organization and phone number):

Name (printed): Jennifer Weidhaas
Name (signature): Jennifer L Weidhaas
Organization: North Wind, Inc.
Phone number: 208-528-8718

Verification by another party (provide name, organization and phone number):

Name (printed): Richard J. Mirenda
Name (signature): Richard Mirenda
Organization: Los Alamos National Laboratory, EP-WES-EDA
Phone number: 505-665-6953

H2-4.0 ECOLOGICAL SCOPING CHECKLIST FOR CONSOLIDATED UNIT 21-026(a)-99

Part A—Scoping Meeting Documentation

Site ID	Consolidated Unit 21-026(a)-99
Form of site releases (solid, liquid, vapor). Describe all relevant known or suspected mechanisms of release (spills, dumping, material disposal, outfall, explosive testing, etc.) and describe potential areas of release. Reference locations on a map as appropriate.	Consolidated Unit 21-026(a)-99 is a sewage treatment plant consisting of SWMU 21-013(a), surface disposal area; SWMU 21-026(a), sewage treatment plant; SWMU 21-026(b), four sludge drying/sand filter beds; and AOC 21-026(c), a dosing siphon chamber; and AOC 21-026(d), an outfall SWMU 21-026(a) consists of an inactive sewage treatment plant housed in building 21-227. The plant is located at the eastern end of DP Mesa. The treatment plant replaced the original septic tank/filter fields and septic tank/surface discharge systems throughout TA-21. The treatment plant was an extended aeration sanitary waste treatment plant with a grit chamber, comminuter, digester, aeration tank, and clarifier. The plant treated sanitary wastes and cooling water from TA-21 facilities and received water from decontamination activities, janitor's scrub water, and waste from other TA-21 operations. Originally, treated effluent leaving building 21-227 was released at a concrete spill pad located on the southern edge of DP Canyon [AOC 21-026(d)]. Later, effluent was discharged via a dosing siphon chamber to sand filter/sludge drying beds. SWMU 21-026(b) consists of four sludge drying/sand filter beds; each is 14.5-ft by 23-ft with 4-ft-deep concrete walls. AOC 21-026(c) consists of a dosing siphon chamber that was a 5-ft wide × 7-ft long × 8-ft-deep concrete tank (structure 21-348). The chamber received effluent until it was full and then was pumped to the two westernmost sand filter beds. AOC 21-026(d) consists of an outfall. Discharge from the sewage treatment plant flowed through an 8-in.-diameter vitrified clay pipe into a concrete channel on the north edge of DP Mesa and ran down a natural drainage to a tributary of DP Canyon. SWMU 21-013(a) consists of an approximately 45 ft^2 surface disposal area.
List of Primary Impacted Media **(Indicate all that apply.)**	**Surface soil** – X **Surface water/sediment** – NA **Subsurface** – X **Groundwater** – NA **Other, explain** – None
Vegetation class based on GIS vegetation coverage **(Indicate all that apply.)**	**Water** – NA **Bare Ground/Unvegetated** – SWMU 21-013(a) Ground/Canopy Cover = medium (25-75%) SWMU 21-026(a) Ground/Canopy Cover = thick (>75%) SWMU 21-026(b) Ground/Canopy Cover = medium (25-75%) AOC 21-026(d) Ground/Canopy Cover = medium (25-75%) **Spruce/fir/aspen/mixed conifer** – NA **Ponderosa pine** – NA **Piñon juniper/juniper savannah** – NA

	Grassland/shrubland – SWMU 21-013(a) some forbs and native grasses SWMU 21-026(a) vegetation around site consists of native grasses and forbs SWMU 21-026(b) forbs, native grasses (about 30%) AOC 21-026(d) groundcover in the outfall portion consists of thick vegetation of native grasses, forbs, and pines **Developed** – Groundcover on the mesa top portion consists of a base coarse driveway, facility structures, and sparse vegetation. SWMU 21-013(a) ground cover consists of mostly base coarse SWMU 21-026(a) built on a concrete foundation, base coarse driveway on north side of facility SWMU 21-026(b) some base coarse around drying beds **Burned** – NA
Is T&E Habitat Present? **If applicable, list species known or suspected of using the site for breeding or foraging.**	The only T&E species known to frequent the LANL area is the Mexican spotted owl. The owl's primary habitat is densely forested canyons, and it has not been observed to roost in DP Canyon or Los Alamos Canyon or on the DP Mesa; however, the owl may use the canyon and surrounding area as foraging habitat (personnel communication, WES-EDA-GIS Team, Areas of Environmental Interest Metadata).
Provide list, of Neighboring/ Contiguous/ Upgradient sites, includes a brief summary of COPCs and the form of releases for relevant sites and reference a map as appropriate. **(Use this information to evaluate the need to aggregate sites for screening.)**	None. The nearest site, SWMU 21-013(c) is over 300 ft away.
Surface Water Erosion Potential Information	Erosion is likely and the terminal point of surface water transport is DP or Los Alamos Canyons.

Part B—Site Visit Documentation

Site ID	Consolidated Unit 21-026(a)-99
Date of Site Visit	November 4, 2009
Site Visit Conducted by	Jennifer Weidhaas, North Wind, Inc. Linda Causey, Weston Solutions Emily Day, Weston Solutions Richard Mirenda, LANL

Receptor Information:

Estimate cover	Relative vegetative cover (high, medium, low, none) = Medium to high Relative wetland cover (high, medium, low, none) = None Relative structures/asphalt, etc., cover (high, medium, low, none) = None to low, a fence bounds the SWMU.
Field notes on the GIS vegetation class to assist in verifying the Arcview information	The SWMU on the mesa top is disturbed, although native grasses, weeds, and pines have revegetated some areas of the site. The outfall area in the DP Canyon has native vegetation including Ponderosa pine and piñon.
Field notes on T&E Habitat, if applicable. Consider the need for a site visit by a T&E subject matter expert to support the use of the site by T&E receptors.	See previous page.
Are ecological receptors present at the site? **(yes/no/uncertain)** **Describe the general types of receptors present at the site (terrestrial and aquatic), and make notes on the quality of habitat present at the site.**	Yes. The DP Canyon and the mesa top contain terrestrial biota, such as reptiles, small mammals, insects, birds, and plants. Deer use the area, and deer tracks were observed during the visit. Various songbirds were observed in the trees and circling raptors were observed. Evidence of burrowing was observed in this area. Other large mammals, such as elk, coyotes, and raccoons, may be in the area. Plant life is abundant in the outfall area. No aquatic community exists in the SWMU and canyon area potentially affected by the SWMU.

Contaminant Transport Information:

Surface water transport **Field notes on the erosion potential, including a discussion of the terminal point of surface water transport (if applicable).**	Minor runoff was evident. Runoff may infiltrate or move as sheet flow down into canyon. The terminal point of surface water transport is DP Canyon.
Are there any off-site transport pathways (surface water, air, or groundwater)? **(yes/no/uncertain)** **Provide explanation**	Yes. There is potential for surface water transport off-site. There is little potential for air transport of contamination present in surface soil as fugitive dust due to vegetative cover. There is no potential for groundwater contamination as the depth to groundwater at TA-21 is ~1100 ft (bgs).

Ecological Effects Information:

Physical Disturbance **(Provide list of major types of disturbances, including erosion and construction activities, review historical aerial photos where appropriate.)**	The site on the mesa top is disturbed as a result of construction and demolition activities; however, native grasses, weeds, and trees have revegetated the site.
Are there obvious ecological effects? **(yes/no/uncertain)** **Provide explanation and apparent cause (e.g., contamination, physical disturbance, other).**	There is distressed vegetation (e.g., dead pine trees) in the outfall area.
Interim action needed to limit apparent ecological effects? **(yes/no/uncertain)** **Provide explanation and recommendations to mitigate apparent exposure pathways to project lead for IA SMDP.**	No. The outfall has not received effluent from the treatment plant (building 21-227) since 1992.

No Exposure/Transport Pathways:

If there are no complete exposure pathways to ecological receptors onsite and no transport pathways to off-site receptors, the remainder of the checklist should not be completed. Stop here and provide additional explanation/justification for proposing an ecological No Further Action recommendation (if needed). At a minimum, the potential for future transport should include the likelihood that future construction activities could make contamination more available for exposure or transport. Not applicable.

Adequacy of Site Characterization:

Do existing or proposed data provide information on the nature and extent of contamination? **(yes/no/uncertain)** **Provide explanation** **(Consider if the maximum value was captured by existing sample data.)**	Yes. Ongoing investigations at the consolidated unit will define the nature and extent of contamination.
Do existing or proposed data for the site address potential transport pathways of site contamination? **(yes/no/uncertain)** **Provide explanation** **(Consider if other sites should be aggregated to characterize potential ecological risk.)**	Yes. Ongoing investigations at the consolidated unit will define the nature and extent of contamination.

Part C—Ecological Pathways Conceptual Exposure Model

Provide answers to Questions A to V to develop the Ecological Pathways Conceptual Exposure Model

Question A:

Could soil contaminants reach receptors through vapors?

- **Volatility of the hazardous substance (volatile chemicals generally have Henry's Law constant >10^{-5} atm-m^3/mol and molecular weight <200 g/mol).**

Answer (likely/unlikely/uncertain): Likely

Provide explanation: Volatile contaminants were detected at low levels in the subsurface.

Question B:

Could the soil contaminants reach receptors through fugitive dust carried in air?

- **Soil contamination would have to be on the actual surface of the soil to become available for dust.**
- **In the case of dust exposures to burrowing animals, the contamination would have to occur in the depth interval where these burrows occur.**

Answer (likely/unlikely/uncertain): Likely

Provide explanation: Potential soil contaminants reaching receptors through fugitive dust is likely in burrowing areas.

Question C:

Can contaminated soil be transported to aquatic ecological communities (use SOP 2.01 run-off score and terminal point of surface water runoff to help answer this question)?

- **If the SOP 2.01 run-off score* for each SWMU and/or AOC included in the site is equal to zero, this suggests that erosion at the site is not a transport pathway. (* note that the runoff score is not the entire erosion potential score, rather it is a subtotal of this score with a maximum value of 46 points).**
- **If erosion is a transport pathway, evaluate the terminal point to see if aquatic receptors could be affected by contamination from this site.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no aquatic ecological communities on or within close proximity of the sites and no erosion was observed.

Question D:

Is contaminated groundwater potentially available to biological receptors through seeps or springs or shallow groundwater?

- **Known or suspected presence of contaminants in groundwater.**
- **The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.**
- **Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.**
- **Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no seeps, springs or perched groundwater present on or near the sites. The depth of groundwater is greater than 1000 ft below ground surface.

Question E:

Is infiltration/percolation from contaminated subsurface material a viable transport and exposure pathway?

- **The potential for contaminants to migrate to groundwater.**
- **The potential for contaminants to migrate through groundwater and discharge into habitats and/or surface waters.**
- **Contaminants may be taken up by terrestrial and rooted aquatic plants whose roots are in contact with groundwater present within the root zone.**
- **Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the surface.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: Contaminants are unlikely to migrate to the regional aquifer given the depth to groundwater. The lack of a significant hydraulic driver (e.g., no standing surface water) facilitating infiltration also mitigates the potential for contaminants reaching groundwater.

Question F:

Might erosion or mass wasting events be a potential release mechanism for contaminants from subsurface materials or perched aquifers to the surface?

- **This question is only applicable to release sites located on or near the mesa edge.**

- **Consider the erodability of surficial material and the geologic processes of canyon/mesa edges.**

Answer (likely/unlikely/uncertain): Unlikely

Provide explanation: There are no perched aquifers on or near these sites. Erosion potential is low and there is no evidence of mass-wasting events at the sites.

Question G:

Could airborne contaminants interact with receptors through the respiration of vapors?

- **Contaminants must be present as volatiles in the air.**
- **Consider the importance of the inhalation of vapors for burrowing animals.**
- **Foliar uptake of vapors is typically not a significant exposure pathway.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 1

Terrestrial Animals: 2

Provide explanation: Burrowing may bring receptors in contact with vapors.

Question H:

Could airborne contaminants interact with plants through the deposition of particulates or with animals through the inhalation of fugitive dust?

- **Contaminants must be present as particulates in the air or as dust for this exposure pathway to be complete.**
- **Exposure through the inhalation of fugitive dust is particularly applicable to ground-dwelling species that would be exposed to dust disturbed by their foraging or burrowing activities or by wind movement.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Terrestrial Animals: 2

Provide explanation: Burrowing may bring receptors in contact with particulates.

Question I:

Could contaminants interact with plants through root uptake or rain splash from surficial soils?

- **Contaminants in bulk soil may partition into soil solution, making them available to roots.**
- **Exposure of terrestrial plants to contaminants present in particulates deposited on leaf and stem surfaces by rain striking contaminated soils (i.e., rain splash).**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Provide explanation: Low concentrations of COPCs were detected in surface soil.

Question J:

Could contaminants interact with receptors through food-web transport from surficial soils?

- **The chemicals may bioaccumulate in animals.**
- **Animals may ingest contaminated food items.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: COPCs known to bioaccumulate were found in low concentrations in surface soil, indicating that food web transport is a minor pathway

Question K:

Could contaminants interact with receptors through the incidental ingestion of surficial soils?

- **Incidental ingestion of contaminated soil could occur while animals grub for food resident in the soil, feed on plant matter covered with contaminated soil, or while grooming themselves clean of soil.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: COPCs were found in surface soil.

Question L:

Could contaminants interact with receptors through dermal contact with surficial soils?

- **Significant exposure through dermal contact would generally be limited to organic contaminants that are lipophilic and can cross epidermal barriers.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 2

Provide explanation: Lipophilic chemicals were detected at low concentrations at these sites.

Question M:

Could contaminants interact with plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **Burial of contamination attenuates radiological exposure.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 2

Terrestrial Animals: 2

Provide explanation: Gamma-emitting radionuclides were detected infrequently.

Question N:

Could contaminants interact with plants through direct uptake from water and sediment or sediment rain splash?

- **Contaminants may be taken up by terrestrial plants whose roots are in contact with surface waters.**
- **Terrestrial plants may be exposed to particulates deposited on leaf and stem surfaces by rain striking contaminated sediments (i.e., rain splash) in an area that is only periodically inundated with water.**
- **Contaminants in sediment may partition into soil solution, making them available to roots.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Provide explanation: There are no aquatic environments on-site.

Question O:

Could contaminants interact with receptors through food-web transport from water and sediment?

- **The chemicals may bioconcentrate in food items.**
- **Animals may ingest contaminated food items.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question P:

Could contaminants interact with receptors through the ingestion of water and suspended sediments?

- **If sediments are present in an area that is only periodically inundated with water, terrestrial receptors may incidentally ingest sediments.**
- **Terrestrial receptors may ingest water-borne contaminants if contaminated surface waters are used as a drinking water source.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question Q:

Could contaminants interact with receptors through dermal contact with water and sediment?

- **If sediments are present in an area that is only periodically inundated with water, terrestrial species may be dermally exposed during dry periods.**
- **Terrestrial organisms may be dermally exposed to water-borne contaminants as a result of wading or swimming in contaminated waters.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question R:

Could suspended or sediment-based contaminants interact with plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **Burial of contamination attenuates radiological exposure.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Terrestrial Plants: 0

Terrestrial Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question S:

Could contaminants bioconcentrate in free-floating aquatic, attached aquatic plants, or emergent vegetation?

- **Aquatic plants are in direct contact with water.**
- **Contaminants in sediment may partition into pore water, making them available to submerged roots.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Plants/Emergent Vegetation: 0

Provide explanation: There are no aquatic environments on-site.

Question T:

Could contaminants bioconcentrate in sedimentary or water-column organisms?

- **Aquatic receptors may actively or incidentally ingest sediment while foraging.**
- **Aquatic receptors may be directly exposed to contaminated sediments or may be exposed to contaminants through osmotic exchange, respiration, or ventilation of sediment pore waters.**
- **Aquatic receptors may be exposed through osmotic exchange, respiration, or ventilation of surface waters.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question U:

Could contaminants bioaccumulate in sedimentary or water column organisms?

- **Lipophilic organic contaminants and some metals may concentrate in an organism's tissues.**
- **Ingestion of contaminated food items may result in contaminant bioaccumulation through the food web.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

Question V:

Could contaminants interact with aquatic plants or animals through external irradiation?

- **External irradiation effects are most relevant for gamma-emitting radionuclides.**
- **The water column acts to absorb radiation; therefore, external irradiation is typically more important for sediment dwelling organisms.**

Provide quantification of exposure pathway (0=no pathway, 1=unlikely pathway, 2=minor pathway, 3=major pathway):

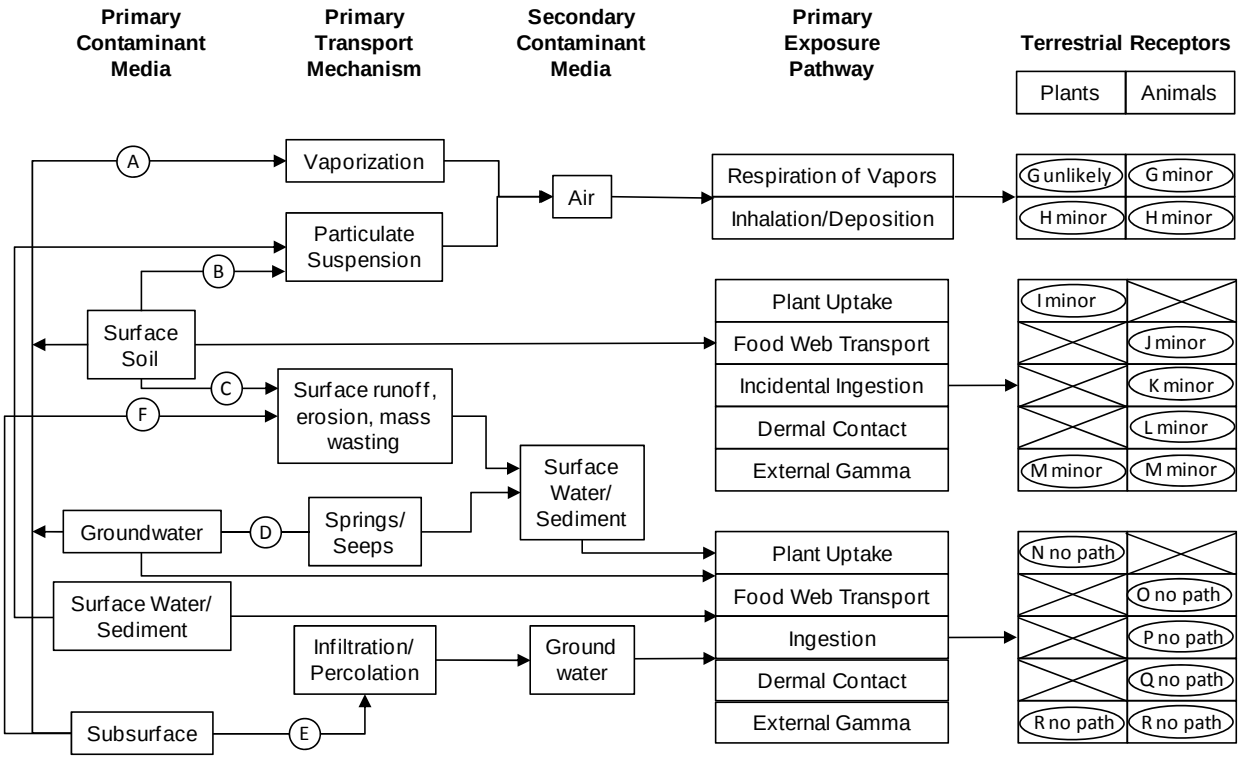
Aquatic Plants: 0

Aquatic Animals: 0

Provide explanation: There are no aquatic environments on-site.

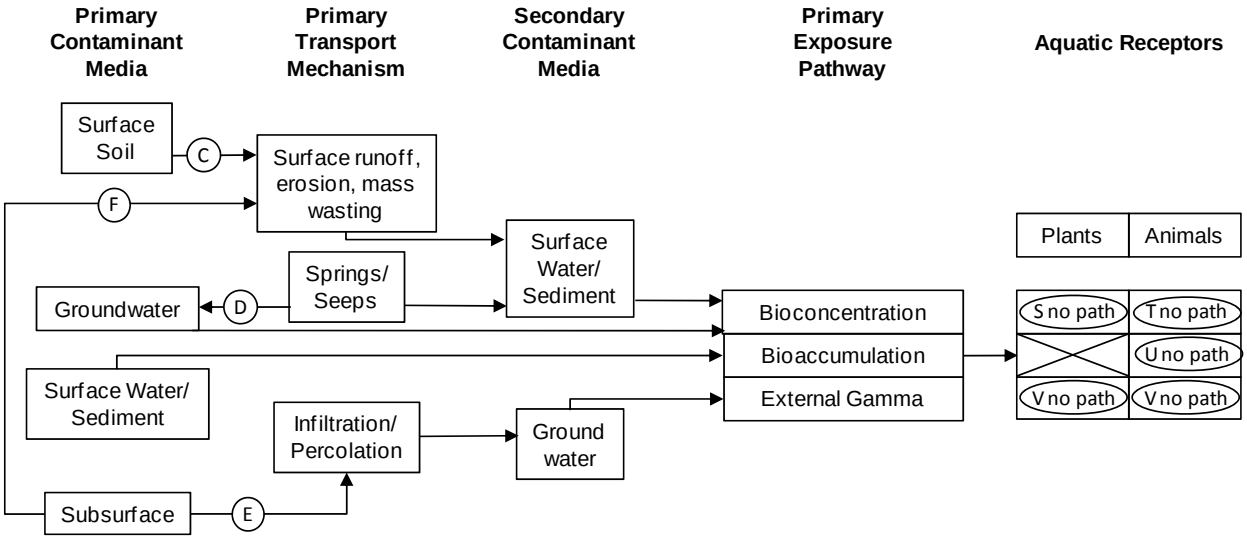
Ecological Scoping Checklist
Terrestrial Receptors
Ecological Pathways Conceptual Exposure Model

NOTE:
Letters in circles refer to questions of the Scoping Checklist



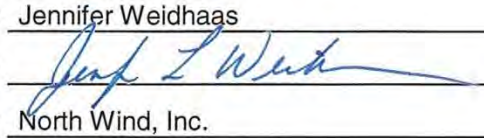
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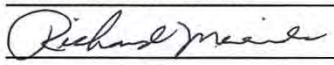


Signatures and certifications:

Checklist completed by (provide name, organization and phone number):

Name (printed): Jennifer Weidhaas
Name (signature): 
Organization: North Wind, Inc.
Phone number: 208-528-8718

Verification by another party (provide name, organization and phone number):

Name (printed): Richard J. Mirenda
Name (signature): 
Organization: Los Alamos National Laboratory, EP-WES-EDA
Phone number: 505-665-6953