ERID-261910

***Environmental Protection Division***
***Environmental Compliance Programs (ENV-CP)***
PO Box 1663, K490
Los Alamos, New Mexico 87545
(505) 667-0666

***National Nuclear Security Administration***
***Los Alamos Field Office, A316***
3747 West Jemez Road
Los Alamos, New Mexico, 87545
(505) 667-5794/Fax (505) 667-5948

*Date*: OCT 0 1 2014
*Symbol*: ENV-DO-14-0276
*LAUR*: 14-27236
*Locates Action No.*: Not Applicable

Mr. John E. Kieling
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Dear Mr. Kieling:

**Subject: Transmittal of Remediation and Repackaging Documentation for Nitrate Salt-Bearing Waste Containers – Package 16**

The purpose of this letter is to transmit remediation and repackaging documentation as requested via electronic mail (email) by the New Mexico Environment Department (NMED) on June 10, 2014. Written submissions and twice weekly technical phone calls are conducted between the NMED; Los Alamos National Security, LLC (LANS); and the U.S. Department of Energy (DOE) as stipulated by the modified Administrative Order No. 5-19001 issued by the NMED. The documentation contained within Enclosure 1 partially addresses Item # 13 of the *Summary Chart - Requested Information/Pending Issues* table which is part of the written daily submissions to the NMED from the DOE and LANS, the Permittees.

The June 10, 2014, email received from Tim Hall, NMED, included a request for additional information for 267 original nitrate salt-bearing waste containers generated by the Permittees and all resulting repackaged/remediated containers. This submittal includes remediation and repackaging documentation for daughter containers resulting from the repackaging and remediation of the 267 original nitrate salt-bearing waste containers and is the sixteenth submittal in response to comment 5 in the June 10, 2014 email request. Because documentation to fulfill the request is still being compiled, the response to comment 5 of the email request will be transmitted in packages as they become available.

Enclosure 1 includes the pertinent documentation for seventeen (17) of the original 267 parent waste containers and all associated daughter and granddaughter waste containers. The enclosed documentation for each parent waste container is separated by a tab and documentation for the daughter containers are highlighted within each tab by colored pages. These parent containers and their daughter and granddaughter containers were listed in the *Nitrate Salt Drums with Associated Waste Stream and Location Data for 267 Original Parent and 707 Current/Remediated Daughter Containers* table (as revised and submitted to the NMED on July 17, 2014).

If you have comments or questions regarding this submittal, please contact Mark P. Haagenstad at (505) 665-2014 or Gene E. Turner at (505) 667-5794.

Sincerely,

Alison M. Dorries
Division Leader
Environmental Protection Division
Los Alamos National Security LLC

Sincerely,

Gene E. Turner
Environmental Permitting Manager
Environmental Projects Office
Los Alamos Field Office
U.S. Department of Energy

AMD:GET:MPH:LVH/lm

Enclosures: (1) Remediation and Repacking Documentation for Nitrate Salt-Bearing Waste Containers – Package 16

Cy: Ryan Flynn, NMED, Santa Fe, NM, (E-File)
Tom Blaine, NMED, Santa Fe, NM, (E-File)
Steve Pullen, NMED/HWB, Santa Fe, NM, (E-File)
Timothy Hall, NMED/HWB, Santa Fe, NM, (E-File)
Trais Kliphuis, NMED, Santa Fe, NM, (E-File)
Peter Maggiore, NA-LA, (E-File)
Lisa Cummings, NA-LA, (E-File)
Gene E. Turner, NA-LA, (E-File)
Kirsten M. Laskey, NA-LA, (E-File)
Carl A. Beard, PADOPS, (E-File to aosburn@lanl.gov)
Michael T. Brandt, ADESH, (E-File)
Raeanna R. Sharp-Geiger, ADESH, (E-File)
Alison M. Dorries, ENV-DO, (E-File)
James S. Clemmons, LTP, (E-File)
Donald L. Allen, LTP, (E-File)
Scott A. Miller, LTP-SSS, (E-File)

Cy (continued):
Selena Z. Sauer, LC-ESH, (E-File)
Kenneth M. Hargis, LTP-PTS, (E-File)
Mark P. Haagenstad, ENV-CP, (E-File)
Luciana Vigil-Holterman, ENV-CP, (E-File)
lasomailbox@nnsa.doe.gov, (E-File)
locatesteam@lanl.gov, (E-File)
env-correspondence@lanl.gov, (E-File)

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NMED
Hazardous Waste Bureau

Los Alamos NATIONAL LABORATORY EST 1943

COPY

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***Environmental Compliance Programs (ENV-CP)***
PO Box 1663, K490
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*Date*: OCT 0 1 2014
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*LAUR*: 14-27236
*Locates Action No.*: Not Applicable

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Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
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The June 10, 2014, email received from Tim Hall, NMED, included a request for additional information for 267 original nitrate salt-bearing waste containers generated by the Permittees and all resulting repackaged/remediated containers. This submittal includes remediation and repackaging documentation for daughter containers resulting from the repackaging and remediation of the 267 original nitrate salt-bearing waste containers and is the sixteenth submittal in response to comment 5 in the June 10, 2014 email request. Because documentation to fulfill the request is still being compiled, the response to comment 5 of the email request will be transmitted in packages as they become available.

# Remediation and Repackaging Documentation for Nitrate Salt-Bearing Waste Containers – Package 16
# ENV-DO-14-0276
# LA-UR-14-27236

October 2014



# ENCLOSURE 1

Remediation and Repacking Documentation for Nitrate Salt-Bearing Waste Containers – Package 16

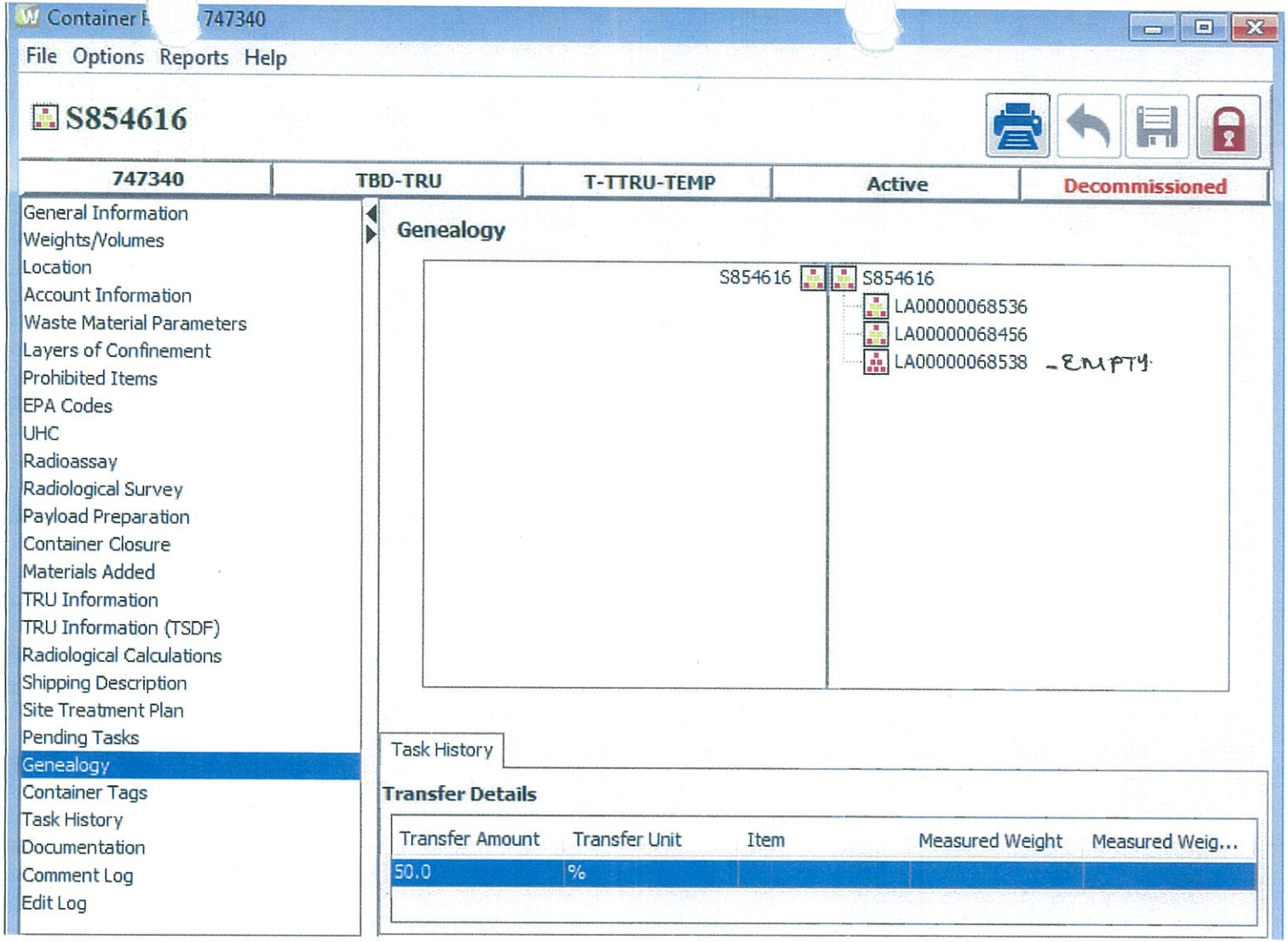
ENV-DO-14-0276

LA-UR-14-27236

Date: OCT 0 1 2014

| ParentID | Intermediate Daughters | PKG_ID | Overpacked Into |
|---|---|---|---|
| S854616 | | 68456 | |
| S854616 | | 68536 | |
| S855126 | | 93597 | |
| S855126 | | 93598 | |
| S855126 | | 93599 | |
| S855139 | 68818 | 68648 | SB50442 |
| S855139 | 68818 | 69163 | SB50057 |
| S855216 | 68816 | 69161 | SB50035 |
| S855216 | 68816 | 69210 | SB50082 |
| S855240 | | 68381 | |
| S855240 | | 68385 | |
| S855240 | | 68391 | |
| S855290 | | 68537 | |
| S855290 | | 68539 | |
| S855566 | 68761 | 69159 | SB50074 |
| S855566 | 68761 | 69185 | SB50043 |
| S855677 | | 68544 | |
| S855677 | | 68556 | |
| S855793 | 68725 | 68660 | |
| S855793 | 68725 | 68685 | |
| S855943 | | 68383 | |
| S855943 | | 68384 | |
| S860014 | 68735 | 69063 | SB50107 |
| S860014 | 68735 | 69066 | SB50033 |
| S860093 | | 68554 | |
| S860093 | | 68615 | |
| S860095 | | 68452 | |
| S860095 | | 68550 | |
| S860096 | 90927 | 69230 | SB50072 |
| S860096 | 90929 | 92674 | |
| S861975 | | 68480 | |
| S861975 | | 68511 | |
| S861976 | | 68661 | SB50046 |
| S861976 | | 68686 | SB50062 |
| S861980 | | 69234 | SB50034 |
| S861980 | | 69237 | SB50066 |

# S854616


747340
File Options Reports Help
S854616
747340
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S854616
S854616
LA00000068536
LA00000068456
LA00000068538 -EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
50.0
%

Working Copy
Date: 10-23-13c

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S854616

6.2[4] Date Processed: 10·23·13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 010065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Justin Lopez / [signature] 126935 / 10.23.13
Waste Handling Tech (print) / Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 3450

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 456.1 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 83 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 539.1 lb

6.2[7] **(S)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☒ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. [Initials] [Z#] 1/6/14 Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

EWMO-FOD (print) N/A Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: SBS4616

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68536 | 68456 | | |
| 10.1[4] | Daughter Drum Filter No. | LM-302 | LM-283 | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10309 | L-6773 | | A |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | N | N | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | A | A | N | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 5 Gallons | 1 Gallon | | A |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead Shielding | Lead Shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See Comments | See Comments | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 75% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Plastics Kitty Litter | Plastics Kitty Litter | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5854616

Comments: Nitrate Salts, Plastics, absorbed liquids. Liquid had a pH of 4 & was neautralized to a 6. Kitty litter & Lead d SO added. Wypalls were added during cleaning of box.

11.1[1] Performed By: Justin Culper / [signature]
Waste Handling Tech (print) Signature
1266401 10-23-13
Z # Date

11.1[8] Reviewed By: Clayton Mullis / CA
SOS or designee (print) Signature
1240092 10/24/13 0933
Z # Date/Time

UET Working Copy
Date: 10-4-13

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 02388366-1
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12/18/13 | 12/18/13 |
| Tolerance: | +/- 4% cw and +/- 6% ccw | +/- 3% cw and +/- 6% ccw |

Overpack filtered vent information:

Manufacturer: NucFil
Model No.: 013
Serial No.: SL-1040
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Justin Cofer / [signature] 106434 / 10-4-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Justin Cofer / [signature] 106434 / 10-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / [signature] 124096 10/24/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68538

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 037418
- Cal. Expiration Date: 3-6-14
- Range in ft-lb: 10-80
- Tolerance: +3% cw +6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Justin Coper / [signature] 260736 10-24-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10.14.14

7.[34][D] 85-gal overpack drum gross weight (lb): 167.6 lb

Comments: N/C

8.1[1] Performed By: Justin Coper / [signature] 260736 10-23-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullis / [signature] 240092 10/24/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

9/23/13 HS

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68456

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240944
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPUC1.5-2SPUC
Serial No.: L-6773
Manufacture Date: 1/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-19-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ± 6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: IAN MAGNER (Operator (print)) (Signature) Z26205 (Z #) 9-25-13 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-283
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68456

Comments: n/c

5.[35] Performed By: Ian Maxwell / [signature] Z# 276205 Date 9-30-13

7.1[4] Reviewed By: Clayton Mullis / [signature] Z# 240096 Date ~~10/23/13~~ 10/24/13 cm 10-24-13

Operator (print) Signature Z # Date

Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-23-13

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68456

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-6-14
Range in ft-lb: 10-80
Tolerance: ±3% FS ± 6% read

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Justin Cox / [signature] 126996 / 10.23.13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Justin Cox / [signature] 126996 / 10.23.13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☐ N/A

## ATTACHMENT 2
Page 2 of 2

6.[3] Drum ID No.: 6x'56'

6.[26] Scale File ID number: 31900

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 286.6 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments:

6.[32] Performed By: Justin Lopez / [signature] 1211951 / 10/23/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] 240091 / 10/24/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-21-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68536

5.[3] Drum information:
- Purchase Order No.: 501578
- Lot No.: 0240999
- Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 6CPUC1.5-2PUC
- Serial No.: L-10309
- Manufacture Date: 5/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12/18/13 | 12/18/13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: MICHAEL MONTOYA (Operator (print)) Brian Gordon — Signature — 191252 10/21/13 (Z # Date) / 287544 10/21/13

5.[23] Filtered vent information:
- Manufacturer: NUCFIL
- Model No.: 01905
- Serial No.: LM-302
- Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68536

Comments: n/c

5.[35] Performed By: Brian Cordova (Operator (print)) [signature] (Signature) 191992 10/24/13 (Z # Date)

7.1[4] Reviewed By: Clayton Mullis (Supervisor or designee (print)) [signature] (Signature) 240921 10/24/13 (Z # Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68536

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-6-14
Range in ft-lb: 10-80
Tolerance: ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Justin Glez / [signature] 126498 / 10-23-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Justin Glez / [signature] 126498 / 10-23-13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68536

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 434.2 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/A

6.[32] Performed By: Justin Lopez / [signature] / 126838 / 10.23.13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] / 240092 / 10/24/13
Supervisor or designee (print) Signature Z # Date

1940
SP72

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S854616 Container Type: 55-GAL Gross Weight (lbs): 472
Inner Seal #: 021297 Filter Prefix: LAVC Filter Serial #: 03169
Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 A0741
Total PE-Ci Activity: 5.85E+00 ✓ Equivalent Combustible PE-Ci: 2.19E+00 ✓ AM-241 PE-Ci: 4.79E-01
Total Fissile Gram Equivalents: 64.3 ✓ Total Surface Dose Rate (mrem/hr): 3
EPA Code(s): D007; D008; D009
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 4/27/2007 Comment: Impenetrable Obj,
Certified RTR Comment: None

| | | | | | |
|---|---|---|---|---|---|
| Prohibited Items: | ☐ Sealed > 4 Liters | ☒ Liquid | ☒ Pressurized Container | ☑ Impenetrable Item | ☒ Other |
| Security Determination: | | | | ☑ Green | ☐ Yellow |
| Remediation Determination: | ☐ VE | ☑ PID | ☐ Split | | ☑ Repack |
| Estimated 30-cm Dose Rate (mrem/hr): | ☐ <100 | ☐ >100 and <1,000 | ☑ >1,000 and <10,000 | | ☐ >10,000 |

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) / Susan B Ramsey (Signature) / 100681 (Z Number) / 12/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts.
Net Wt: 412# Generator info shows 14 items of nitrate salts; weights range from 9-52#. No RTR BDR. Nitrate salts typically packaged in plastic bags; undocumented liquids &/or debris may be present. RTR PS shows impenetrable object(s). No chemicals identified; appl. cable waste codes are for chromium, lead, & mercury. Nitrate salts require repack w/ admixture.

Performed By: Valerie Rhodes (WDP Engineering (Print)) / Valerie Rhodes (Signature) / 112607 (Z Number) / 1/18/13 (Date)

## TRU Remediation Operations

☒ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use heavy duty gloves during processing.
Processing Determination: ☒ Accept ☐ Reject
TRU Remediation Operations Comments: USE Proper PPE And ratio of kitty litter

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) / Gilbert Martinez (Signature) / 149235 (Z Number) / 1/20/13 (Date)
Joyce Jarez / Joyce Jarez / 221452 / 6/12/13

IHS Review. Julian Arnold CSP, may contain Pb Hg Cr
No other concerns. 1-29-13

## Noncertified TRU Waste Drum Item Information

DrumID: 021297

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 70X6-21NW1 | | 18.220 | NITRATE SALTS | | 35.6 | 52 | 1/13 | G468 |
| 2 | 7LR1022NW1 | | 6.190 | NITRATE SALTS | | 1.54 | 52 | 1/13 | G468 |
| 3 | 7LR1022NC1 | | 8.400 | NITRATE SALTS | | 1.73 | 53 | 1/13 | G468 |
| 4 | 7LR1123NE1 | | 9.630 | NITRATE SALTS | | 1.34 | 52 | 1/13 | G468 |
| 5 | 8LR1-1NW1 | | 10.190 | NITRATE SALTS | | 1.34 | 52 | 1/13 | G468 |
| 6 | 8LR1-1NE1 | | 9.570 | NITRATE SALTS | | 1.66 | 52 | 1/13 | G468 |
| 7 | 8MX1-1NW1 | | 10.210 | NITRATE SALTS | | 2.08 | 52 | 1/13 | G468 |
| 8 | 8MX2-3NE1 | | 23.280 | NITRATE SALTS | | 16.15 | 52 | 1/13 | G468 |
| 9 | 9LR2-4NW1 | | 10.750 | NITRATE SALTS | | 1.28 | 52 | 1/13 | G468 |
| 10 | 8DS2-5NE1 | | 6.360 | NITRATE SALTS | | 0.84 | 52 | 1/13 | G468 |
| 11 | 8LR3-6NW1 | | 11.230 | NITRATE SALTS | | 0.65 | 52 | 1/13 | G468 |
| 12 | 8DS3-7NE1 | | 5.300 | NITRATE SALTS | | 1.07 | 52 | 1/13 | G468 |
| 13 | 8LR4-8NW1 | | 10.030 | NITRATE SALTS | | 1.86 | 52 | 1/13 | G468 |
| 14 | 8MX3-10NW1 | | 4.490 | NITRATE SALTS | | 1.24 | 52 | 1/13 | G468 |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 214.

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 66.65 | 135.45 |
| 53 | 1.73 | 8.40 |
| Totals | 68.38 | 143.85 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 5/21/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 585466 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 70 | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 2932.43 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Sara Aragon (CCP (Print)) , 237975 (Z#)

Reviewed By: Nathan Wales (CCP (Print)) , 238866 (Z#)

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey (Waste Handling Operator (print)) , Susan B Ramsey (Signature) , 110681 (Z#) 5/22/13 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130521c\
Data File : S854616.D
Acq On : 21 May 2013 2:10 pm (#1); 21-May-13, 14:09:39 (#2)
Operator : SA
Sample :
Misc : 55 GAL LFL DRUM THROUGH UNOBSTRUCTED 72 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 21 14:18:41 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.532 | 96 | 4227988 | 201.25 | ppmv | -0.04 |
| 15) Chlorobenzene-d5 | 5.881 | 117 | 3634843 | 177.00 | ppmv | -0.02 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.602 | GC1 | 20842m | 2932.43 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

10-23-13

0600 Assuming WCRF operations center. -Coleman
0615 Pre-job being conducted by SOS.
0616 Late entry at 0610, outside rounds were started. JC
0624 Beginning inside rounds.
0635 Pre-job concluded.
0649 Item #63 is OOS, okay to proceed per CSE documentation.
0708 Late entry at 0705, inside rounds complete. JC
0725 Both rounds reviewed by SOS.
0726 Late entry at 0705, outside rounds complete. JC
0733 Mode change completed. We are now in operations
0741 in WCRF yard and 50-69.
JC 10-23-13 ~~0734~~ Bagging on drum #8818255
0744 Initiating a drum movement from transportainer to 50-69.
0753 Bag on complete.
0755 Drum movement into 50-69 complete.
0756 Being relieved by OCO, Clarissa Velarde. -Coleman
0757 Assuming WCRF operations center. -Velarde
0830 Starting movement out of 50-69.
0851 movement out of 50-69 is complete.
0910 Bagging off & daughters, Bagging on 9855677
0940 Bag on, Bag off complete.
1107 Bagging off 1 daughter, Bagging on another
1117 Bag on, off complete.
1145 Bagging off, Bagging on 9855290
1210 Bag on, Bag on 10-23-13 Bag off complete
1333 Bagging off 1 daughter, Bagging on another
1340 Starting movement out of 50-69.
1400 Bag on, Bag off is complete. movement out of 50-69 is complete.
1435 Bagging off, Bagging on 9854614
1456 Bag on, Bag off complete Starting movement into 50
1536 Movement into 50-69 complete
1655 Starting outside rounds
1762 Starting inside rounds.
- Continued on next pg -Velarde

10-23-13 - Continued from previous page Orlando
1722 Completed outside rounds.
1730 Item #43 is OOS, POD in place okay to proceed per documentation.
1740 Late entry at 1633 bagging off 1 daughter, Bagging on 1 daughter. Orlando
1743 Bagging off last drum of the day.
1802 Bag off complete
1810 Rounds signed out by SDS
1820 Mode change performed TAS0-69 and WCRRF now in warm standby.
13-Bi 8:30 End of day WCRRF operations entries to resume 0630

No further Entries this page.

09

5049

10-23-13

0600 Assumed the WCRR SOM position. John Landgrebe.
0652 Completed the pre-job brief conducted by the SOS (Clayton)
The safety topic was bullying and safety of LADDERS
There are no transfers scheduled in-event. Roles and responsibilities were assigned. Attitude topic was discussed by the SOM.
0705 Completed the call in to AREA 6 - to update POD - scheduled activities.
0725 The SOS signed off the rounds after reviewing. SOM reviewed and signed off.
0733 Mode Change: WCRR Yard and 50/69 Facility transition from WARM/WARM to Operations/Operations.
Approval to perform procedural work is authorized by the SOM.
0741 Inside Operations report initiating bag-on of Parent train 58B255
0753 Bag on was noted completed.
0758 Notification was received from the OIC that 30 gallon lid restraints will require FED approval prior to use. New restraints are being procured and will be issued after certification.
0903 Operations report bagging off 2 daughters and bagging on Parent 58555677
0940 Bag on and bag off was reported completed. Ops continue to process
1003 Craft supervisor requested review of slings, schackles and lift devices to evaluate to ensure none expire in October. Notification was made to the SOS.
1145 Operations initiate bag off and bag on of Parent 58552270
1210 Bagg off was noted completed. Rotation of personnel through lunch conducted
1215 Completed the noon call in, with SOM, OIC, providing facility update.
1333 Bagging off 1 daughter, bagging on one Parent - continue Operations
1340 Outside movement from 50/69 to transportation initiated
1400 Bag On - Bag off complete and movement out of 50-69 complete
1435 Bagging off, Bagging on 58546610
1458 Bag off and Bag on completed, observing outside operations move cars with RCT support to obtain RAD Survey for eventual transfer
1650 Completed observing RAD Surveys and placing containers back into the area.
1610 All bagoffs were completed and the WCRR is in a safe configuration
1820 Mode Change: WCRR Yard and 50/69 transition from Operations/Operations to WARM/WARM
1825 Secured the SOM position John Landgrebe

No further entries this page
PAS

10/23/13 WCRR SOS Log Book

0600 Assuming SOS position. CA
0615 Starting Pre-Job discussed ladder safety and anti-bullying, being respectful of others. Also ~~keep~~ cm 10-23-13 keeping a positive attitude while at work and out of work.
0635 Pre-Job complete.
0725 Signed off on the rounds.
0733 Mode change complete, WCRRF yard and 50-69 are now in Operations.
0741 Bagging on S818255.
0744 Starting drum movement into 50-69.
0753 Bag on complete.
0755 ~~0756~~ Movement in complete.
0830 cm 10-23-13 ~~0756~~ cm 10-23-13 Starting movement out of 50-69.
0902 Bagging off 2 daughters, bagging on S855677
0940 Bag off/on complete.
1055 Bagging off 1st daughter, bagging on a 2nd.
1117 Bag off/on complete.
1145 Bagging off 2nd daughter, bagging on S855290
1210 Bag off/on complete.
1333 Bagging off 1st daughter, bagging on a 2nd.
1340 Starting movement out of 50-69.
1400 Bag off/on complete. Also move out complete.
1435 Bagging off 2nd daughter, bagging on S845616.
1458 Bag off/on complete. Also starting movement into 50-69.
1536 Move in complete.
1633 Bagging off first daughter, bagging on a 2nd.
1644 Bag off/on complete.
1743 Bagging off 2nd daughter to complete processing.
1802 Bag off complete
1810 Signed off on the rounds.
1820 Mode change complete, WCRRF yard and 50-69 are now in Warm Standby.
1825 Securing SOS position for the day. CA

No Further Entries on this Page

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0120 |
| Examination Date: | 10/30/2013 |
| Waste Container ID: | 68456 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0120 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 130.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 96.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 70 % |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 68456

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | Leather gloves |
| R: | |
| XPM: | Plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 10.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 1.0 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 1.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 84.6 |
| Soils (S): | |
| Total WMP Weight: | 96.6 |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 68456

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Eric Lyles | | 10/30/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68456 | Count Sequence Number: | 23765 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/31/2013 2:08:19 PM | | | | |
| Description 1: | 1LANDA1857 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6, Not Precision | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 96.6 | kg | Net: | 96.6 kg |
| Container: | Volume: | 208.0 | l | Full: | 70.0 % |
| Density: | | 0.660 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23765 | Batch Number: | 1LANDA1857 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68456 | Analysis Date: | 10/31/2013 |

| | | |
|---|---|---|
| Net Weight | 96600.0 g | |
| Pu mass | 6.63E+001 +- | 2.18E+001 g |
| TRU Alpha Activity | 1.18E+001 +- | 4.95E+000 Ci |
| TRU Activity Concentration | 1.22E+005 +- | 5.13E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.19E+001 +- | 4.95E+000 Ci |
| Pu-239 FGE | 6.25E+001 +- | 2.18E+001 g |
| Decay heat | 3.82E-001 +- | 1.64E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.35E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 7.39E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.01E-006 |
| NP237 | 1.13E-001 | 7.94E-005 | 1.42E-005 | 3.26E-006 |
| PU238 | 6.06E-003 | 1.04E-001 | 3.91E-002 | 9.57E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.17E-005 |
| PU239 | 6.22E+001 | 3.85E+000 | 1.35E+000 | 3.56E-002 |
| PU240 | 4.01E+000 | 9.10E-001 | 3.44E-001 | 8.41E-003 |
| AM241 | 2.02E+000 | 6.92E+000 | 4.75E+000 | 1.43E-001 |
| PU241 | 7.61E-002 | 7.84E+000 | 2.96E+000 | 7.24E-002 |
| PU242 | 1.33E-002 | 5.24E-005 | 1.98E-005 | 0.00E+000 |
| AM243 | 2.18E-003 | 4.35E-004 | 7.88E-005 | 9.76E-006 |

Errors quoted at 1.000 sigma

Operator: D R. C Date: 11/4/13

ITR: D Date: 11-4-13

## Automated Independent Technical Review

Count Sequence Number: 23765 Batch Number: 1LANDA1857
Counter ID: MCS HENC #1
Container ID: 68456
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/31/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 11-4-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68456**

BDR Number: **LA13FG2114**

Sampling Date: **11/8/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 217.31 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131108c\
Data File : 68456.D
Acq On : 8 Nov 2013 12:58 pm (#1); 08-Nov-13, 12:57:53 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 08 13:06:41 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.552 | 96 | 4687809 | 205.75 | ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 3632830 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.621 | GC1 | 1634m | 217.31 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



S85410116

| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0120 |
| Examination Date: | 10/30/2013 |
| Waste Container ID: | 68536 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0120 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 197.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 163.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68536

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags, liner lid |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 153.6 |
| Soils (S): | |
| Total WMP Weight: | 163.6 |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 68536

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Eric Lyles | | 10/30/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68536 | Count Sequence Number: | 23759 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/30/2013 3:44:38 PM | | | | |
| Description 1: | 1LANDA1856 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 164.0 | kg | Net: | 164.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 85.0 % |
| Density: | | 0.930 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23759 | Batch Number: | 1LANDA1856 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68536 | Analysis Date: | 10/30/2013 |

| | | |
|---|---|---|
| Net Weight | 164000.0 g | |
| Pu mass | 2.54E+001 +- | 1.52E+001 g |
| TRU Alpha Activity | 1.14E+001 +- | 6.73E+000 Ci |
| TRU Activity Concentration | 6.95E+004 +- | 4.11E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.15E+001 +- | 6.73E+000 Ci |
| Pu-239 FGE | 2.40E+001 +- | 1.51E+001 g |
| Decay heat | 3.75E-001 +- | 2.23E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.42E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.29E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.84E-006 |
| NP237 | 1.94E-001 | 1.37E-004 | 3.00E-005 | 5.82E-006 |
| PU238 | 2.32E-003 | 3.97E-002 | 2.57E-002 | 1.67E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.70E-005 |
| PU239 | 2.38E+001 | 1.48E+000 | 9.39E-001 | 6.22E-002 |
| PU240 | 1.52E+000 | 3.46E-001 | 2.25E-001 | 1.46E-002 |
| AM241 | 2.78E+000 | 9.53E+000 | 6.66E+000 | 2.72E-001 |
| PU241 | 2.92E-002 | 3.00E+000 | 1.96E+000 | 1.27E-001 |
| PU242 | 5.08E-003 | 2.01E-005 | 1.31E-005 | 0.00E+000 |
| AM243 | 3.81E-003 | 7.61E-004 | 1.68E-004 | 1.80E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 11-4-13

## Automated Independent Technical Review

Count Sequence Number: 23759 Batch Number: 1LANDA1856
Counter ID: MCS HENC #1
Container ID: 68536
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/30/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Curium/Californium Neutron Analysis complete with warnings. | |
| - The Cm/Cf Mass Variance is negative, Cm/Cf Mass Uncertainty set to zero so analysis could continue. | Ok |
| - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings. | |
| - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |

| Comments | Disposition |
|---|---|
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlain Date: 10-31-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68536**

BDR Number: **LA13FG2114**

Sampling Date: **11/8/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

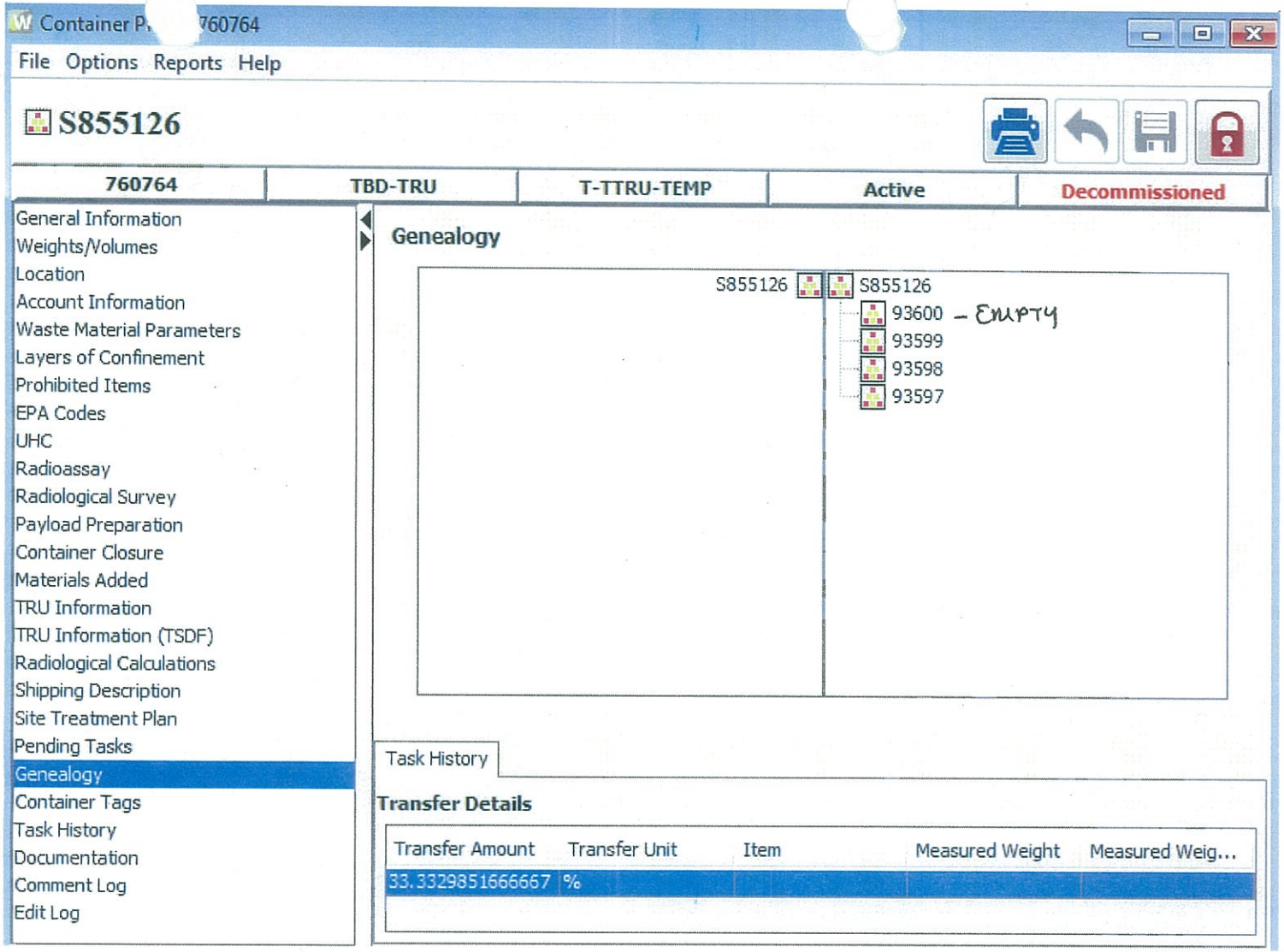
Data Path : C:\msdchem\1\DATA\131108c\
Data File : 68536.D
Acq On : 8 Nov 2013 1:32 pm (#1); 08-Nov-13, 13:31:48 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 08 13:40:17 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.542 | 96 | 4429030 | 205.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.851 | 117 | 3398965 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855126


Container P 760764
File Options Reports Help
S855126
760764
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S855126
S855126
93600 – Empty
93599
93598
93597
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
33.3329851666667
%

Working Copy
Date: 5-13-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: SB55126

6.2[4] Date Processed: 5-1-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 07-31-13

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: James Sa [illegible] 121662 05-01-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: | S 855126 |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 430.2 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 0 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 430.7 lb |
| 6.2[7] | **($)** Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[28] | Approval to leave a parent drum attached to the WCG overnight: | |

NA

EWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S 855 126

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 93597 | 93598 | | |
| 10.1[4] | Daughter Drum Filter No. | LM-54 | LM-54 | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6666 | L-6668 | | A |
| 10.1[4] | Daughter Drum Purchase Order No. | 501011 | 501011 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BoP | | | |
| | Model No. | LCPK16-23P/C | | | |
| | Serial No. | L-6630 | | | |
| | Date of Manufacture | 1-13 | | | |
| 10.2[5] | POC ID No | 93599 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | Salt/Kitty litter & Plastic | | N | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | 93 116662 | | | A |
| 10.2[14] | POC Assembly Gross Weight (lb) | 357.2 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 1000 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 1 liter | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | lead | lead | N | A |
| 10.3[9][A] | PCB-contaminated Waste Description | | | N | A |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See Comments | See Comments | N | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 100% | | A |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Plastic | Plastic | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S855125

Comments: Poly liner, 5 Gals of liquid. Acid Nuetrizer Added, lead shielding, Nitrate Salts

11.1[1] Performed By: James Salad [signature] 111662 / 05-01-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Perez / [signature] 122452 / 5-2-13 0854
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501012
Lot No.: 0233945
Manufacture Date: 12

5.[8] Overpack filtered vent information:

Manufacturer: ~~AES~~ NUCFIL
Model No.: 013
Serial No.: SL-1841
Manufacture Date: 10-11

Overpack filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 040614 | 038569 |
| Cal. Expiration Date: | 9-26-13 | 12-18-13 |
| Tolerance: | ± 4% cw -6% ccw | ± 3% cw ± 6% ccw |

Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: ADAM Segovia [signature] 121078 4-18-13
Waste Handling Technician (print) Signature Z # Date

5.[12] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[15] 2 in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: ADAM Segovia [signature] 121078 4-18-13
Waste Handling Technician (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: Jose Jerez [signature] 122145 5-2-13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 5-1-13 aw

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: _____

7.[24] Overpack drum closure ring torque wrench information:

M&TE No.: 039373
Cal. Expiration Date: 09-11-13
Range in ft-lb: 10-80
Tolerance: +/- 3% CW

7.[25] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: James Salas [signature] 111662 05-01-13
Waste Handling Technician (print) Signature Z # Date

7.[27] Overpack drum closure ring torque value: 60 ft-lb

7.[30] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[35][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 07-31-13

7.[35][D] 85-gal overpack drum gross weight (lb): _____ lb

Comments: N/C

8.1[1] Performed By: James Salas [signature] 111662 05-01-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Jose Perez [signature] 122458 5-2-13
Supervisor or designee (print) Signature Z # Date

7A



## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 93597

### 1. Drum/Lid Assembly

- ☑ Remove and discard ¾" bung from lid
- ☑ Remove Lid
- ☑ Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  NOTE: Reject damaged drum/lid assembly
- ☑ Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:
Purchase Request #: 50101
Lot #: 02334/13
Date of Manufacture: 2012

### 2. Drum Liner Bag/Filter Assembly:

- ☑ Place yellow vinyl tape, with smear centered on tape, over filter
- ☑ Fill bag with air from compressed air source
- ☑ Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  NOTE: Reject or repair damaged, cut, or leaking bags
- ☑ Stretch bag's bungee cord
- ☑ Inspect bungee cord
  NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:
Manufacturer: BOP
Model #: 16CPUC 1.5-2 SPUC
Serial #: L-16666
Date of Manufacture: 01/13

### 3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:

- ☑ Inspect (cardboard liner)/plastic liner (circle type of liner used)
  NOTE: Reject any damaged liners
- ☑ Place (cardboard)/plastic liner into drum liner bag/filter assembly
- ☑ Line up filter with drum seam
- ☑ Place liner/bag/filter assembly into drum
- ☑ Roll excess liner bag into (cardboard liner)/plastic liner

### 4. Install Lid/Drum Filter

- ☑ Place lid and ring onto drum
- ☑ Tighten ring sufficiently to simply hold lid in place
- ☑ Torque 2" bung plug
- ☑ Apply sealant to filter threads, screw in ¾" bung hole, and torque
- ☑ Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:
Manufacturer: Nucfil
Model #: 019DS
Serial #: LM-54
Date of Manufacture: 12/12

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 040694
Cal Expiration Date: 9-26-13
Range (ft-lbs or (in-lbs)): 40-200
Tolerance: +/- 4% CW and +/- 6% CCW

Jam Nut / Bung torque wrench:
M&TE ID #: 038369
Cal Expiration Date: 12-18-13
Range (ft-lbs) or in-lbs): 10-80
Tolerance: +/- 3% CW and +/- 6% CCW

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
☑ Yes ☐ No
Print Name: Kevin Beksak Signature: Kevin Beksak Z#: 238199

### 5. Weigh Drum Assembly

RECORD weight information
Tare wtght (lbs) 75.8
File ID #: 019065
☑ Write the tare weight on drum using permanent marker

### 6. Label Drum Assembly

- ☑ Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- ☐ Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Kevin Beksak Operator Sign: Kevin Beksak Z#: 238199 Date: 04/25/13
Verifier Print: James Sandal Verifier Sign: [signature] Z#: 116662 Date:

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 93597

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

☑ Mount lid with filter directly over drum seam.

☑ Install ring with bolt positioned downward and directly over drum seam.

☑ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

☑ Tighten jam nut.

Record torque wrench information:

MT&E # : 028373

Cal expiration date: 09-11-13

Range/ Value (ft-lbs): 10-80

--- Tolerance +/- 3% cw + +/- 6% ccw

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

☑ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

☑ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

☑ Place one yellow radioactive waste label between the top two rolling hoops

☑ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

☐ Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

☑ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs) _____

Scale ID#: 029065

☑ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

☑ Have RCT monitor drum prior to moving to storage area.

☑ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

☑ Complete TWSR.

Operator Print/Sign: _____ Date: 05-01-13

Verifier Print/Sign: Justin Lopez _____ Date: 5-1-13

1B



## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

Drum ID#: QB598

**1. Drum/Lid Assembly**
- ☑ Remove and discard ¾" bung from lid
- ☑ Remove Lid
- ☑ Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  NOTE: Reject damaged drum/lid assembly
- ☑ Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:
- Purchase Request #: 501011
- Lot #: 0233415
- Date of Manufacture: 12

**2. Drum Liner Bag/Filter Assembly:**
- ☑ Place yellow vinyl tape, with smear centered on tape, over filter
- ☑ Fill bag with air from compressed air source
- ☑ Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  NOTE: Reject or repair damaged, cut, or leaking bags
- ☑ Stretch bag's bungee cord
- ☑ Inspect bungee cord
  NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:
- Manufacturer: BOP
- Model #: 6CPVC-1.5-25PVC
- Serial #: L-6668
- Date of Manufacture: 1/13

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**
- ☑ Inspect cardboard liner/plastic liner (circle type of liner used)
  NOTE: Reject any damaged liners
- ☑ Place cardboard/plastic liner into drum liner bag/filter assembly
- ☑ Line up filter with drum seam
- ☑ Place liner/bag/filter assembly into drum
- ☑ Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**
- ☑ Place lid and ring onto drum
- ☑ Tighten ring sufficiently to simply hold lid in place
- ☑ Torque 2" bung plug
- ☑ Apply sealant to filter threads, screw in ¾" bung hole, and torque
- ☑ Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:
- Manufacturer: NUCFIL
- Model #: 0190S
- Serial #: LM-59
- Date of Manufacture: 12-12

RECORD torque wrench information:

Filter torque wrench:
- M&TE ID #: 040694
- Cal Expiration Date: 9-26-13
- Range (ft-lbs or in-lbs): 40-200
- Tolerance: +/-4% cw +/-6% ccw

Jam Nut / Bung torque wrench:
- M&TE ID #: 028369
- Cal Expiration Date: 12-18-13
- Range (ft-lbs or in-lbs): 10-80
- Tolerance: +/-3% cw +/-6% ccw

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
☑ Yes ☐ No
Print Name: Michael Montoya Signature: [signature] Z#: 191352

**5. Weigh Drum Assembly**
RECORD weight information
- Tare wight (lbs) 75.4
- File ID #: 019065

☑ Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**
- ☑ Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- ☑ Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Kevin Belasco Operator Sign: [signature] Z#: 238159 Date: 04/25/13

Verifier Print: James Sandoval Verifier Sign: [signature] Z#: 176662 Date: 05-01-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: [illegible]

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 038373

Cal expiration date 09-11-13

Range/ Value (ft-lbs): 10-80

Tolerance +/-3%cw + +/-6%cow

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs.) [illegible]

Scale ID#: 079065

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: [signature] Date: 05-01-13

Verifier Print/Sign: Brandon Chavez Date: 5-1-13

3772
1940

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S855126 Container Type: 55-GAL Gross Weight (lbs): 448
Inner Seal #: 021296 Filter Prefix: LAVC Filter Serial #: 04040
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 A0742
Total PE-Ci Activity: 5.40E+00 Equivalent Combustible PE-Ci: 2.03E+00 AM-241 PE-Ci: 4.97E-01
Total Fissile Gram Equivalents: 55.3 Total Surface Dose Rate (mrem/hr): 3
EPA Code(s): None D007 D008 D009 WS 1/7/13
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 4/26/2007 Comment: Impenetrable Obj, Liner Not Punctured,
Certified RTR Comment: None
Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE 11/20/12 ☑ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008 and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R.W. Jones (Production Control (Print)) S. Jones (Signature) 117434 (Z Number) 10/18/11 (Date)

## WDP Engineering

SUSAN S. RAMSEY (Print) Susan S. Ramsey (Signature) 100618 (Z Number) 11/20/12 (Date)

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☑ No ☐ Unknown
Processing Determination: ☑ Accept ☐ Reject
WDP Engineering Comments: N, Nitrate Salts
Net Wt. 388#. Generator info shows 11 items of nitrate salts, with weights ranging from 12-48#. No RTR BDR. RTR PS shows impenetrable item(s) & unpunctured liner. Nitrate salts typically packaged in plastic bags; other debris & undocumented liquids often present. Applicable waste codes are lead, chromium, & mercury. Repack w/ admixture is required

Performed By: Valerie Rhodes (WDP Engineering (Print)) Valerie Rhodes (Signature) 112607 (Z Number) 1/7/13 (Date)

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not Push or Press on waste with hands Use Kevlar gloves during processing.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure.
Performed By: Jose Jerez (TRU Remediation Operations (Print)) Jose Jerez (Signature) 221452 (Z Number) 2-5-13 (Date)

ROBINSHAW 278995 2-1-13

WS REVIEW: RS 206362 11.27.12 NOTES: D007 = Chromium
D008 = Lead

## Noncertified TRU Waste Drum Item Information

DrumID: 021296

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 8DS4-9NE1 | | 21.740 | NITRATE SALTS | | 19.98 | 52 | 1/13 | G468 |
| 2 | 8LR5-11NE1 | | 8.760 | NITRATE SALTS | | 1.08 | 52 | 1/13 | G468 |
| 3 | 8118-11NW1 | | 7.880 | NITRATE SALTS | | 0.27 | 52 | 1/13 | G468 |
| 4 | 88AL-21N1 | | 6.640 | NITRATE SALTS | | 0.89 | 52 | 1/13 | G468 |
| 5 | 80X1-16NE1 | | 10.070 | NITRATE SALTS | | 3.85 | 53 | 1/13 | G468 |
| 6 | 82-1949 | | 18.320 | NITRATE SALTS | | 2.71 | 53 | 1/13 | G468 |
| 7 | 8LR6-17NW1 | | 9.050 | NITRATE SALTS | | [redacted] | 53 | 1/13 | G468 |
| 8 | 8LR7-20NW1 | | 9.900 | NITRATE SALTS | | 13.38 | 53 | 1/13 | G468 |
| 9 | 80X3-21NE1 | | 12.580 | NITRATE SALTS | | 6.91 | 52 | 1/13 | G468 |
| 10 | 8LR8-22NW1 | | 5.400 | NITRATE SALT | | 3.05 | 53 | 1/13 | G468 |
| 11 | 8LS5-23NE1 | | 21.170 | NITRATE SALT | | 5.15 | 52 | 1/13 | G465 |

TW

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 203.2

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 34.28 | 78.77 |
| 53 | 25.7 | 52.74 |
| Totals | 59.98 | 131.51 |

**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 1/28/11

7.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Erik Lindell | Erik Lindell | 128480 | 1-28-11 |
| | | | |

| Container No. (7.[1]): | S870258 | S855126 | 55298 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (7.[1]): | 55 gal | 55 gal | 55 gal |
| Current Filter Vent No. (7.[1]): | 72 | 72 | 13 |
| New Filter Vent No.: (7.[8][A]): | 72 | 72 | 13 |
| WIPP-Approved Filter Vent (7.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (7.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (7.[11]): | Ø | Ø | Ø |

## ATTACHMENT 1
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | | |
|---|---|---|---|---|
| Container Number (7.[1]): | | 5870258 | 5855126 | 55298 |
| Hydrogen Reading (ppm) (7.[10]): | | 4623.92 ppm | 4289.72 ppm | Ø ppm |
| Methane Reading (ppm) (7.[10]): | | Ø ppm | Ø ppm | Ø ppm |
| Total VOC Reading (ppm) (7.[11]): | | Ø ppm | Ø ppm | Ø ppm |
| Filter Type (7.[9][F][c]/7.[9][G][a]): | | 72 | 72 | 13 |
| WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]): | | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | 038371 |
| Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | 5/6/11 |
| Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | ± 3% |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☑ YES ☐ NO ☐ N/A |
| Filter Torque Value (7.[9][F][a]/7.[9][G][d]) * | | N/A | N/A | 10 ft/lbs. |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments:
N/C

11.1[1] Performed By: Alicia Herrera (Waste Handling Operator (print)) (Signature) 198450 (Z #) 11/31/11 (Date)

11.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

11.1[7][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 32,000 ppm
- VOC – less than or equal to 7,000 ppm

11.1[7][B]/ 11.1[8] Reviewed By: Kenny Romero (Waste Handling Supervisor (print)) Kenny Romero (Signature) 117881 (Z #) 2-3-11 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110128c\
Data File : S855126.D
Acq On : 28 Jan 2011 11:04 am (#1); 28 Jan 2011 11:03 am (#2)
Operator : GR
Sample :
LastName : Unit 8
Misc : 55 GALLON LFL DRUM FROM UNDER DRUM LID (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 28 11:12:15 2011
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.243 | 96 | 4554399 | 209.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.930 | 117 | 3713125 | 184.00 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 5.861 | GC1 | 1086232m | 4289.72 | ppm | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Fri Jan 28 11:12:22 2011

5-1-13

0600 Assuming WCRF operations center, reloads
0615 Pre job being conducted by SOS
0617 Starting outside rounds
0620 Starting inside rounds.
0624 Item #3 is unsat, FSR in place OK to proceed.
0644 Item #3 is OOS, POD in place OK to proceed
0648 Inside and outside rounds ~~0655~~ 0713 complete.
0717 Rounds have been signed off by SOS
0735 mode change performed TA50-69 and WCRF yard now in operations
0830 Bagging on S 855126 after demesting is complete
0905 Demesting complete, S855126 is complited bag on
1028 Bagging off 1 daughter.
1033 Starting movement out of SC-69
1046 Bag on, Bag off complete.
1120 movement complete out of SC-69.
1211 Bagging off 1 daughter 1 POC
1238 Bag off of 1 daughter 1 POC complete
1441 Bagging off S855126, Bagging on S832241
1443 Demesting S832241 then will be bagging on
1521 Completed bag on and demesting.
1525 Starting outside rounds
1530 Item #3 is unsat, FSR in place OK to proceed
1546 Completed outside rounds
1550 Starting inside rounds.
1615 Item #3 is OOS, POD in place OK to proceed.
1618 Inside rounds complete.
1624 Bagging off 1 daughter.
1640 Bag off, Bag on complete.
1800 Starting bag off of S832241
1824 Completed bag off of S832241
1835 mode change performed TASC-69 and WCRF yard on items
1852 Starting movement out of SC-69.
1903 Completed movement out of SC-69.

Continued on next page - Checks

5-1-13 Continued from previous page - cadde
1905 Completed movement out of 50-69
1910 mode change performed 50-69 in cold and WCRRF
in warm standby
5-1-13 1915 End of day WCRRF operations water release - CVCos
JJ

SLB

No further entries this page

5/1/13

0000 Reviewed the previous shift turnovers and assumed the WCRR SOM position. (continued on back)
0615 Attended the pre job briefing conducted by the SOS. Discussed immediate corrective action with SSO performing independant verification. Discussed unexpected verification and post te surveillances.
0640 Call in with the SOD
0700 Call into daily T454 SOM shift debrief.
0730 Notified by operations shift FE002 is making a louder noise that's constant SOM will communicate with CSE and OM
0735 Mode Change complete WCRR YARD/ST 49 from WINTER/WARM to OPERATIONS/OPERATIONS
0736 Late entry 0730 - Spoke with CSE and he concluded that (2) rings need to be changed at discretion of OM and operations. SOM requested SOM to follow through with MSS (operations) may continue processing. (2) work package is on yard. Need to obtain signatures. Can perform work on 5/2/13. OM notified.
0825 Reviewed and Signed off on RCRTs for the week of 4/22/13
0900 Attended the critique for processing the incorrect drum into ST 49 at T446. Corrective actions: 1) Shift under explanation (s) of instructions for moving waste containers between the transportainers and building T-42 & 9. 2.) Procedure clarification on expectations. Immediate actions taken upon discovery. 1) All waste container numbers were located on the DMAR/ Drager Sheets 2.) SSO independantly verify all transfers
1115 SOM wrote up Standing Order WCRR-SH-13-002-OM approved.
1200 Daily call in with the PM and OM to status WCRR and DVS.
1340 Released WO# 458894-0150-54 (M) Wet Auto Sprinkler System.
1400 Spoke to MSS supervisor and planner on FE002 maintenance. They will go review work package and part availability and will call SOM back with status of work schedule.
1500 SOM going to T446 to review work packages.
1630 SOM retained back from reviewing work packages. Work package for FE002 USE didn't have mode applicability. Laurence Garcia USE preparer was notified and changes were made. Work package is ready to work on 5/2/13. MSS personnel will be available first thing tomorrow morning 0700 hrs.
1735 Notified by Inventory Control that Re-pack database and Oracle

SIGNATURE DATE
READ AND UNDERSTOOD DATE

5-1-13
aren't allowing creation of daughter drums or POCs for drum ~~#S8322241~~ #S8322410. C. Fernandez from WCATs has been notified and is working issue.
1750 C. Fernandez notified Inventory Control that issue needs to be solved by another W-CATS employee. Employee has been notified.
1800 SOM notified. Authorized a few people to stay late to accomodate movements out and to place facility in COLD standbye.
1820 Processing complete on drum #S8322241. Waiting on WCATs personnel.
1835 Mode change complete. WCRR YARD/5069 from OPERATIONS/OPERATIONS to WARM/WARM.
1836 SOM notified SOS to send personnel home and leave only enough personnel to perform movement. RP-1 supervisor notified as well.
1840 WCATS C. Fernandez called issue on database has been corrected. Inventory Control reviewed and labels were printed and database updated.
1845 Late entry 1737 notified by SOS that containment pallets are on-site and have been placed in transportainer.
1905 Movements complete. WCRR processed 2 spurts resulting in 4 spurts and 2 POCs.
1910 Mode change complete. WCRR YARD/5069 from WARM/WARM to WARM/COLD to support maintenance on 5.2.13.
1915 Securing the SOM position. Jacqueline D. Miranda

CT 5-1-13

No further entries this page.

Jacqueline D. Miranda

5·1·13

WCRRF SOS LOGBOOK

5/1/13 0600 Assuming SOS position for the day Jan J-e
0615 Pre-Job brief being given by the PLC. Discussed operators ensuring that verification is made when calling out Parent drum numbers if to inventory control. Rewing two way communication. Discussed incident of wrong Parent number being processed and events that led up to it. Critique being held today to discuss and investigate further. Also discussed respirator incident that happened at TA-54, stressed to operators to ensure their respirators are working properly and inspect filters and cracks around the mouth piece. Also discussed operators shaking out their leather gloves prior to use to ensure any objects or items that may have been dropped in are cleaned out prior to putting them on.
0635 Starting Monthly RWP Brief, Pre job concluded.
0700 RWP Brief complete.
0717 Reviewed and signed inside and outside rounds.
0735 Mode Change Complete, WCRR yard and SD-69 are in Operations
0830 Starting to D-Vest 1 Parent from 85 gallon overpack and Bag on
0905 D-Vesting and Bag on Complete.
1000 Operators describing that parent drum that is currently bagged on had aproximately 5 gallons of liquids in it pH showing acidic
1300 Operators breaking for lunch
1400 Operators returning from lunch
1443 Bagging off first drum D-Vesting and bagging on second Parent
1520 D-Vesting and Bag on Complete
1723 Reviewed and signed inside and outside rounds.
1834 Inventory Control unable to print labels for the daughter drums that were generated. Inventory Control and a couple of operators staying late so that waste Containers can be moved out to go to COID

tonight so that maintenance can start their work package on FE-002 first thing in the morning.

1835 Mode change complete. WCRR yard and 50-69 are in WARM

~~1910 Securing SOS position for the day.~~ JJ 5-1-13

5:15 ~~AHO~~ JJ 5-1-13 Computer system operational, labels are being printed out so that daughters can be moved out

~~1915~~ JJ 5-1-13 Movement out of the facility complete.

1910 Mode Change complete WCRR Facility in COLD, ~~50-69~~ JJ 5-1-13

5/1/13 Yard is in WARM

1915 Securing SOS position for the day. Jen Jay

No further entries on this Page

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0067 |
| Examination Date: | 5/6/2013 |
| Waste Container ID: | 93597 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0067 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 158.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 125.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 93597

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | Wire brush |
| R: | |
| XPM: | Plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP):Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 12.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 0.5 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 106.6 |
| Soils (S): | |
| Total WMP Weight: | 125.1 |

# CCP Radiography Data Sheet



Waste Container ID: 93597

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments:
N/A

RTR Operator:

| Benito Maestas | B [signature] | 5/6/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 93597 | | Count Sequence Number: | 22742 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 5/8/2013 10:31:05 AM | | | | |
| Description 1: | 1LANDA1767 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 125.0 kg | Net: | 125.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 85.0 % | |
| Density: | | 0.710 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

013

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22742 | Batch Number: | 1LANDA1767 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93597 | Analysis Date: | 5/8/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 125000.0 g | | |
| Pu mass | 3.73E+001 | +- 7.39E+000 | g |
| TRU Alpha Activity | 9.02E+000 | +- 1.30E+000 | Ci |
| TRU Activity Concentration | 7.22E+004 | +- 1.04E+004 | nCi/g |
| Pu-239 Equivalent Activity | 9.13E+000 | +- 1.30E+000 | Ci |
| Pu-239 FGE | 3.48E+001 | +- 6.86E+000 | g |
| Decay heat | 2.94E-001 | +- 4.30E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.44E-001 | 1.03E-004 | 1.92E-005 | 4.03E-006 |
| PU238 | 6.16E-003 | 1.05E-001 | 2.09E-002 | 5.17E-005 |
| PU239 | 3.46E+001 | 2.14E+000 | 4.25E-001 | 1.05E-003 |
| PU240 | 2.62E+000 | 5.95E-001 | 1.18E-001 | 2.92E-004 |
| AM241 | 1.80E+000 | 6.18E+000 | 1.22E+000 | 3.03E-003 |
| PU241 | 5.92E-002 | 6.10E+000 | 1.21E+000 | 2.99E-003 |
| PU242 | 1.53E-002 | 6.05E-005 | 1.20E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.73E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 8.73E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.61E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.19E-005 |
| AM243 | 2.30E-003 | 4.60E-004 | 8.69E-005 | 1.20E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 6.5.14

ITR: _____ Date: 6.6.14

014
PJ 6/9/14

## Automated Independent Technical Review

Count Sequence Number: 22742 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93597
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |

015
6/6/14

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results. |

Expert Review by: Bart B. Mauck Date: 6/3/14

015A
C8 6/9/14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93597**

BDR Number: **LA13FG2056**

Sampling Date: **5/15/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 475.70 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0067 |
| Examination Date: | 5/6/2013 |
| Waste Container ID: | 93598 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0067 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 168.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 134.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 93598

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | |
| R: | |
| XPM: | Plastic lid, plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP):Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 3.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 127.6 |
| Soils (S): | |
| Total WMP Weight: | 134.6 |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 93598

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments:
N/A

RTR Operator:

| Benito Maestas | | 5/6/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 93598 | | Count Sequence Number: | 22748 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 5/8/2013 2:43:26 PM | | | | |
| Description 1: | 1LANDA1767 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 135.0 | kg | Net: | 135.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 85.0 % |
| Density: | | 0.760 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

033
C&A 9/14

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22748 | Batch Number: | 1LANDA1767 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93598 | Analysis Date: | 5/8/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 135000.0 g | | |
| Pu mass | 1.23E+002 | +- 2.83E+001 | g |
| TRU Alpha Activity | 2.08E+001 | +- 3.11E+000 | Ci |
| TRU Activity Concentration | 1.54E+005 | +- 2.31E+004 | nCi/g |
| Pu-239 Equivalent Activity | 2.11E+001 | +- 3.12E+000 | Ci |
| Pu-239 FGE | 1.15E+002 | +- 2.63E+001 | g |
| Decay heat | 6.72E-001 | +- 1.02E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.66E-001 | 1.18E-004 | 2.31E-005 | 5.70E-006 |
| PU238 | 2.04E-002 | 3.48E-001 | 8.00E-002 | 5.17E-005 |
| PU239 | 1.14E+002 | 7.08E+000 | 1.63E+000 | 1.05E-003 |
| PU240 | 8.66E+000 | 1.97E+000 | 4.52E-001 | 2.92E-004 |
| AM241 | 3.31E+000 | 1.14E+001 | 2.61E+000 | 1.69E-003 |
| PU241 | 1.96E-001 | 2.01E+001 | 4.63E+000 | 2.99E-003 |
| PU242 | 5.06E-002 | 2.00E-004 | 4.59E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.40E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.23E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.48E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 3.81E-005 |
| AM243 | 3.68E-003 | 7.36E-004 | 1.45E-004 | 1.69E-005 |

Errors quoted at 1.000 sigma

Operator: DEAC Date: 6.5.14

ITR: [signature] Date: 6.6.14

034
CS 6/9/14

## Automated Independent Technical Review

Count Sequence Number: 22748 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93598
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |

035
CS 6/9/14

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results. |

Expert Review by: Bart B. Marak Date: 6/3/14

035A
CJ 6/9/14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93598**

BDR Number: **LA13FG2055**

Sampling Date: **5/14/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 299.69 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130514c\
Data File : 93598.D
Acq On : 14 May 2013 2:26 pm (#1); 14-May-13, 14:26:03 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 14 15:34:54 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.574 | 96 | 4146082 | 201.25 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.904 | 117 | 3582768 | 177.00 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.611 | GC1 | 2130m | 299.69 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

S855126



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0067 |
| Examination Date: | 5/6/2013 |
| Waste Container ID: | 93599 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0067 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 161.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 16.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 40 % |

# CCP Radiography Data Sheet



Waste Container ID: 93599

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bag

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 109.0 |
| Plastics (PP):Rigid Liner/Lid Liner Bag (Inside POC) | 8.1 |
| Other:Fiberboard (CP), Liner/Sleeve(Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 1.5 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 12.9 |
| Soils (S): | |
| Total WMP Weight: | 16.4 |

# CCP Radiography Data Sheet



Waste Container ID: 93599

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments:
Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Benito Maestas | | 5/6/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 93599 | | Count Sequence Number: | 22745 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 5/8/2013 12:37:15 PM | | | | |
| Description 1: | 1LANDA1767 | | | | |
| Description 2: | POC - Gross Wt. = 161.5 Kg | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 16.4 | kg | Net: | 16.4 kg |
| Container: | Volume: | 208.0 | l | Full: | 95.0 % |
| Density: | | 0.677 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22745 | Batch Number: | 1LANDA1767 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93599 | Analysis Date: | 5/8/2013 |

| | | |
|---|---|---|
| Net Weight | 16400.0 g | |
| Pu mass | 4.91E+000 +- | 1.20E+000 g |
| TRU Alpha Activity | 1.90E+000 +- | 1.05E+000 Ci |
| TRU Activity Concentration | 1.16E+005 +- | 6.37E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.91E+000 +- | 1.05E+000 Ci |
| Pu-239 FGE | 4.59E+000 +- | 1.12E+000 g |
| Decay heat | 6.25E-002 +- | 3.49E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.40E-002 | 1.00E-005 | 1.88E-006 | 1.47E-006 |
| PU238 | 8.12E-004 | 1.40E-002 | 3.44E-003 | 5.23E-005 |
| PU239 | 4.56E+000 | 2.87E-001 | 7.02E-002 | 1.07E-003 |
| PU240 | 3.46E-001 | 7.94E-002 | 1.94E-002 | 2.96E-004 |
| AM241 | 4.36E-001 | 1.51E+000 | 1.04E+000 | 6.59E-002 |
| PU241 | 7.80E-003 | 8.11E-001 | 1.98E-001 | 3.02E-003 |
| PU242 | 1.97E-003 | 7.81E-006 | 1.91E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.76E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.05E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 9.32E-007 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.04E-005 |
| AM243 | 4.08E-004 | 8.23E-005 | 1.52E-005 | 4.26E-006 |

Errors quoted at 1.000 sigma

Operator: D. R. [signature] Date: 5-15-13

ITR: [signature] Date: 5-15-13

## Automated Independent Technical Review

Count Sequence Number: 22745 Batch Number: 1LANDA1767
Counter ID: MCS HENC #1
Container ID: 93599
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 5/8/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 5-9-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **93599**

BDR Number: **LA13FG8032**

Sampling Date: **5/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 371.64 | |
| 74-82-8 | Methane | 213.40 | U |
| 67-56-1 | Methanol | 27.87 | U |
| 60-29-7 | Ethyl Ether | 1.25 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.71 | U |
| 67-64-1 | Acetone | 16.90 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.24 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.55 | U |
| 78-93-3 | Methyl ethyl ketone | 9.86 | U |
| 110-82-7 | Cyclohexane | 5.84 | U |
| 71-43-2 | Benzene | 0.71 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.51 | U |
| 71-36-3 | 1-Butanol | 1.36 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.34 | U |
| 108-88-3 | Toluene | 3.46 | |
| 108-90-7 | Chlorobenzene | 1.69 | U |
| 100-41-4 | Ethylbenzene | 2.62 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.48 | U |
| 95-47-6 | o-Xylene | 1.76 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 3.14 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 3.92 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

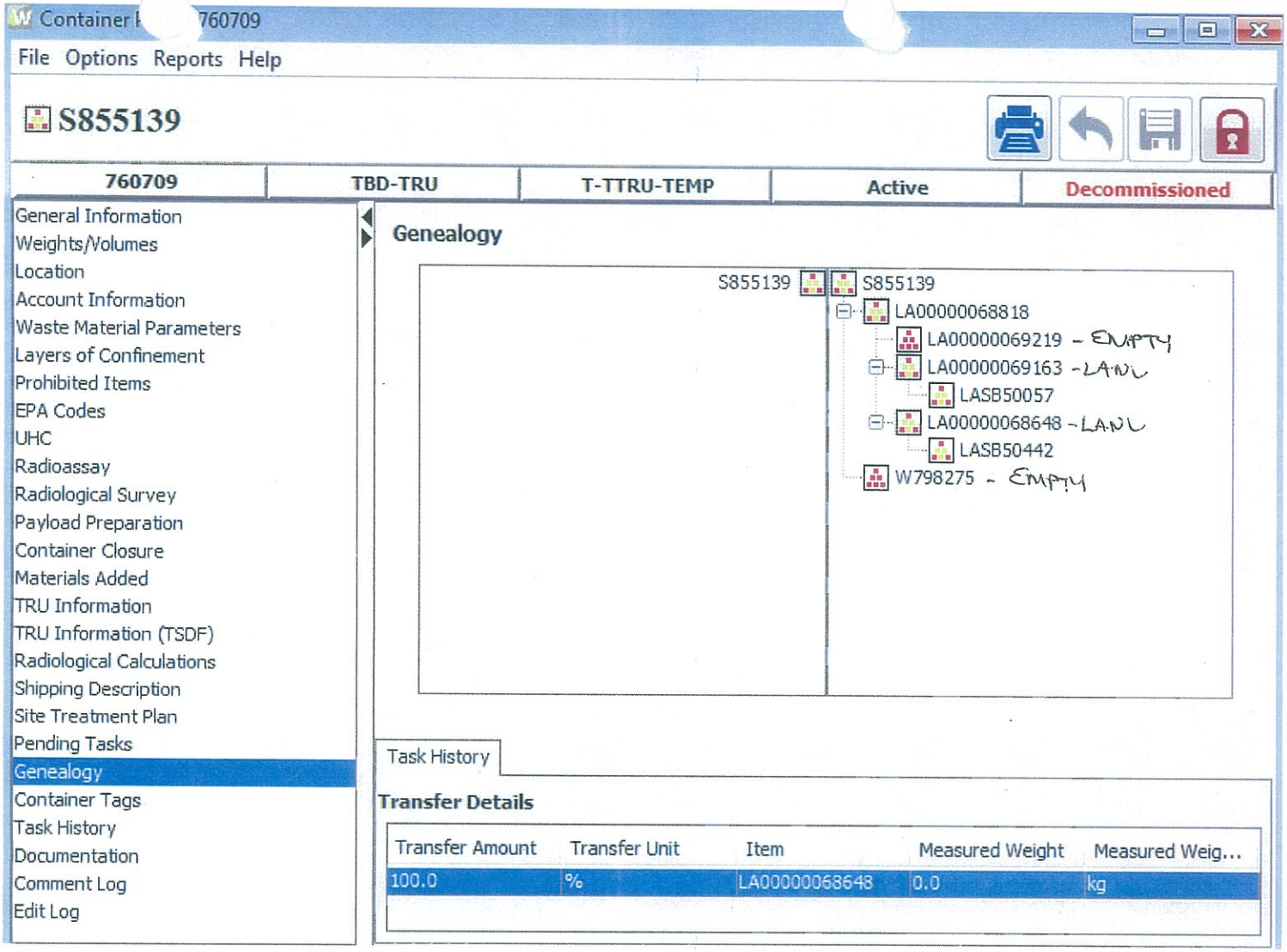
Data Path : C:\msdchem\1\DATA\130522C\
Data File : 93599.D
Acq On : 22 May 2013 3:22 pm (#1); 22 May 2013 3:21 pm (#2)
Operator : RJ
Sample :
InstName : Unit 8
Misc : POC through filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 22 15:29:26 2013
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.259 | 96 | 2303679 | 206.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.939 | 117 | 2032322 | 179.50 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 5.268 | GC1 | 91826 | 371.64 | ppm | 100 |
| 17) Toluene | 4.779 | 92 | 16252 | 3.46 | ppm | 97 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855139


760709
File Options Reports Help
S855139
760709
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S855139
S855139
LA00000068818
LA00000069219 - EMPTY
LA00000069163 - LANL
LASB50057
LA00000068648 - LANL
LASB50442
W798275 - EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
100.0
%
LA00000068648
0.0
kg

5855139

49163

68648



ATTACHMENT 1
Page 1 of 4

1-11-14 ω

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 68818

6.2[4] Date Processed: 1-11-14

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 0190605
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2)
_____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb: BG 1-11-14
☑ YES ☐ NO ~~☐ N/A~~ ☑ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ~~☐ N/A~~ ☑ N/A BG 1-11-14 1-11-14

Performed By: _____ / _____ / _____ / _____
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 68818

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 467.6 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 105.0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 572.6 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A
EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 6881

| | | Daughter Drums | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 691163 ✓ | 686948 ✓ | | |
| 10.1[4] | Daughter Drum Filter No. | JL-838 | LH-322 | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10357 | L-6732 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501892 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | ☐ NO | ☑ N/A | |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | ☐ NO | ☑ N/A | |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | N/A | N/A | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | N/A | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 5 GALLONS | 2 GALLONS | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | N/A | LEAD SHIELDING | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | SEE COMMENTS | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 60% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | BAG OUT STUBS, KITTY LITTER | BAG OUT STUBS, KITTY LITTER | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 68914

Comments: Room Trash, Plastics, Nitrate Salts, Kitty Litter, Lead Shielding, Hex Armours.

11.1[1] Performed By: Beau Gallegos / Bi Dang 12/07/29 1-11-14
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Martinez / [illegible] 1/11/14 1005
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238364
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Tolerance: | | |

Overpack filtered vent information:

Manufacturer:
Model No.:
Serial No.:
Manufacture Date:

PREPARED AT TA-54

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ Yes ☐ No

5. [11] Performed By: _____ / _____ / _____ / _____
Waste Handling Technician (print) Signature Z# Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb

5. [18] 2-in. bung plug torque value: _____ ft-lb

Comments: _____

8.1[1] Performed By: Brian Gallegos / Brian Gallegos / 267129 1-11-14
Waste Handling Technician (print) Signature Z# Date

8.1[6] Reviewed By: Gilbert Martinez / Gilbert Martinez per email 144251 1/12/14
Supervisor or designee (print) Signature Z# Date

**ATTACHMENT 5**
Page 1 of 1

1-11-14 RV

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 69219

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038370
- Cal. Expiration Date: 8-02-14
- Range in ft-lb: 10-80
- Tolerance: ±3% or ±6% CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brian Gallegos / B. Gallegos 260129 1-11-14
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 0190665
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): _____ lb

Comments: N/C

8.1[1] Performed By: Brian Gallegos / B. Gallegos 260129 1-11-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez / [illegible] 1/12/14 149355 1/12/14
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 1
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET 1/5/14 HS

5.[34][E] Drum ID No.: 69163

5.[3] Drum information:
Purchase Order No.: 501892
Lot No.: 0244449
Manufacture Date: 2013

Drum Liner Bag/Filter Assembly:
Manufacturer: BDP
Model No.: 6 C PVC
Serial No.: L-10367
Manufacture Date: 05/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11/12/14 | 08/05/14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | ±4%CW±6%CCW | ±3%CW±6%CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Jon Romero / [signature] / 1109702 / 1/5/14
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: JL-838
Manufacture Date: 10/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 69163

Comments: N/C

[redacted]

5.[35] Performed By: Jo Romano [signature] 11/19/2021 Z# 6/5/14 Date
Operator (print) Signature

7.1[4] Reviewed By: Gilbert T Martinez [signature] M2251 11/17/14 Date
Supervisor or designee (print) Signature Z#

**ATTACHMENT 2**
Page 1 of 2

**WCRRF DRUM CLOSURE DATA SHEET**

6.[3] Drum ID No.: 69163

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-02-14
Range: 16-80 ft-lb
Tolerance (+/-): ±3% CWF 6% CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: BRIAN GALLEGOS / [signature] 267129 1-11-14
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range: | in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69163

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 413.8 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: BRIAN GALLEGOS / Brian Gallegos 1269129 1-11-14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] 1149257 1/12/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 11/12/13 HS

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68648

5.[3] Drum information:
- Purchase Order No.: 501578
- Lot No.: 0240119
- Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BAP
- Model No.: HDPE 1.5-2SPVC
- Serial No.: L-6732
- Manufacture Date: 1/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 8-05-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | 140cw ± 6dccw | ±30cw ± 6dccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: MICHAEL NOWOSAD [signature] [signature] 191352 / 11/12/13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
- Manufacturer: Millipore
- Model No.: 0190S
- Serial No.: LM-322
- Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68648

Comments: n/a

5.[35] Performed By: MICHAEL MONTOYA / [signature] 191352 / 11/12/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] 1492351 / 11/12/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

**WCRRF DRUM CLOSURE DATA SHEET**

6.[3] Drum ID No.: 68648

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-02-14
Range: 16-80 ft-lb
Tolerance (+/-): ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brian Gallegos / Brian Gallegos 1267129 1-11-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range: | in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: _____ / _____ / _____ / _____
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

ATTACHMENT 2
Page 2 of 2

6.[3] Drum ID No.: 686648

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 268.6 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/A

6.[32] Performed By: Brian Gallegos (Operator (print)) [signature] (Signature) 260729 (Z #) 1-11-14 (Date)

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) [signature] (Signature) 1491351 (Z #) 1/11/14 (Date)

rking Copy
ate: 1-11-14

**ATTACHMENT 3**
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 1-11-14 - 68818

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3,6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 467.6

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: Bruno Gallegos / Bi Nguyen 126729 1-11-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez 146235 1/12
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Gilbert Martinez 146235 1/12/14 1005
SOS/SOM or designee (print) Signature Z # Date Time

Salvage ex 1940 SP70

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Production Control** Container re-labeled @ 413 new id given in WRTS. B Smyth 12/2/13

Container ID: S855139 / 68818 Container Type: 85-GAL Gross Weight (lbs): 478

Inner Seal #: 021290 Filter Prefix: LAVC Filter Serial #: 01777; 03683

AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR

TWSR Comments: LEACHED SOLIDS MST 12 A0743

Total PE-Ci Activity: 5.93E+00 Equivalent Combustible PE-Ci: 2.22E+00 AM-241 PE-Ci: 4.98E-01

Total Fissile Gram Equivalents: 64.3 Total Surface Dose Rate (mrem/hr): 10

EPA Code(s): [redacted],D009

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 7/2/2007 Comment: Impenetrable Obj.

Certified RTR Comment: None

Prohibited Items: ■ Sealed > 4 Liters ■ Liquid ■ Pressurized Container ✔ Impenetrable Item ■ Other

Security Determination: ✔ Green ] Yellow

Remediation Determination: VE ☑ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): <100 [ ] >100 and <1,000 ☑ >1,000 and <10,000 >10,000

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) / Signature / 100681 (Z Number) / 11/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ] Unknown

Processing Determination: ☒ Accept Reject

WDP Engineering Comments: Nitrate Salts
Net Wt 418#. Generator info shows 13 items of nitrate salts, with weights ranging from 14-35#. No RTR BDR. RTR PS shows impenetrable item(s). Nitrate salts typically packaged in plastic bags i- other debris t/or undocumented liquids often present. Applicable waste codes for lead, mercury, & chromium. Repack with admixture required.

Performed By: Valerie Rhodes (WDP Engineering (Print)) Valerie Rhodes (Signature) 111260 (Z Number) 1/7/13 (Date)

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available

Other Specific Safety Concerns: Use Proper PPE And Kitty Litter Rebs

Processing Determination: ✓ Accept [ Reject

TRU Remediation Operations Comments: Do not push or press on waste with hands. Use hexarmour gloves during processing.

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) / Signature / 114235 (Z Number) 12/6/13 (Date)

Jose Jerez / 221452 12/6/13

IHS REVIEW: RS 206362 11.27.12 NOTES: D007 = chromium D008 = LEAD

## Noncertified TRU Waste Drum Item Information

DrumID: 021290

| Item No. | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SMX4-25NE1 | | 13.060 | NITRATE SALTS | | 13.69 | 52 | 1/13 | G468 |
| 2 | SLR9-24NW1 | | 15.610 | NITRATE SALTS | | 2.77 | 52 | 1/13 | G468 |
| 3 | SLA3-27NW1 | | 7.360 | NITRATE SALTS | | 4.76 | 52 | 1/13 | G468 |
| 4 | SLA5-31NW1 | | 6.670 | NITRATE SALTS | | 7.47 | 52 | 1/13 | G468 |
| 5 | SPRI-29NW1 | | 6.800 | NITRATE SALTS | | 2.99 | 52 | 1/13 | G468 |
| 6 | SRR1-29NE1 | | 6.900 | NITRATE SALTS | | 4.1 | 52 | 1/13 | G468 |
| 7 | SLR1026NW1 | | 10.030 | NITRATE SALTS | | 16.61 | 52 | 1/13 | G468 |
| 8 | SLR1026NE1 | | 13.830 | NITRATE SALTS | | 3.12 | 52 | 1/13 | G468 |
| 9 | SLR1128NW1 | | 13.130 | NITRATE SALTS | | 3.26 | 53 | 1/13 | G468 |
| 10 | SMX5-35NF1 | | 12.290 | NITRATE SALTS | | 5.82 | 52 | 1/13 | G468 |
| 11 | SOX4-33NW1 | | 11.830 | NITRATE SALTS | | 1.42 | [redacted] | 1/13 | G468 |
| 12 | SLR1334NE1 | | 10.650 | NITRATE SALTS | | 1.54 | 53 | 1/13 | G468 |
| 13 | SLR1232NE1 | | 7.830 | NITRATE SALTS | | 0.89 | 53 | 1/13 | G468 |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 216.8

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 62.75 | 104.38 |
| 53 | 5.69 | 31.61 |
| Totals | 68.44 | 135.99 |

**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 1/21/11

7.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Erik Lacchelli | Erik Lacchelli | 123485 | 1-31-11 |
| / | / | / | / |

| Container No. (7.[1]): | S793757 | S855139 | S822643 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (7.[1]): | 55 gal | 55 gal | 55 gal |
| Current Filter Vent No. (7.[1]): | 72 | 72 | 72 |
| New Filter Vent No.: (7.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filter Vent (7.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (7.[10]) | | |
| Benzene | 10.87 | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | 30.74 | | |
| 1-Butanol | | | |
| Methanol | | 36.64 | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (7.[11]): | 41.61 | 36.64 | Ø |

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | | |
|---|---|---|---|---|
| | Container Number (7.[1]): | S1973157 | S8551159 | SB22643 |
| | Hydrogen Reading (ppm) (7.[10]): | 684.00 ppm | 2102.43 ppm | Ø ppm |
| | Methane Reading (ppm) (7.[10]): | Ø ppm | Ø ppm | Ø ppm |
| | Total VOC Reading (ppm) (7.[11]): | 41.61 ppm | 36.64 ppm | Ø ppm |
| | Filter Type (7.[9][F][c]/7.[9][G][a]): | 72 | 72 | 72 |
| | WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]): | SAT | SAT | SAT |
| | Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| | Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| | Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| | Filter Torque Value (7.[9][F][a]/7.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments:
All 55 gallon drums were sampled from inside an 85 gallon overpack.

11.1[1] Performed By: Alicia Herrera / [signature] 198450 / 1/26/11
Waste Handling Operator (print) Signature Z # Date

11.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

11.1[7][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT
- Hydrogen – less than or equal to 32,000 ppm
- VOC – less than or equal to 7,000 ppm

11.1[7][B]/ Reviewed By: Kenny Romero / Kenny Romero 111886 1.31.11
11.1[8] Waste Handling Supervisor (print) Signature Z # Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110121c\
Data File : S855139.D
Acq On : 21 Jan 2011 12:29 pm (#1); 21 Jan 2011 12:28 pm (#2)
Operator : GR
Sample :
InstName : Unit 8
Misc : 55 GAL DRUM FROM INSIDE 85 GAL OVERPACK. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 21 12:36:28 2011
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.246 | 96 | 4352896 | 209.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.933 | 117 | 3582548 | 184.00 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 5.347 | GC1 | 532371 | 2102.43 | ppm | 100 |
| 4) Methanol | 0.788 | 31 | 26520 | 36.64 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Fri Jan 21 12:36:50 2011

1114
0935 Journey WCRRF Operations center - Cleveland.
0945 Pre job briefing conducted by SOS
0950 Pre job concluded by SOS
0930 Starting outside rounds.
0935 Starting inside rounds.
0950 Outside rounds completed
0701 ~~Inside~~ rounds completed
0722 inside rounds complete
0728 Rounds signed off by SOS.
0730 mode change to operations, TASK 69 and WCRRF yard.
0755 Moving out of 50-69
0804 Starting to desist 4 drums.
0814 movement out of 50-69 is complete
0820 Desisting complete, Bagging on 68742
0937 Bag on complete
1102 Bagging off 2 daughters, Bagging on 68818.
1138 Bag off and Bag on complete
1327 Bagging off 1 daughter bagging on another daughter
1339 Bag on, Bag off complete
1420 Bagging off, Bagging on U8826
1442 Bag on, Bag off complete
1443 Starting outside rounds
1452 noticed by operators that drum U8826 is full of water and gearbox has water in parts. Cats maintenance and operators cleaning up
1516 Starting inside rounds. outside rounds complete.
1520 Starting movement into 50-64 4 drums
1525 Bagging off 1 daughter, Bagging on 1 daughter
1537 Return to 69 in OOS, PCC in place okay to proceed per 1st Amendment
1542 Bag off is complete movement into 50-69 complete
1553 Starting movement out 50-69
1600 Inside rounds complete
1620 Movement out of 50-64 complete.
1451 Bagging off 1 daughter and PCC with Dust on pant cover.
- Continued on next page -

Tot Dougle 68815

1-11-14 -Continued from previous page- Reloaded
1730 ~~Began~~ @ 1-11-14 Bay 06 complete.
1735 Starting move out of 50-69
1755 Mode Change to Warm Standby 50-69 and work yard,
1758 movement out of 50-69 complete.
1-11-14 1800 End of day work operations center Secure Crib
Bay

no further entries this page

1/11/14 WCRR SOM

0600 Assumed the WCRR SOM position. L →

0630 Completed attending the pre-job brief conducted by SOS (G Martinez). Discussed attention to detail in all things - not just processing / operations but support functions as well. Work for today to include denesting and prep of 4 drums first thing (SP-723). Station 2 inner lead window was broken yesterday - operators are using steel plate instead of lead window for shielding (lower window)

0730 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations.

0731 Operators reset thermostat in 50-69 to 68°F.

0734 Late Entry @ 0725 - Contacted ES Lead working @ Dome 412 regarding RWP for processing in glovebag. RP-1 does not have it yet however work is continuing without - Localized ventilation is being used which is acceptable under current RWP being worked to. J. Cassel cleared w RP-1 that this is an acceptable path forward for this drum. LRC

0819 Completed move out of 5 drums from 50-69 to transportainer

0930 Denesting operations completed of 4 drums - bagging on drum #68742.

0937 Bag on completed.

1000 SOM going to TA-54 to see 412 operations

1100 Meeting w/ J. Cassel at Bldg 412 noted the following - 1st drum was completed under the drum time head - pump was drained of all liquids w/ 2 daughters being generated. Operators were in process of moving in second drum to work. Certification of Glove bag proposed to take place in afternoon, after completion of second drum.

1215 SOM back on site @ WCRR

1220 Late Entry @ 1138 - Completed all bag offs for parent #68742 (2 daughters total), bagged on drum #68818. LRC

1442 Completed all bag offs for parent #68818 (2 daughters total), bagged on drum #68826

1452 Ops center notified that drum on WCC when opened was full of liquid - enough to flow into drum ports along bottom of WCC RCT's are monitoring for dose - operators taking steps to absorb and clean up.

continued on next page →

11/11/14 WCRR SOM continued.

1542 Completed bag off of 1 daughter. Continuing to process

1620 Completed move in of 4 drums to process and move out of 6 drums to transportainers

1700 ES SOS for 412 operations reported completing process operations for day - finishing up housekeeping and WCATS updates. Completed drill and drain on 2 parents producing 4 daughters total Certification of glovebag was also completed.

1730 Completed all bag offs for parent # 68824 (2 daughters and 1 POC total). Port Cover is in place

1740 Verified thermostat in 50-69 set to 72°F.

1755 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations/Operations to Warm/Warm.

1758 Completed move out of 4 drums to transportainers.

1815 Secured the SOM position.

No further entries this page

PROJECT NAME WCFR SGS LOG Book NOTEBOOK NO.

1/11/19

0600 Assuming SGS Position .5 ft 11y

0615 Conducted Shift Brief discussed drum transfer and Annealing. Also discussed replacement of Lead lined Glass on station 2 was replaced with steel Plate Per operators makes more sense to have Plate Vs. Glass on this station.

0630 Pre Job concluded

0924 Removed waste and out side Rounds.

0930 Mule Change Complete WCFR In operations.

0955 Moving out of SG 69

0804 Starting to dismount 4 drums.

0814 Move out complete

0930 Dismounting Complete bagging on 68742

0937 Bag on Complete

1106 Bagging off 2 daughters Bagging on 68818

1138 Bag on left Complete

1327 Bagging off 1 daughter Bagging on another

1354 Bag on left Complete

1420 Bagging off on 68826

1448 Bag on left complete

1448 starting Rounds

1452 metrician log survey that drum 68826 is full of water and Rubber has water in Pads Rct will monitor and survey will clean viz.

1520 Starting movement to be SG-69 4 drums

1525 Bagging off 1 daughter Bagging on another

1547 Bag off for Complete movement to Complete

1553 starting Move out

1620 Move out complete

1651 Bagging off 1 daughter and POC last drum for day

1720 Bag off Complete

1735 Starting Move out of SG-69

1752 Mule Change Completed WCFCC For Winter

1758 Move out complete

1/11/19 1830 end of Day Securing SGS Position 2 Lids Up

WA

no further entries on this page

Best Available Copy

SIGNATURE _____ DATE _____ 20

READ AND UNDERSTOOD _____ DATE _____ 20

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0006 |
| Examination Date: | 1/16/2014 |
| Waste Container ID: | 69163 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0006 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 187.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 153.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 69163

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags, 90 mil liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 147.6 |
| Soils (S): | |
| Total WMP Weight: | 153.6 |

# CCP Radiography Data Sheet



Waste Container ID: 69163

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Michael Simmons | | 1/16/2014 |
|---|---|---|
| Print Name | Signature | Date |

5855139

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69163 | | Count Sequence Number: | 24212 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/27/2014 10:00:51 AM | | | | |
| Description 1: | 1LANDA1899 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 154.0 kg | Net: | 154.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 95.0 % | |
| Density: | | 0.780 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24212 | Batch Number: | 1LANDA1899 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69163 | Analysis Date: | 1/27/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 154000.0 g | | |
| Pu mass | 3.26E+001 | +- 1.44E+001 | g |
| TRU Alpha Activity | 8.07E+000 | +- 4.02E+000 | Ci |
| TRU Activity Concentration | 5.24E+004 | +- 2.61E+004 | nCi/g |
| Pu-239 Equivalent Activity | 8.14E+000 | +- 4.02E+000 | Ci |
| Pu-239 FGE | 3.06E+001 | +- 1.44E+001 | g |
| Decay heat | 2.63E-001 | +- 1.33E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.10E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 8.70E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.69E-006 |
| NP237 | 9.62E-002 | 6.78E-005 | 1.34E-005 | 3.92E-006 |
| PU238 | 3.56E-003 | 6.10E-002 | 3.01E-002 | 1.22E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.93E-005 |
| PU239 | 3.05E+001 | 1.89E+000 | 8.93E-001 | 3.77E-002 |
| PU240 | 2.04E+000 | 4.62E-001 | 2.28E-001 | 9.22E-003 |
| AM241 | 1.65E+000 | 5.65E+000 | 3.91E+000 | 1.93E-001 |
| PU241 | 4.07E-002 | 4.19E+000 | 2.07E+000 | 8.36E-002 |
| PU242 | 8.15E-003 | 3.22E-005 | 1.59E-005 | 0.00E+000 |
| AM243 | 4.31E-003 | 8.62E-004 | 1.72E-004 | 1.25E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 2-4-14

ITR: _____ Date: 2.4.14

10 2.4.14

## Automated Independent Technical Review

Count Sequence Number: 24212 Batch Number: 1LANDA1899
Counter ID: MCS HENC #1
Container ID: 69163
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/27/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Shari Chamberlain Date: 1-29-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69163**

BDR Number: **LA14FG2010**

Sampling Date: **1/29/2014**

5855139

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 424.91 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140129C\
Data File : 69163.D
Acq On : 29 Jan 2014 12:11 pm (#1); 29-Jan-14, 12:10:38 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 29 12:19:23 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.588 | 96 | 3403689 | 205.75 | ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.881 | 117 | 2688404 | 177.50 | ppmv | 0.02 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.622 | GC1 | 3195 | 424.91 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | | |
|---|---|---|
| [X] RTR Examination | [ ] RTR Replicate Scan | [ ] RTR Independent Observation |
| Site ID: | LANL | |
| Batch Number: | LA-RTR2-14-0005 | |
| Examination Date: | 1/15/2014 | |
| Waste Container ID: | 68648 | |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0005 | A&B |
| Procedure and Revision No.: | CCP-TP-053 | Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A | |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 122.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 88.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 55 % |

# CCP Radiography Data Sheet



Waste Container ID: 68648

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | Leather gloves |
| R: | |
| XPM: | Plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 23.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 1.5 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 60.1 |
| Soils (S): | |
| Total WMP Weight: | 88.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68648

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 1/15/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68648 | Count Sequence Number: | 24162 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 1/21/2014 3:30:50 PM | | |
| Description 1: | 1LANDA1894 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 88.6 kg | Net: | 88.6 kg |
| Container: | Volume: 208.0 l | Full: | 55.0 % |
| Density: | 0.770 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24162 | Batch Number: | 1LANDA1894 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68648 | Analysis Date: | 1/21/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 88600.0 g | | |
| Pu mass | 6.64E+001 | +- 2.70E+001 | g |
| TRU Alpha Activity | 1.63E+001 | +- 2.82E+000 | Ci |
| TRU Activity Concentration | 1.84E+005 | +- 3.19E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.64E+001 | +- 2.82E+000 | Ci |
| Pu-239 FGE | 6.25E+001 | +- 2.69E+001 | g |
| Decay heat | 5.32E-001 | +- 9.17E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.21E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.06E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.78E-006 |
| NP237 | 1.72E-001 | 1.22E-004 | 2.38E-005 | 4.35E-006 |
| PU238 | 7.27E-003 | 1.24E-001 | 5.67E-002 | 1.46E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.68E-005 |
| PU239 | 6.22E+001 | 3.85E+000 | 1.67E+000 | 4.53E-002 |
| PU240 | 4.15E+000 | 9.43E-001 | 4.29E-001 | 1.11E-002 |
| AM241 | 3.31E+000 | 1.14E+001 | 2.24E+000 | 2.03E-001 |
| PU241 | 8.30E-002 | 8.55E+000 | 3.90E+000 | 1.00E-001 |
| PU242 | 1.66E-002 | 6.57E-005 | 2.99E-005 | 0.00E+000 |
| AM243 | 7.06E-003 | 1.41E-003 | 2.79E-004 | 1.42E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.22.14

ITR: _____ Date: 1.23.14

## Automated Independent Technical Review

Count Sequence Number: 24162 Batch Number: 1LANDA1894
Counter ID: MCS HENC #1
Container ID: 68648
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/21/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Gamma data specified as input. | Results taken from quantitative gamma data. |
| Results taken from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis<br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 1-22-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68648**

BDR Number: **LA14FG2009**

Sampling Date: **1/24/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

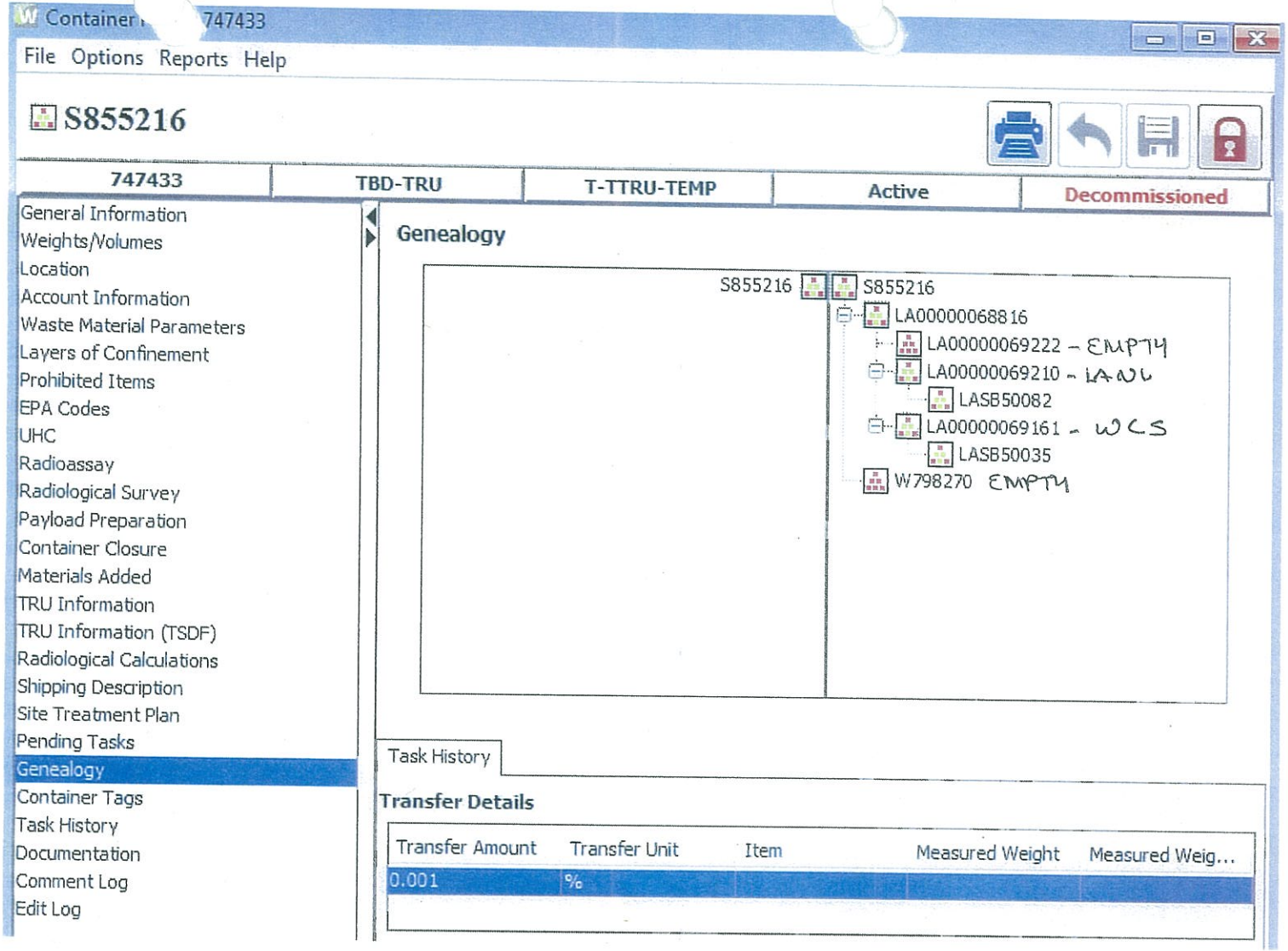
Data Path : C:\msdchem\1\DATA\140124c\
Data File : 68648.D
Acq On : 24 Jan 2014 1:47 pm (#1); 24-Jan-14, 13:46:25 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH ~~FITTER~~ FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1 1-24-14 SA

Quant Time: Jan 24 13:55:09 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.584 | 96 | 2890585 | 205.75 | ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.887 | 117 | 2353931 | 177.50 | ppmv | 0.03 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855216


Container 747433
File Options Reports Help
S855216
747433
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S855216
S855216
LA00000068816
LA00000069222 - EMPTY
LA00000069210 - WCS
LASB50082
LA00000069161 - WCS
LASB50035
W798270 EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
0.001
%

UE Working Copy 1-12-14

S855216

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 68816

6.2[4] Date Processed: 1-12-14

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brian Gallegos Brian Gallegos 267129 1-12-14
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 68816

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 447.4 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): _____ lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) _____ lb

6.2[7] (S) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☐ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A

Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight: N/A

EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 68816

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 69161 | 69210 | N | |
| 10.1[4] | Daughter Drum Filter No. | JL-832 | JL-808 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10358 | L-12764 | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501892 | 501892 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | ☐ NO | ☑ N/A | |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | ☐ NO | ☑ N/A | |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | N A | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | N | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | A | |
| 10.3[5][A] | Free Liquid Volume/Units | 3 GALLONS | 2 GALLONS | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | LEAD SHIELDING | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N A | N A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | SEE COMMENTS | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 95% | 70% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | BAG OUT STUBS, KITTY LITTER | BAG OUT STUBS, KITTY LITTER | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 68816

Comments: ROOM TRASH, PLASTICS, NITRATE SALTS, KITTY LITTER, LEAD SHIELDING.

11.1[1] Performed By: BRIAN GALLEGOS / [signature] / 267129 1-12-14
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Darrel L. Blain / [signature] 1218069 / 1-21-14 1502
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 1-12-14

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238366-1
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Tolerance: | | |

Overpack filtered vent information:

Manufacturer:
Model No.:
Serial No.:
Manufacture Drum Prepared at TA-54
Manufacture Date:

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ Yes ☐ No

5. [11] Performed By: _____ / _____ / _____
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb

5. [18] 2-in. bung plug torque value: _____ ft-lb

Comments: _____

8.1[1] Performed By: Bernard Gallegos / Bernard Gallegos 286729 1-12-14
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Darrel L. Blain / Darrel L. Blain 218069 1-21-14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

Working Copy
Date: 1-12-14

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 69222

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038370
- Cal. Expiration Date: 08/02/14
- Range in ft-lb: 16-80
- Tolerance: ±3%-cw ±6%-ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Bevan Gallegos / B. Gallegos / 267129 1-12-14
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☐ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 177.0 lb

Comments: n/c

8.1[1] Performed By: Brandon Chacz / [signature] 220742 11-12-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Darrel L. Blain / [signature] 218069 11-21-14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

...rking Co...
Date: 1/5/14 HS

**WCRRF DRUM PREPARATION DATA SHEET**

5.[34][E] Drum ID No.: 69161

5.[3] Drum information:
Purchase Order No.: 501892
Lot No.: 0244449
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC
Serial No.: L 10358
Manufacture Date: 6/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11/12/14 | 8/5/14 |
| Range: | 40-200 in-lb | 16/80 ft-lb |
| Tolerance (+/-): | +/-4% CW<br>+/-6% CCW | +/-3% CW<br>+/-6% CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Joe Quintana (Operator (print)) Joe Q (Signature) 289967 (Z #) 1/5/14 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019 DS
Serial No.: JL 832
Manufacture Date: 10/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 69161

Comments: N/C

5.[35] Performed By: JOE QUINTANA (Operator (print)) Joe Q (Signature) 239987, 1/5/14 (Z # Date)

7.1[4] Reviewed By: Darrel L. Blair (Supervisor or designee (print)) Darrel L Blair (Signature) 1218069, 1-21-14 (Z # Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 69161

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-02-14
Range: 16-80 ft-lb
Tolerance (+/-): ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brian Gallegos / Brian Gallegos / 2167129 / 1-12-14
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range: | in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69161

6.[26] Scale File ID number: 091065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 370.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: BRIAN GALLEGOS / Brian Gallegos / 267129 / 1-12-14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Darrel L. Blain / Darrel L. Blain / 219069 / 1-21-14
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 1-11-14 aw

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 69210

5.[3] Drum information:
Purchase Order No.: 501892
Lot No.: 0244449
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: ISOP
Model No.: 6CRVC1.5-2SPVC
Serial No.: L-12764
Manufacture Date: 7/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 030245 |
| Cal. Expiration Date: | 11/12/14 | 8/15/14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | ±4%CW ±6%CCW | ±3%CW ±6%CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brian Cardova (Operator (print)) [signature] (Signature) [illegible] (Z #) 1/9/14 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 0190S
Serial No.: JL-808
Manufacture Date: 10/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 69210

Comments: N/C

5.[35] Performed By: Brian Lowdon (Operator (print)) (Signature) RB75** (Z #) 11/6/14 (Date)

7.1[4] Reviewed By: Daniel L. Blain (Supervisor or designee (print)) (Signature) 121869 (Z #) 11-21-14 (Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 69210

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-02-14
Range: 16-80 ft-lb
Tolerance (+/-): ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Bruno Gallegos / Bruno Gallegos 1260129 1-12-14
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☐ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range: | in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N / N / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69210

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 288.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Brandon Chavez / [signature] 204742 11-12-14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Darrel L. Blain / [signature] 1219069 11-21-14
Supervisor or designee (print) Signature Z # Date

UET Working Copy
Date: 1-12-14

**ATTACHMENT 3**
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 68816

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 0190165
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 447.4

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: Brian Gallegos / Bri Gallegos / 206729 1-12-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Darrel L. Blain / Darrel L Blain / 218068 / 1-21-14
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Darrel L. Blain / Darrel L Blain / 218068 11-21-14 / 1500
SOS/SOM or designee (print) Signature Z # Date Time

1954 SP77

# LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

New container used @ 412 given new id in WCATS B. Smyllie 12/2/13

**Planning and Technical Solutions**

Container ID: S855216 \ 688116 Container Type: 85 GAL DRUM Gross Weight (lbs): 516.1275
Total PE-Ci Activity: 2.38E+00 Equivalent Combustible PE-Ci: 8.94E-01
Total Fissile Gram Equivalents: 2.08E+01 Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): D007; D008; D009
Waste Description: Nitrate salts

Remediation/Characterization Activities: Ensure EPA Codes D007, D008, and D009 are indicated on the Haz Waste Label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Drum venting and gas sampling completed on 2/27/13. Attachment 3 of DOP-1030 is attached. RTR pre-screen indicates liquids in 90 mil liner, lead liner, and rigid liner in the drum.
Potential Safety Risks: Nitrate salt drums often contain free liquids and are packaged in individual plastic bags. Net weight is ~295 lbs. and generator data shows 15 items of nitrate salts with weights ranging from ~12–27 lbs.

Performed By: Susan Ramsey (LTP-PTS (Print)) Susan S. Ramsey (Signature) 100681 (Z#) 8/15/13 (Date)

## IHS Representative

Potential IHS Safety Risks: Many Contain D007, D008 and D009 Many Contain free liquids, Also No other hazards identified

Performed By: Tommy Sandoval Tommy Sandoval 124659 8-25-13
IHS Representative (Print) Signature Z# Date

## LTP Engineering

Waste container remediation compliant with applicable facility safety basis requirements: ☒ Yes ☐ No
Engineering Comments: NA

Performed By: Valerie Rhodes Valerie Rhodes 112609 9/30/13
LTP Engineering (Print) Signature Z# Date

## TRU Remediation Operations

Potential Safety Risks: USE Proper. PPE And Kitty Litter Ratio

Performed By: Gilbert Martinez Gilbert Martinez 149235 12/6/13
TRU Operations (Print) Signature Z# Date

## Operations Manager or designee

Processing Determination: ☒ Accept ☐ Reject
OM or designee Comments: Do not push or press on waste with hands. Use heavy gloves during processing. Use the proper tool for the job.

Approved By: Jose Jerez Jose Jerez 221452 12/6/13
OM or designee (Print) Signature Z# Date

## Noncertified TRU Waste Drum Item Information

DrumID: 021412

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 8LA6-43NW1 | | 6.970 | NITRATE SALTS | | 0.51 | 54 | 1/13 | G468 |
| 2 | 8LR1741NW1 | | 10.290 | NITRATE SALTS | | 1.03 | 54 | 1/13 | G468 |
| 3 | 8LR1842NE1 | | 14.760 | NITRATE SALTS | | 0.68 | 54 | 1/13 | G468 |
| 4 | 8LR2046NW1 | | 10.450 | NITRATE SALTS | | 5.92 | 54 | 1/13 | G468 |
| 5 | 9LA1-1NE1 | | ✓5.640 | NITRATE SALTS | | 0.56 | 54 | 1/13 | G468 |
| 6 | 9LR1-2NW1 | | 8.090 | NITRATE SALTS | | 0.97 | 53 | 1/13 | G468 |
| 7 | 9RR1-3NE1 | | 5.060 | NITRATE SALTS | | 2.89 | 52 | 1/13 | G468 |
| 8 | 9OX1-5NE1 | | ✓12.350 | NITRATE SALTS | | 2.59 | 52 | 1/13 | G468 |
| 9 | 9OX2-7NE1 | | 9.830 | NITRATE SALTS | | 1.89 | 52 | 1/13 | G468 |
| 10 | 8LA7-45NE1 | | 8.120 | NITRATE SALTS | | 0.58 | 54 | 1/13 | G468 |
| 11 | 8LR1944NW1 | | 11.440 | NITRATE SALTS | | 0.43 | 54 | 1/13 | G468 |
| 12 | 9LR2-4NW1 | | 6.510 | NITRATE SALTS | | 0.83 | 53 | 1/13 | G468 |
| 13 | 9LR3-6NW1 | | 7.380 | NITRATE SALTS | | 0.53 | 52 | 1/13 | G468 |
| 14 | 9MX1-8NW1 | | 7.660 | NITRATE SALTS | | 1.95 | 52 | 1/13 | G468 |
| 15 | 9MX1-9NE1 | | 9.530 | NITRATE SALTS | | 1.34 | 52 | 1/13 | G468 |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 205.5

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 11.19 | 51.81 |
| 53 | 1.8 | 14.60 |
| 54 | 9.71 | 67.67 |
| Totals | 22.7 | 134.08 ✓ |

ATTACHMENT 3
Page 1 of 3

## TA-54 AREA G DRUM VENTING DATA SHEET

7.[2] Waste Container Unique Identifier: 9855216

7.[3] Personnel stationed to prevent unauthorized entry into the 30-ft standoff distance outside of dome. ☑ SAT ☐ UNSAT ☐ N A

7.[5] (S) Personnel have exited the 30-ft standoff distance. (SAC 5.6.4.3)

55-gal drum: ☑ SAT ☐ UNSAT ☐ N A

85-gal drum: ☐ SAT ☐ UNSAT ☑ N A

**NOTE** *All of the following data spaces may or may not be completed based on the drum configuration. For example an unvented 55-gal drum without an 85-gal overpack drum would use a short-stem, filtered vent (NucFil-7DS) and the 85-gal overpack drum information is N A. An unvented 55-gal drum overpacked into an unvented 85-gal overpack drum requires the completion of all of the following data spaces.*

7.[9]

| Head Space Gas sample results: | 85-gal (☑ N A) | 55-gal (☐ N A) |
|---|---|---|
| Hydrogen | ____ % | 0.126844 % |
| Methane | ____ ppm | 0.000 ppm |
| VOC | ____ ppm | 35.58 ppm |
| Filter Vent Unique Identifier No. | ____ | AN-369 |
| Filter Vent Installed: | | |
| Stub Stem (e.g., NucFil-007S) | ☐ (☑ N A) | ☐ (☑ N A) |
| Short Stem (e.g., NucFil-7DS) | ☐ (☑ N A) | ☐ (☑ N A) |
| Long Stem (e.g., NucFil-08DS) | ☐ (☑ N A) | ☑ (☐ N A) |

ATTACHMENT 3
Page 2 of 3

7.[2] Waste Container Unique Identifier: S855216

7.[10] (S) Waste container VENTED DRUM criteria: (TSR 1.1)

- Stub Stem (e.g., NucFil-007S) (Acceptance Criteria: WIPP-Approved Filtered Vent installed, ≤ 6.4% $H_2$, ≤ 7,000 ppm VOC, and 16,000 ppm Methane)
  - 55-gal drum: ☐ SAT ☐ UNSAT ☑ N/A
  - 85-gal drum: ☐ SAT ☐ UNSAT ☑ N/A
- Short Stem (e.g., NucFil-7DS) (Acceptance Criteria: WIPP-Approved Filtered Vent installed, ≤ 6.4% $H_2$, ≤ 7,000 ppm VOC, and 16,000 ppm Methane)
  - 55-gal drum: ☐ SAT ☐ UNSAT ☑ N/A
  - 85-gal drum: ☐ SAT ☐ UNSAT ☑ N/A
- Long Stem (e.g., NucFil-08DS) (Acceptance Criteria: WIPP-Approved Filtered Vent installed, ≤ 4.8% $H_2$, ≤ 5,250 ppm VOC, and ≤ 12,000 ppm Methane)
  - 55-gal drum: ☑ SAT ☐ UNSAT ☐ N/A
  - 85-gal drum: ☐ SAT ☐ UNSAT ☑ N/A

7.[11][A] Waste drum venting status: ☐ UNVENTED ☑ N/A

7.[11][B][a] Number of required WIPP-approved filtered vents
- 85-gal Waste Container ____ ☑ N/A
- 55-gal Waste Container ____ ☑ N/A

7.[11][B][c] (S) Personnel have exited the 30-ft standoff distance (SAC 5.6.4.3)

| Filter Vent | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 85-gal | | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A | | | | |
| 55-gal | | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A | ☐ SAT ☐ UNSAT ☑ N/A |

**ATTACHMENT 3**
Page 3 of 3

7[2] Waste Container Unique Identifier: 5855216

7[11][B][f] Number of WIPP-approved filtered vents installed:
- 85-gal Waste Container _____ ☑ N/A
- 55-gal Waste Container _____ ☑ N/A

| Filter Vent | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 85-gal | Type | | | | | | | | |
| | Unique Identifier No. | | | | N/A | | | | |
| 55-gal | Type | | | | | | | | |
| | Unique Identifier No | | | | | | | | |

7[11][F] Drum-lid restraint inspected for degradation (e.g., no indication of cracked parts, missing fasteners, loose or frayed parts, excessive wear, or unusual deformation): (SAC 5.6.4.5.1) ☐ SAT ☐ UNSAT ☑ N/A

7[11][H] Drum-lid restraint installed: (SAC 5.6.4.5.1) ☐ SAT ☐ UNSAT ☑ N/A

7[12] Waste drum status:
- 85-gal Waste Container ☐ VENTED ☑ N/A
- 55-gal Waste Container ☑ VENTED ☐ N/A

7[13][A] (S) 55-gal waste containers to be transferred to WCRRF satisfy the following criteria (WCRRF SAC 5.10.2.3.4.a) BJ 2/14/13 ☑ SAT ☐ UNSAT ☐ N/A
- Hydrogen concentration less than or equal to 2.4% (24,000 ppm)
- VOC less than or equal to 5,250 ppm

Comments: N/A

7[11][H] Performed By: Chris Vigil 163082 2-27-13
7[23] UET Operations Technician (Signature) (Printed) Date

7[13] Verify adsorbent beakers ON and thermocouple set ☐ SAT ☑ UNSAT

7[13] Reviewed: Chris Vigil 163082 2-27-13
UET Shift Manager (Signature) (Printed) Date

# DVS Gas Determination Results Report

Date: 2/27/2013

Waste Container Number: 5855216

Batch Number: DVS2130227

Filter Type Installed: 08DS

Number of Filters Installed: 1

## Flammable Volatile Organic Compounds (VOCs)

| Compound | Concentration (ppmV) | Upper Calibration Range (ppmV) | Exceeds Calibration (Y/N) | Calculated Value (if exceeds calibration) |
|---|---|---|---|---|
| Methanol | 32.87 | 1591.00 | N | N/A |
| Diethyl Ether | 0 | 503.00 | N | N/A |
| 1,1 Dichloroethene | 0 | 402.80 | N | N/A |
| Acetone | 2.71 | 1502.00 | N | N/A |
| 1,1-Dichloroethane | 0 | 400.80 | N | N/A |
| Cis 1,2-Dichloroethene | 0 | 400.20 | N | N/A |
| Methyl Ethyl Ketone | 0 | 1503.00 | N | N/A |
| Cyclohexane | 0 | 497.30 | N | N/A |
| Benzene | 0 | 1492.00 | N | N/A |
| 1,2-Dichloroethane | 0 | 400.80 | N | N/A |
| N-Butyl Alcohol | 0 | 200.20 | N | N/A |
| Methyl Isobutyl Ketone | 0 | 501.90 | N | N/A |
| Toluene | 0 | 1491.00 | N | N/A |
| Chlorobenzene | 0 | 186.60 | N | N/A |
| Ethylbenzene | 0 | 100.00 | N | N/A |
| m,p-Xylene | 0 | 100.09 | N | N/A |
| o-Xylene | 0 | 100.30 | N | N/A |
| 1,3,5-Trimethylbenzene | 0 | 50.64 | N | N/A |
| 1,2,4-Trimethylbenzene | 0 | 50.17 | N | N/A |

## Flammable Tentative Identified Compounds (TIC)

| Compound | Concentration (ppmV) | CAS Number |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

| Total Flammable VOCs | 35.58 | I.V.R. Intial and Date | KP 5-15-13 |
|---|---|---|---|

| Compound | Concentration | | Upper Calibration Range | | Exceeds Calibration (Y/N) |
|---|---|---|---|---|---|
| Hydrogen | 0.126844 | % | 6.45 | % | N |
| Methane | 0.000 | ppm | 15990.00 | ppm | N |

**Comments:**

AN-369

Doug Eisele
DVS Operator Print Name

Signature

05-15-13
Date

1114 Manning WCRRF Operations Center - Orlando
1330 Pre-job being conducted by SOS.
1415 Starting inside rounds
1427 Starting outside rounds
1449 Outside rounds complete
1457 Item #3 OCS, PID in place & Key to proceed per CSE Documentation
1603 Inside rounds complete
1708 Rounds signed off by SOS
1719 Made Change to operations inside TASD49 and WCRRF yard
1746 Bagging on W8759
1758 Bag on complete
0830 Bagging off Idaughter, Bagging on another
0855 Bag on, Bag off complete
0933 Starting to almost 4 drums, bagging off the two wells bag on W8816
1042 Restarting as complete bagging on W8816 and bagging off W8759
1138 Operators notified Ops center that small forklift is leaking oil. SOM directed operator to move forklift out of yard and SOM has initiated Caution tag. FSR will be submitted.
1146 Bagging off Idaughter, Bagging on Idaughter
1150 Submitted a FSR # 116309 for small forklift leak.
1207 Bag on, Bag off complete
1250 Bagging off, Bagging on W8716
1411 Bag on, Bag off complete
1418 Starting inside 4 drums
1435 Starting movement out of ST-69
1509 Movement out of ST-69 complete
1521 Item (3) (c) OCS. PID in place & Key to proceed per CSE Documentation.
1525 Starting movement into ST-69
1536 All inside rounds complete.

~Continued on next page~Orlando

1-12-14

1540 Starting outside rounds.
1543 Movement into SD 69 complete
1553 Outside rounds complete
1600 Bagging off, bagging on W8815
1628 Bag on, bag up complete
1805 Bagging off (daughters) area will be installing patches.
1806 FCO in gauge ~~PT~~ PDI 069 is not a required gauge for containment ventilation operation rule.
VSV-172 and VSV-175 are closed isolating the open ducts from main duct work. Containment Ventilation is determined to be operable per SOM and CRM.
1838 Bag off complete.
1838 made changes to admin, Mod 69 and work plan
1-12-14 1900 End of day (CCRT operations) Outside rounds complete

Jeff Ventilation Status Brief

11/12/14 WCRR SOM.

0600 Assumed the WCRR SOM position.

0630 Completed attending the pre job brief conducted by SOS G. Martinez. ESH safety topic was pay attention to pinch points - last work day of week so finish safely. Discussed work plan for today - have one drum ready to put on box and 4 for denesting/prepping. Operators discussed having enough Kitty litter staged in WCC in case another SP72 drum contains large amounts of liquid similar to third drum process yesterday

0709 Completed Mode Change WCRR Yard/Bldg 50-69 from Warm/Warm to Operations/Operations

0758 Completed bag on of parent # 68759

0855 Completed bag off of 1 daughter, Continuing to process

1042 Operators reported denesting of 4 drums completed. All bag offs for parent # 68759 are complete (2 daughters total) and bagged on drum # 68816.

1140 Operators reported hydraulic leak on mast of small Toyota Forklift. Forklift moved to admin yard next to Bldg 50-54, and caution tagged "Do Not use". FSR submitted # 116309

1207 Completed bag off of 1 daughter, continuing to process

1411 Completed all bag offs for parent # 68816 (2 daughters total), bagged on drum # 68760.

1445 SOS ~~for cot~~ MR 11/12/14 reported that SED's package for drum # 58619 could not be found. Holding off moving drum into 50-69 until package is located or reproduced from Sol. Package Manager.

1545 During MOV walkdown of WCRR Yard identified gage lines to PDI-009 are seperated from gage. Gage reading is not a credited reading for operation of the Ventilation System and is not on daily roundsheets. Notified OM.

1555 Notified Engineering On Call L Moore regarding PDI-009 gage lines He will notify CSE C. Pilcher and start work package to troubleshoot/repair. Recommended closing isolation valves if possible to isolate openings from main duct work. will investigate if location of valves will allow. Directing RP-1 to perform survey even though gage lines are downstream of HEPA filters

Cont next page →

1/12/14 WCRR SOM continued.

1652 Survey of gage lines for PDI-009 are MOA. Values US-V-172 and 175 are closed. ~~700 - Prompt~~ Immed. Operability Determination completed that Confinement Vent Sys is operable. Gage lines from main duct work are isolated and PDI-009 is not a credited gage for system operation. O.M concurs. MM 1/12/14

1700 Late Entry @ 1628 Completed all bag offs for parent #68760 (1 daughter total), bagged on 68815. MM

1805 Bagging off 2 daughters

1810 Verified 50-69 thermostat is reset to 77°F.

1832 All bag offs completed for parent # 68815 (2 daughters total). Port Cover in place.

1835 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Warm

1840 SOS reported that operators performed a sweep up of the WCG. Did not have time for a thorough wipe down and glove inspection.

1900 Secured WCRR SOM.

No further entries + end of page MM

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PROJECT NAME UCRK 565 LTG Book

NOTEBOOK NO.

1/17/14

0600 Resuming Position [illegible]

0615 Conducting Shift Turnover

0620 Starting Rounds

0630 Conducted shift brief

0708 Reviewed Tonside Notebookside Rounds.

0709 Made Changes Complete UCRKF for corrections.

0748 Bagging on 68756

0758 Bag on Complete

0830 Bagging off / Daughter Bagging on shuttle

0855 Bag on/off complete

0933 starting to descend 11 drums bagging off for 68816

1042 Descending and bag on/off complete

1138 Operators noticed small Forklift Leak, oil pan cap was found out in yard Carbon Tag was applied FSK will be Submitted

1146 Bagging off / Daughter bagging on Another

1207 Bag on/off Complete

1251 Bagging off for 68760

1411 Bag on/off Complete

1448 Starting Rounds

1455 starting crane end of 50-65

1505 Crane end Complete

1525 Movement Into 50-65 started.

1529 Movement In Complete.

1620 Bagging off for 68815

1128 Bag on/off Complete

1805 Starting bag, off at final drum

1833 bag off Complete

1835 Made Changes Complete UCRKF In Laundry

1/17/14 1845 End of Day SECURING SGS Position [illegible]

no further entries on this page

Best Available Copy

SIGNATURE _____ DATE _____ 20

READ AND UNDERSTOOD _____ DATE _____ 20

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0007 |
| Examination Date: | 1/17/2014 |
| Waste Container ID: | 69161 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0007 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 167.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 134.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 69161

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: Plastic bags, 90 mil liner lid |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 8.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 126.1 |
| Soils (S): | |
| Total WMP Weight: | 134.1 |

# CCP Radiography Data Sheet



Waste Container ID: 69161

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Michael Simmons | | 1/17/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69161 | | Count Sequence Number: | 24153 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/18/2014 2:25:12 PM | | | | |
| Description 1: | 1LANDA1893 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 134.0 kg | Net: | 134.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 85.0 % | |
| Density: | | 0.760 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

DS 1-23-14
~~33~~
32

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24153 | Batch Number: | 1LANDA1893 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69161 | Analysis Date: | 1/18/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 134000.0 g | | |
| Pu mass | 8.65E+000 | +- 3.64E+000 | g |
| TRU Alpha Activity | 5.02E+000 | +- 8.81E-001 | Ci |
| TRU Activity Concentration | 3.75E+004 | +- 6.58E+003 | nCi/g |
| Pu-239 Equivalent Activity | 5.06E+000 | +- 8.82E-001 | Ci |
| Pu-239 FGE | 7.97E+000 | +- 3.62E+000 | g |
| Decay heat | 1.65E-001 | +- 2.92E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 1.27E-008 | 1.75E-006 | 9.24E-007 | 0.00E+000 |
| CS137 | 2.01E-008 | 1.75E-006 | 9.24E-007 | 7.68E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.39E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.87E-006 |
| NP237 | 7.78E-002 | 5.48E-005 | 1.07E-005 | 2.84E-006 |
| PU238 | 2.05E-003 | 3.51E-002 | 1.69E-002 | 2.19E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.53E-005 |
| PU239 | 7.87E+000 | 4.88E-001 | 2.24E-001 | 3.05E-002 |
| PU240 | 7.40E-001 | 1.68E-001 | 8.08E-002 | 1.05E-002 |
| AM241 | 1.26E+000 | 4.33E+000 | 8.48E-001 | 1.32E-001 |
| PU241 | 2.31E-002 | 2.38E+000 | 1.15E+000 | 1.49E-001 |
| PU242 | 9.54E-003 | 3.77E-005 | 1.81E-005 | 0.00E+000 |
| AM243 | 1.95E-003 | 3.90E-004 | 7.67E-005 | 8.77E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.22.14

ITR: _____ Date: 1.23.14

DS 1.23.14

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## Automated Independent Technical Review

Count Sequence Number: 24153 Batch Number: 1LANDA1893
Counter ID: MCS HENC #1
Container ID: 69161
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/18/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,54,53 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 1-21-14

DS 1-23-14

~~35~~ 34

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69161**

BDR Number: **LA14FG2012**

Sampling Date: **1/31/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 220.37 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140131c\
Data File : 69161.D
Acq On : 31 Jan 2014 12:54 pm (#1); 31-Jan-14, 12:54:07 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 31 13:02:58 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.558 | 96 | 3258784 | 205.75 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 2499089 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.615 | GC1 | 1657m | 220.37 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| ☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0007 |
| Examination Date: | 1/17/2014 |
| Waste Container ID: | 69210 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0007 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | ☒ No ☐ Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 130.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 97.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes<br>Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil<br>Vented: ☐ No ☐ Yes ☒ N/A<br>Punctured: ☒ No ☐ Yes<br>Mechanical Vent: ☒ No ☐ Yes<br>Fiberboard Liner: ☐ No ☒ Yes<br>Lead Lined: ☒ No ☐ Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 55 % |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 69210

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 20.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 71.1 |
| Soils (S): | |
| Total WMP Weight: | 97.1 |

# CCP Radiography Data Sheet



Waste Container ID: 69210

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: This Independent Observation agrees with the Original Scan.

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 1/17/2014 |
|---|---|---|
| Print Name | Signature | Date |

5855216



# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69210 | | Count Sequence Number: | 24152 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/18/2014 1:43:15 PM | | | | |
| Description 1: | 1LANDA1893 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 97.1 kg | Net: | 97.1 kg | |
| Container: | Volume: | 208.0 l | Full: | 55.0 % | |
| Density: | | 0.850 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

DS1-23-14
~~30~~
29

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24152 | Batch Number: | 1LANDA1893 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69210 | Analysis Date: | 1/18/2014 |

| | | |
|---|---|---|
| Net Weight | 97100.0 g | |
| Pu mass | 7.15E+000 +- | 1.51E+000 g |
| TRU Alpha Activity | 3.12E+000 +- | 1.41E+000 Ci |
| TRU Activity Concentration | 3.21E+004 +- | 1.45E+004 nCi/g |
| Pu-239 Equivalent Activity | 3.16E+000 +- | 1.41E+000 Ci |
| Pu-239 FGE | 6.58E+000 +- | 1.51E+000 g |
| Decay heat | 1.03E-001 +- | 4.68E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 5.33E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.35E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.22E-006 |
| NP237 | 4.19E-002 | 2.95E-005 | 6.16E-006 | 1.97E-006 |
| PU238 | 1.70E-003 | 2.91E-002 | 7.87E-003 | 1.44E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.44E-005 |
| PU239 | 6.51E+000 | 4.04E-001 | 9.34E-002 | 2.01E-002 |
| PU240 | 6.12E-001 | 1.39E-001 | 3.76E-002 | 6.91E-003 |
| AM241 | 7.43E-001 | 2.55E+000 | 1.41E+000 | 4.18E-002 |
| PU241 | 1.91E-002 | 1.97E+000 | 5.34E-001 | 9.79E-002 |
| PU242 | 7.89E-003 | 3.12E-005 | 8.44E-006 | 0.00E+000 |
| AM243 | 1.07E-003 | 2.14E-004 | 4.49E-005 | 6.06E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1·22·14

ITR: _____ Date: 1·23·14

DS 1·23·14

~~31~~ 30

## Automated Independent Technical Review

Count Sequence Number: 24152 Batch Number: 1LANDA1893
Counter ID: MCS HENC #1
Container ID: 69210
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/18/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,54,53 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 1-21-14

OK 1.23.14
~~32~~
31

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69210**

BDR Number: **LA14FG2012**

Sampling Date: **1/31/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

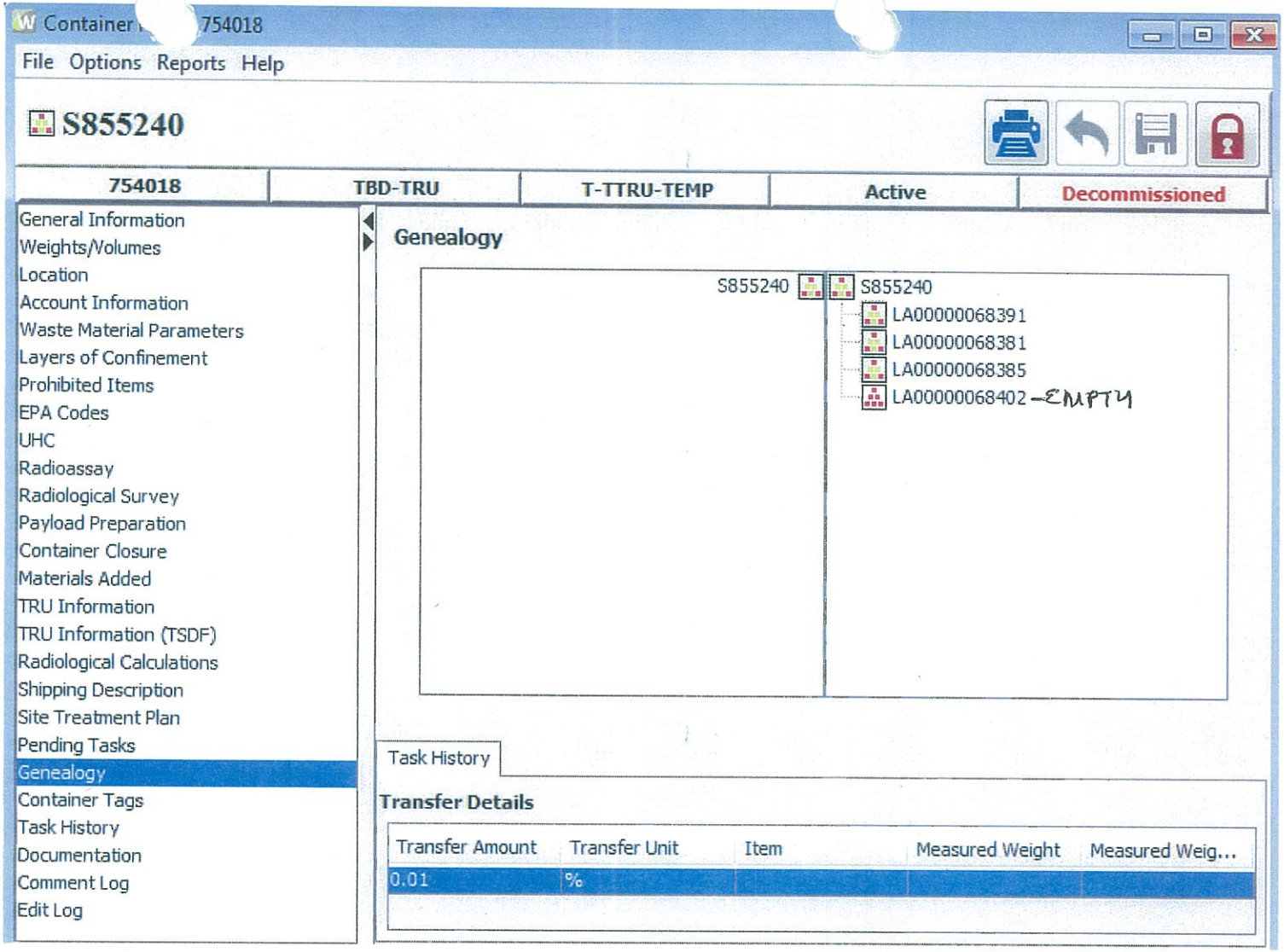
Data Path : C:\msdchem\1\DATA\140131c\
Data File : 69210.D
Acq On : 31 Jan 2014 1:18 pm (#1); 31-Jan-14, 13:18:00 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 31 13:27:37 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.584 | 96 | 3216725 | 205.75 | ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.881 | 117 | 2531931 | 177.50 | ppmv | 0.02 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855240


Container 754018
File Options Reports Help
S855240
754018
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S855240
S855240
LA00000068391
LA00000068381
LA00000068385
LA00000068402 -EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
0.01
%

Working Copy
Date: 9-17-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S855240

6.2[4] Date Processed: 9-17-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009.

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☐ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Frederick Ashley / [signature] 1228826 / 9-17-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: | S855240 |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 431 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 120 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 551 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[17][D] | Drum lift hinge pin retaining clip replaced. | Initials N Z# [illegible] Date |

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S855240

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68381 | 68385 | | |
| 10.1[4] | Daughter Drum Filter No. | KL-549 | KL-538 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6891 | L-8145 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | ☐ NO | ☑ N/A | |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | ☐ NO | ☑ N/A | |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | | | |
| | Model No. | 6x9x(1.5Sac | | | |
| | Serial No. | L-6695 | N | | |
| | Date of Manufacture | 1-13 | | | |
| 10.2[5] | POC ID No | 68391 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | Nitrate salts kitty litter | A | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | BO 204742 | | N | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 388.0 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 690.5 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | N | | |
| 10.3[5][A] | Free Liquid Volume/Units | 3 gal | A | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | lead | lead | N | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See Comments | see comments | A | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 50% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | plastic kitty litter | plastic kitty litter | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5855240

Comments: plastic, Lead, Nitrate salts, Liquid, Kitty litter

11.1[1] Performed By: Brandon Chacon / [signature] RCT 1112 / 9-17-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: G Mz / [signature] 14983 / 9/17/13 1815
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 9-17-13

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 414996
Lot No.: 217520
Manufacture Date: 2011

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 03836 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | ±4%CW ±6%CCW | ±3%CW ±6%CCW |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 01905
Serial No.: EK-1177
Manufacture Date: 5-10

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Brandon Chavez / _____ Z047121 9-17-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / _____ Z047121 9-17-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: G Mh / _____ Z44231 9/17/13
Supervisor or designee (print) Signature Z # Date

Date: 9-17-13w

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68402

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038370
- Cal. Expiration Date: 8-2-14
- Range in ft-lb: 10-80
- Tolerance: ±3%cw ±6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez / [signature] 120717 9-17-13 9-17-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 168.2 lb

Comments: n/c

8.1[1] Performed By: Brandon Chavez / [signature] 120717 9-17-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gust / [signature] 140258 9/17/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 9-10-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68381

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: GCPVC 1.5 - 2 ~~5CPVC~~ 5PVC 7-11-13
Serial No.: L-689L
Manufacture Date: 1-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40 - 200 | 10-80 |
| Tolerance: | ±4% CW ±6% CCW | ±3% CW ±1% CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: IAN MARDUEL (Operator (print)) (Signature) Z76205 (Z #) 9-11-13 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: KL-549
Manufacture Date: 11/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68381

Comments: N/A

5.[35] Performed By: [illegible] Marquez | [signature] | Z76705 | 9.11.13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: G Martinez | [signature] | 144928 | 9/17/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

Working Copy
Date: 9/17/13 HSQ

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 6838

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038376
Cal. Expiration Date: 8-2-14
Range in ft-lb: 10-80
Tolerance: +/- 3% cw +/- 6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brandon Chavez / [signature] Z# 917173 Date
Operator (print) Signature

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Brandon Chavez / [signature] Z# 917173 Date 9-17-13
Operator (print) Signature

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68381

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 325.2 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Brandon Chavez / [signature] Z# 19-1773 Date
Operator (print) Signature

7.1[4] Reviewed By: Gilbert Martinez / [signature] Z# 19235 Date 9/17/13
Supervisor or designee (print) Signature

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 9-10-13a

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 683B5

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: UCPVC 1.5-2 SPVC
Serial No.: L-8145
Manufacture Date: 1-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: IAN MORENO (Operator (print)) (Signature) Z# Date 9-11-13

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: KL 530
Manufacture Date: 11-11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68385

Comments: N/C

5.[35] Performed By: IAN MARQUEZ / [signature] 176705 9-11-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: G HILD / [signature] 149351 9/12/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

Working Copy
Date: 9/17/13 HSW

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 65385

6.[9] Drum closure ring torque wrench information:

| | |
|---|---|
| M&TE No.: | 03 8376 |
| Cal. Expiration Date: | 8-2-14 |
| Range in ft-lb: | 10-80 |
| Tolerance: | +/- 3% CW +/- 6% CCW |

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brandon Chavez / [signature] 104782 9-17-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Brandon Chavez / [signature] 104782 9-17-13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68385

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 326.4 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Bernardo Chavez / [signature] / [illegible] / 9-17-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martin / [signature] / Z4935 / 9/17/13
Supervisor or designee (print) Signature Z # Date

1940
SP70

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S855240 | Container Type: 55-GAL | Gross Weight (lbs): 439
Liner Seal #: 021291 | Filter Prefix: LAVC | Filter Serial #: 01972
Waste Stream: LA-MHD01.001 | Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 A0745
Total PE-Ci Activity: 1.19E+01 | Equivalent Combustible PE-Ci: 4.46E+00 | AM-241 PE-Ci: 1.02E+00
Total Fissile Gram Equivalents: 129.1 | Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): D007; D008; D009
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 4/28/2007 | Comment: Liquids, Impenetrable Obj Liquid Location: 22
Certified RTR Comment: None

| | | | | | |
|---|---|---|---|---|---|
| Prohibited Items: | ☑ Sealed > 4 Liters | ☒ Liquid | ■ Pressurized Container | ✓ Impenetrable Item | ■ Other |
| Security Determination: | | | | ✓ Green | ☐ Yellow |
| Remediation Determination: | | ☐ VE | ☑ PID | ☐ Split | ☑ Repack |
| Estimated 30-cm Dose Rate (mrem/hr): | | ☐ <100 | ☐ >100 and <1,000 | ☑ >1,000 and <10,000 | ☐ >10,000 |

2, WE 1/15/13

TRUCON Code: | Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) | Signature | 100681 (Z Number) | 12/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts
Net Wt: 379#. Generator info shows 12 items of nitrate salts; weights range from 15-48#. No RTR BDR. Nitrate salts typically packaged in plastic bags, undocumented liquids &/or other debris may be present. RTR PS shows prohibited liquids & impenetrable object(s). No chemicals identified; nitrate salts carry waste codes for chromium lead & mercury. Nitrate salts require repack w/ admixture.

Performed By: Valerie Rhodes (WDP Engineering (Print)) | Valerie Rhodes (Signature) | 112607 (Z Number) | 1/18/13 (Date)

## TRU Remediation Operations

☒ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use heavy duty gloves during processing.
Processing Determination: ☒ Accept ☐ Reject
TRU Remediation Operations Comments: USE Proper PPE And Pablo ~~Kitty Litter~~.

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) | Signature | 149235 (Z Number) | 6/19/13 (Date)
Jose Jerez | Jim Fox | 221452 | 6-22-13

1HS Review. Jalena Arnall (CS), may contain Pb, Hg + Cr
No other concerns 1-29-13

## Noncertified TRU Waste Drum Item Information

DrumID: 021291

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 8MX5-35NW1 | | 12.090 | NITRATE SALTS | | 3.11 | 52 | 1/13 G468 | |
| 2 | 8MX6-36NW1 | | 21.920 | NITRATE SALTS | | 101.5 | 52 | 1/13 G468 | |
| 3 | 8MX6-36NE1 | | 16.240 | NITRATE SALTS | | 6.5 | 52 | 1/13 G468 | |
| 4 | 80X6-40NW1 | | 9.480 | NITRATE SALTS | | 2.05 | 52 | 1/13 G468 | |
| 5 | 8LR1437NW1 | | 11.900 | NITRATE SALTS | | 1.7 | 52 | 1/13 G468 | |
| 6 | 80X5-38NW1 | | 13.000 | NITRATE SALTS | | 2.31 | 52 | 1/13 G468 | |
| 7 | 8LR1537NE1 | | 9.460 | NITRATE SALTS | | 3.22 | 54 | 1/13 G468 | |
| 8 | 8LR1639NE1 | | 7.000 | NITRATE SALTS | | 0.44 | 54 | 1/13 G468 | |
| 9 | 90X4-18NE1 | | 11.460 | NITRATE SALTS | | 11.62 | 52 | 1/13 G468 | |
| 10 | 9LR6-18NW1 | | 8.080 | NITRATE SALTS | | 1.09 | 53 | 1/13 G468 | |
| 11 | 9LR5-17NW1 | | 7.390 | NITRATE SALTS | | 1.02 | 53 | 1/13 G468 | |
| 12 | 9MX4-22NE1 | | 8.220 | NITRATE SALTS | | 2.9 | 52 | 1/13 G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 199.1

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 131.65 | 104.31 |
| 53 | 2.11 | 15.47 |
| 54 | 3.66 | 16.46 |
| Totals | 137.42 | 136.24 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 4/11/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S855246 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 072 | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Sara Aragon (CCP (Print)) , 237975 (Z #)

Reviewed By: Nathan Wales (CCP (Print)) , 238816 (Z #)

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey (Waste Handling Operator (print)) , Jan Ramsey (Signature) , 100681 (Z #) 5/20/13 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130411c\
Data File : S855240.D
Acq On : 11 Apr 2013 12:43 pm
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON LFL THROUGH UNOBSTRUCTED 072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 11 12:54:18 2013
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.253 | 96 | 2001072 | 206.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.939 | 117 | 1787646 | 179.50 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Thu Apr 11 12:54:25 2013

9-17-13

0600 Assuming WCRF OCC position - Orlando

0600 Assuming WCRF OPS CENTER IN TRAINING HSMITH

0615 PRE-JOB BRIEFING CONDUCTED BY SOS

0638 PRE JOB BRIEFING CONCLUDED

0714 OPERATORS ENTER BUILDING TO BEGIN PROCESSING

0808 BAGGING OFF DAUGHTER AND 2 POC's

0815 OPERATORS NOTIFIED RCT's STROBE IN HI-BAY NOT LIT

0823 ~~RCT~~ 9/17/13 HS ~~OPR~~ 9/17/13 HS OPERATORS NOTIFIED OPS CENTER RED STROBE IN HI BAY IS NOW WORKING.

0853 BAG OFF COMPLETE, BAGGED OFF 1 DAUGHTER 2 POC

1029 BAGGING OFF 1 DAUGHTER. BAGGING ON S 855240

1058 BAGOFF, BAG ON COMPLETED

1130 STARTING MOVEMENT INTO TA 50-69

1149 MOVEMENT INTO TA 50-69 IS COMPLETE

1151 LATE ENTRY 1135 RAISING WORK DUE TO POTENTIALLY CONTAMINATION ~~CAUSED BY~~ 9/17/13 HS GLOVE, OPERATOR HAD FULL BODY FRISK. NO CONTAMINATION DECTECTED HSMITH ON STATION 3 HSMITH

1201 OPERATOR ADVISED BY RCT NO CONTAMINATION. OKAY TO CONTINUE THE PROCESS. NO CONTAMINATION ON GLOVE

1202 PER RCT SUPERVISION, REQUESTING MORE SURVEYS TO BE PERFORMED

1211 PER RCT ~~SUPERVISOR~~ 9/17/13 HS SUPERVISOR FOLLOW UP SURVEYS NOA

1224 OPERATORS EXITING FOR LUNCH

1310 OPERATORS ENTERING BUILDING TO CONTINUE PROCESSING

1413 Starting movement [illegible] to transportation.

1453 Bagging off 1 POC and 1 Daughter [illegible] processing

1524 Bag on, Bag off is complete.

1526 Movement out of TA-69 is complete

1547 Starting inside movement.

1611 Item #63 in CCN. RCN [illegible] be placed in the accumulation.

-Continued on next page-

9-17-13 - Continued from previous page - Orlando

1407 Inside rounds complete.

1415 Bagging off, bagging on 9x5543

1430 Started [illegible] 2 outside rounds

1451 Engine Bay 3 complete

1455 Item #17 Uncat. Pair pliers etc to proved per ins documentation.

1455 Late entry Rule change Bentonia 1755 to 9 and went yard now in warm standby 1456 - Orlando

1505 started glove changes on station 1 and station 3 Right and left hands

1545 Pts gaining weak dull to symptoms having problems with gross dyspnoea

1614 Episodes retrograde amnesia of a shocked nature and will not be changing out station 1 due to having problems with the Bypasses.

1621 Now part Unit in with normal range.

9-17-13 pla 1819 9-17-13 busy medical by CFC Terri Ocean Orlando

No further entries this page.

9-17-13 DAYSHIFT

0612 Reviewed the shift turnover checklist and assumed the dayshift SOM position John Guadagnoli

0638 Completed attending the pre-job brief conducted by the SOS (Gilbert) the safety topic was pay attention to detail and watch out for each other. facility update was provided. The current drum has multiple POCs and the lead liner is between the poly liner and drum. Removal of the poly liner will be difficult. Station #1 and #3 glaces will require evaluating

0709 Completed the daily update status POD call to AREA G.

0735 Turned the WCRR SOM over to Lou Gilbert John Guadagnoli

0735 ASSUMED SOM FOR WCRR. 9-17-13

1059 BAGGED OFF CURRENT CONTAINER. MUCH PROBLEMS WITH THE POLY LINER SURROUNDED BY LEAD. BAGGED ON ANOTHER PARENT.

1200 TUESDAY ROUNDUP

1208 WCRR OC CALLS IN - A WCG OPERATOR PERFORMED A SELF FRISK AND THE INSTRUMENT SOUNDED.

1215 NO ISSUES WITH CONTAMINATION ON WCG. NO GLOVE HOLES, OR OTHER CONTAMINATION FOUND. CONSIDERED FALSE ALARM.

1222 ROUND UP COMPLETE

1230 DAILY CALL IN - Gilbert, Guadagnoli And Fachezi

1251 TURN SOM DUTIES OVER TO GUADAGNOLI.

1251 Assumed the SOM FOR WCRR 9-17-13 John Guadagnoli

1347 Communicated to Operations not to use Lock-777 on Nitrates - per the PM - until further evaluation and discussion with Project Control management. The PM will advise accordingly.

1415 Outside operators initiated a movement from the facility 50/69 to the transportainer.

1435 Core Crafts arrived to conduct Fire Sprinkler testing on facility 50-54. Upon review of package 465733, it required FOD 6 approval as a result, the work was not released, and the crafts were requested to obtain FOD 6 approval to conduct work, and notify personnel in the facility when testing is initiated and completed.

1450 Inside operations initiate bagging off a POC and 1 Daughter

(continued on next page)

9-17-13 DAYSHIFT (Continued)

1450 (continued) and will continde to process,

1515 Operators completed the transfer into the facility (Hi Bay) Four drums were transfered – All 55 gallon containers.

1520 Inside operators report that all Bag offs and Bag ons were completed. Operations will continue to process.

1610 Supported Craft Supervison in discussing and evaluating Friday work packages with the RP-1 Supervisor. Currently there are 3 respirator required Jobs.

1615 inside Operators report bagging off Parent drum S855240 which generated 2 daughters and 1 POC, and bag on of Parent S855943.

1648 Bag offs were reported completed.

1650 Mode Change: 50/69 and yard transition from Operations/Operations to Warm/Warm to initiate glove changes stations 1 and station 3

1705 9-17-13 Inside Operators initiate glove changes

1745 RCTs pause glove changes due to the expander not working properly.

1813 Operators reported the expander was going concave vs convex. Operators successfully changed out Station 3 Right and Left.
- The SOS obtained a new expander to try - Station 1 will require changing out - both L+R gloves, then the SOM can go back to operations mode.

1816 Reviewed shift turnover checklist with oncoming SOM.

1820 SECURED the SOM position, relieved by R. Axtell 9-17-13.

No further Entries this Page
9-17-13

9/17/13 WCMSOS LOG Book

0500 Assuming SOS Position Unknown

0615 Conducted shift brief with Operator discussed weather changes. Also discussed that night shift had problems removing Lead from percats Operators will try to remove DF not Percats will be keyed off with Lead Inside.

~~9/17/13~~

0645 Concluded shift brief

0714 Operators Entering 50-69 to operate

0808 Bagging off 1 Daughter And 2 POCs

0853 Bag off complete

1029 Bagging off 1 Daughter Bagging on SS55240

1058 Bag on/off complete

1130 Moved In to 50-69

1149 Move In Complete Gate Entry Paused work due to Potential Contamination on operators Glove Full body Frisk no contamination smear wipe NDA @ 1175

1202 RCT supervision Requesting more surveys be done.

1211 Per RCT Supervisor All smears N/D A.

1229 Operator Exiting For Lunch

1316 Operator reentered

1415 starting movement From 50-69 to transportainers

1453 Bagging off 1 POC And 1 Daughter And continuing.

1524 Bag on/off complete

1526 Move out complete

1547 Started Rounds

1615 Bagging on SS55243 And bagging off

1650 Mode Change Complete WCMF In warm for Glove Changes

1705 started Glove Changes on station 1 And 3 both hands.

1745 Pausing work on Glove Changes due to expanders

1801 Operators notified of Elevated Cam And will not change station I

1807 Cam back to normal

N/A 1815 Relieved by Chrysten Mullins

no Further entries

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0112 |
| Examination Date: | 9/20/2013 |
| Waste Container ID: | 68381 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0112 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 147.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 114.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68381

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Utility knife

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags, 90 mil liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.2 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 4.5 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 103.4 |
| Soils (S): | |
| Total WMP Weight: | 114.1 |

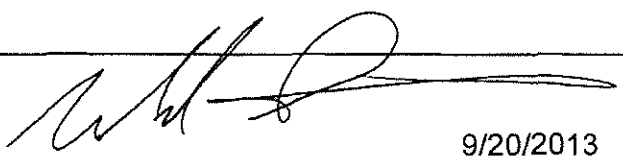
# CCP Radiography Data Sheet



Waste Container ID: 68381

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Michael Simmons |  | 9/20/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68381 | Count Sequence Number: | 23635 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 9/23/2013 3:01:08 PM | | |
| Description 1: | 1LANDA1846 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 114.0 kg | Net: | 114.0 kg |
| Container: | Volume: 208.0 l | Full: | 80.0 % |
| Density: | 0.690 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23635 | Batch Number: | 1LANDA1846 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68381 | Analysis Date: | 9/23/2013 |

| | | |
|---|---|---|
| Net Weight | 114000.0 g | |
| Pu mass | 9.43E+000 +- | 2.36E+000 g |
| TRU Alpha Activity | 4.97E+000 +- | 2.33E+000 Ci |
| TRU Activity Concentration | 4.36E+004 +- | 2.04E+004 nCi/g |
| Pu-239 Equivalent Activity | 5.00E+000 +- | 2.33E+000 Ci |
| Pu-239 FGE | 8.90E+000 +- | 2.21E+000 g |
| Decay heat | 1.64E-001 +- | 7.73E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 9.18E-002 | 6.47E-005 | 1.19E-005 | 1.74E-006 |
| PU238 | 8.63E-004 | 1.48E-002 | 3.70E-003 | 3.39E-005 |
| PU239 | 8.84E+000 | 5.48E-001 | 1.37E-001 | 1.26E-003 |
| PU240 | 5.83E-001 | 1.32E-001 | 3.32E-002 | 3.04E-004 |
| AM241 | 1.25E+000 | 4.28E+000 | 2.32E+000 | 7.40E-002 |
| PU241 | 1.20E-002 | 1.23E+000 | 3.09E-001 | 2.83E-003 |
| PU242 | 1.89E-003 | 7.46E-006 | 1.87E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.58E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.34E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.89E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.40E-005 |
| AM243 | 1.29E-003 | 2.58E-004 | 4.79E-005 | 8.82E-006 |

Errors quoted at 1.000 sigma

Operator: Jim Barton Date: 9/24/13

ITR: [signature] Date: 9-24-13

## Automated Independent Technical Review

Count Sequence Number: 23635 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68381
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlain Date: 9-24-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68381**

BDR Number: **LA13FG12107**

Sampling Date: **10/23/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 387.81 | |
| 74-82-8 | Methane | 9.63 | U |
| 67-56-1 | Methanol | 30.57 | U |
| 60-29-7 | Ethyl Ether | 1.77 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.36 | U |
| 67-64-1 | Acetone | 11.55 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.29 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.36 | U |
| 78-93-3 | Methyl ethyl ketone | 2.55 | U |
| 110-82-7 | Cyclohexane | 2.09 | U |
| 71-43-2 | Benzene | 0.47 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.92 | U |
| 71-36-3 | 1-Butanol | 0.54 | U |
| 108-10-1 | Methyl isobutyl ketone | 3.11 | U |
| 108-88-3 | Toluene | 2.73 | U |
| 108-90-7 | Chlorobenzene | 0.87 | U |
| 100-41-4 | Ethylbenzene | 1.15 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.59 | U |
| 95-47-6 | o-Xylene | 0.63 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.72 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131023C\
Data File : 68381.D
Acq On : 23 Oct 2013 12:56 pm (#1); 23 Oct 2013 12:55 pm (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 23 13:05:15 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.063 | 96 | 7184352 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.636 | 117 | 5353540 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.903 | GC1 | 110623 | 387.81 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5855240



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0112 |
| Examination Date: | 9/20/2013 |
| Waste Container ID: | 68385 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0112 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 148.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 114.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68385

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | Leather gloves |
| R: | |
| XPM: | |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.1 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 2.5 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 104.0 |
| Soils (S): | |
| Total WMP Weight: | 114.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68385

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Michael Simmons | | 9/20/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68385 | | Count Sequence Number: | 23646 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 9/24/2013 2:56:14 PM | | | | |
| Description 1: | 1LANDA1847 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 115.0 | kg | Net: | 115.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 80.0 % |
| Density: | | 0.690 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23646 | Batch Number: | 1LANDA1847 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68385 | Analysis Date: | 9/24/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 115000.0 g | | |
| Pu mass | 6.12E+001 | +- 1.26E+001 | g |
| TRU Alpha Activity | 9.90E+000 | +- 3.79E+000 | Ci |
| TRU Activity Concentration | 8.61E+004 | +- 3.29E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.00E+001 | +- 3.79E+000 | Ci |
| Pu-239 FGE | 5.76E+001 | +- 1.18E+001 | g |
| Decay heat | 3.20E-001 | +- 1.26E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 8.52E-002 | 6.01E-005 | 1.10E-005 | 2.83E-006 |
| PU238 | 5.60E-003 | 9.58E-002 | 1.98E-002 | 3.17E-005 |
| PU239 | 5.73E+001 | 3.55E+000 | 7.34E-001 | 1.18E-003 |
| PU240 | 3.78E+000 | 8.59E-001 | 1.77E-001 | 2.85E-004 |
| AM241 | 1.57E+000 | 5.39E+000 | 3.71E+000 | 1.20E-001 |
| PU241 | 7.77E-002 | 8.01E+000 | 1.65E+000 | 2.65E-003 |
| PU242 | 1.23E-002 | 4.84E-005 | 1.00E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.70E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.27E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.67E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.90E-005 |
| AM243 | 1.12E-003 | 2.24E-004 | 4.16E-005 | 8.28E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/25/13

ITR: D = R. _____ Date: 9.25.13

## Automated Independent Technical Review

Count Sequence Number: 23646 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68385
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlain Date: 9-25-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68385**

BDR Number: **LA13FG2106**

Sampling Date: **10/24/2013**

5855240

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 107.72 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131024c\
Data File : 68385.D
Acq On : 24 Oct 2013 2:00 pm (#1); 24-Oct-13, 13:59:37 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 24 14:08:25 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.562 | 96 | 5360340 | 205.75 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.868 | 117 | 4144782 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.621 | GC1 | 810m | 107.72 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S855240

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0112 |
| Examination Date: | 9/20/2013 |
| Waste Container ID: | 68391 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0112 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 153.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 8.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 30 % |

# CCP Radiography Data Sheet



Waste Container ID: 68391

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: Plastic bag |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 0.5 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 7.9 |
| Soils (S): | |
| Total WMP Weight: | 8.4 |

# CCP Radiography Data Sheet



Waste Container ID: 68391

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 9/20/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68391 | | Count Sequence Number: | 23630 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 9/23/2013 10:59:42 AM | | | | |
| Description 1: | 1LANDA1846 | | | | |
| Description 2: | POC - GW = 153.5 kg | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 8.4 | kg | Net: | 8.4 kg |
| Container: | Volume: | 208.0 | l | Full: | 95.0 % |
| Density: | | 0.637 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23630 | Batch Number: | 1LANDA1846 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68391 | Analysis Date: | 9/23/2013 |

| | | |
|---|---|---|
| Net Weight | 8400.0 g | |
| Pu mass | 5.73E-001 +- | 1.45E-001 g |
| TRU Alpha Activity | 1.60E-001 +- | 2.95E-002 Ci |
| TRU Activity Concentration | 1.90E+004 +- | 3.51E+003 nCi/g |
| Pu-239 Equivalent Activity | 1.61E-001 +- | 2.95E-002 Ci |
| Pu-239 FGE | 5.39E-001 +- | 1.36E-001 g |
| Decay heat | 5.23E-003 +- | 9.75E-004 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 3.65E-003 | 2.58E-006 | 4.84E-007 | 5.36E-007 |
| PU238 | 5.24E-005 | 8.96E-004 | 2.28E-004 | 6.85E-004 |
| PU239 | 5.36E-001 | 3.33E-002 | 8.45E-003 | 2.54E-002 |
| PU240 | 3.54E-002 | 8.03E-003 | 2.04E-003 | 6.15E-003 |
| AM241 | 3.43E-002 | 1.18E-001 | 2.82E-002 | 1.21E-002 |
| PU241 | 7.27E-004 | 7.49E-002 | 1.90E-002 | 5.73E-002 |
| PU242 | 1.15E-004 | 4.53E-007 | 1.15E-007 | 0.00E+000 |
| SR90 | 2.90E-009 | 4.01E-007 | 1.24E-007 | 0.00E+000 |
| CS137 | 4.61E-009 | 4.01E-007 | 1.24E-007 | 1.62E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.12E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.41E-007 |
| U238 | <LLD | <LLD | 0.00E+000 | 4.70E-006 |
| CM243 | 1.63E-007 | 7.96E-006 | 1.65E-006 | 2.46E-006 |

Errors quoted at 1.000 sigma

Operator: Jim Barton Date: 9/24/13

ITR: [signature] Date: 9-24-13

## Automated Independent Technical Review

Count Sequence Number: 23630 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68391
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Shea Quander Date: 9-24-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68391**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

5855240

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 438.65 | |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| 624-91-9 | Methyl Nitrite | 32.65 |
| 79-20-9 | Methyl Acetate | 33.68 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131105C\
Data File : 68391.D
Acq On : 5 Nov 2013 3:22 pm (#1); 05-Nov-13, 15:21:40 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

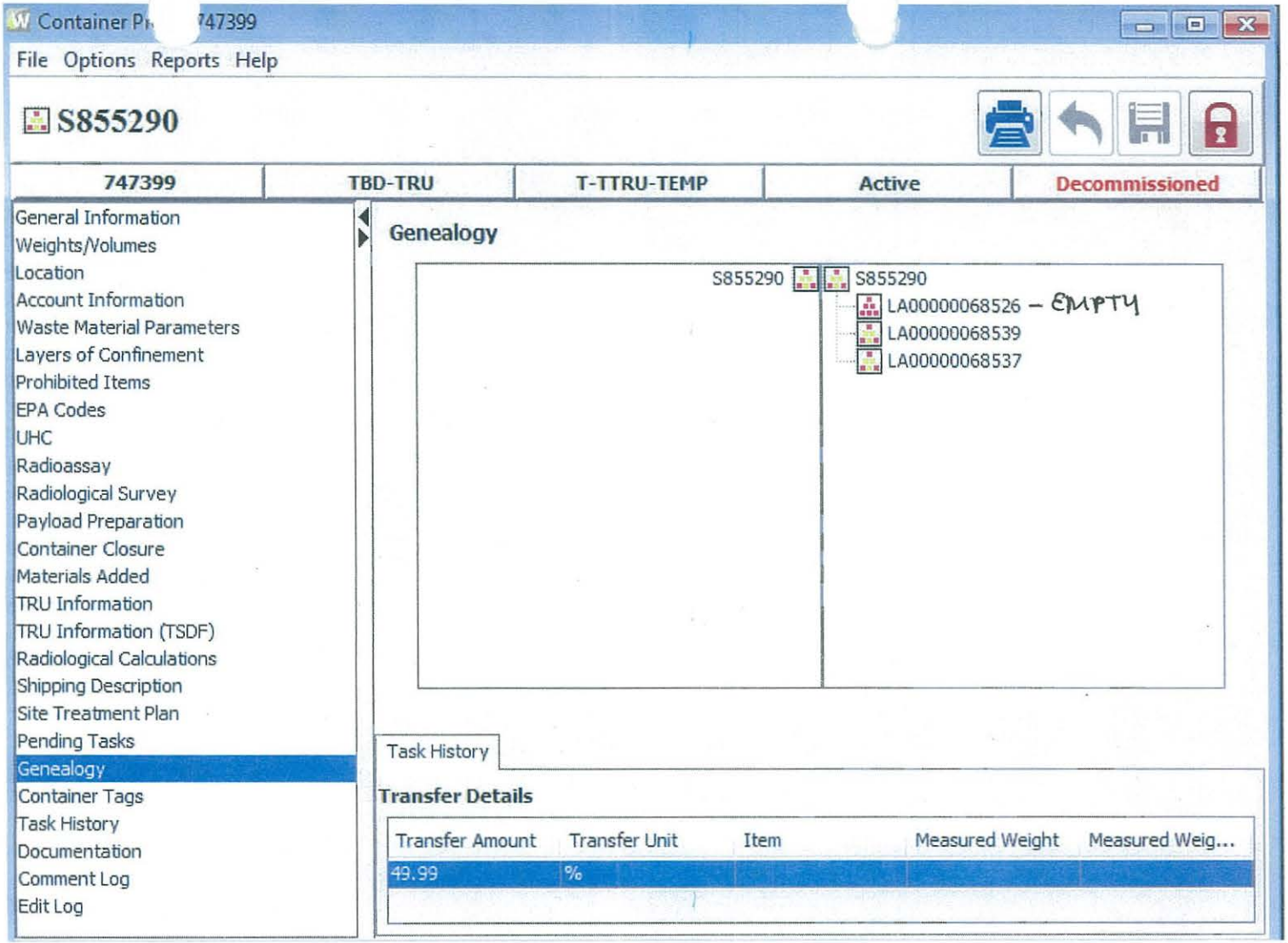
Quant Time: Nov 05 15:30:07 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.552 | 96 | 4465060 | 205.75 | ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.855 | 117 | 3415418 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 4) Methanol | 0.873 | 31 | 156500 | 438.65 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Wed Nov 06 12:36:46 2013

# S855290


Container Pr 747399
File Options Reports Help
S855290
747399
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S855290
S855290
LA00000068526 – EMPTY
LA00000068539
LA00000068537
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
49.99
%

Working Copy
Date: 10-23-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S855290

6.2[4] Date Processed: 10-23-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☐ Moderate (≤ 10 rem/hr) ☑ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Frederick Archuleta / [signature] / 122826 / 10-23-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S855290

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 428.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 92 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 418.0 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A JC 10-23-13
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A / /
EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S855290

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68539 | 68537 | | |
| 10.1[4] | Daughter Drum Filter No. | LM-357 | LM-312 | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10319 | L-10308 | | A |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | N | N | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | A | A | N | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | A |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 3 Gallons | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead Shielding | Lead Shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N A | N A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See comments | See comments | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 60% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Hex cover Gloves Plastic Stuff | Plastics | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S855290

Comments: Waste placed into daughter #68539 included absorbent liquid kitty litter absorbent. Ph Level of "9" was discovered in free liquid was neutralized to Ph of "6". Plastic wrapping around Nitrate Salts were placed in daughter, along w/ neutralized nitrate salts. 2nd Daughter #68537 contains neutralized nitrate salts, kitty litter, Lead Shieldings

11.1[1] Performed By: Justin Ure / [signature] 1266436 / 10:23:13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins CA 1240092 / 10/23/13 1702
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 10-4-13

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238366-1
Manufacture Date: 13

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | ±4%cw ±6%ccw | ±3%cw ±6%ccw |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: ~~SL-1033~~ SL-1038
Serial No.: SL-1038
Manufacture Date: 10-11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Brandon Chavez / [signature] Z#247112 / 10-4-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 36 ft-lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / [signature] Z#247112 / 10-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / [signature] Z#240014 10/23/13
Supervisor or designee (print) Signature Z # Date

Training Copy
Date 10/23/13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 608526

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 037418
- Cal. Expiration Date: 3-6-14
- Range in ft-lb: 10-80
- Tolerance: +/- 3% CW +/- 6% CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Frederico Hubelata / [signature] 1220826 / 10-23-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 168.6 lb

Comments: N/C

8.1[1] Performed By: Justin Cyr / [signature] 1268361 / 10-23-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullis / [signature] 1240092 / 10/23/13
Supervisor or designee (print) Signature Z # Date

UET Working Copy
Date: 10-21-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68537

5.[3] Drum information:
- Purchase Order No.: 501578
- Lot No.: 0240999
- Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 6CPUC 1.5-2 PUC
- Serial No.: 1-10308
- Manufacture Date: 5/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12/18/13 | 12/18/13 |
| Range in ft-lb: | 40 - 200 | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Michael Montoya / Brian Cordova / Hi Vang / [illegible] — 191352 10/21/13 / 1237594 10/21/13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
- Manufacturer: NUCFIL
- Model No.: 01905
- Serial No.: LM-312
- Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68537

Comments: n/c

5.[35] Performed By: MICHAEL WINSTON / Brian Cardova / [signature] / 191252 10/21/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] / 240092 10/23/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68537

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-6-14
Range in ft-lb: 10-80
Tolerance: ±37. cw ± 6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Justin Cofer / [redacted] [redacted] / 10-23-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Justin Cofer / [redacted] [redacted] / 10-23-13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☐ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 65537

6.[26] Scale File ID number: C19665

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 2538 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: J. Stiles Cofer — Operator (print) — Signature — W66781 — Z # — 10-23-13 — Date

7.1[4] Reviewed By: Clayton Mullins — Supervisor or designee (print) — Signature — 240091 — Z # — 10/23/13 — Date

Verified by Date: 10-21-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68539

5.[3] Drum information:
- Purchase Order No.: 501578
- Lot No.: 240999
- Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: B&P
- Model No.: 6cPVC1.5-2SPVC
- Serial No.: L-10319
- Manufacture Date: 5/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: BRIAN GALLEGOS / B. Gallegos / 207129 / 10-21-13
Operator (print) / Signature / Z# / Date

5.[23] Filtered vent information:
- Manufacturer: NUCFIL
- Model No.: 019DS
- Serial No.: LM-357
- Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68539

Comments: N/C

5.[35] Performed By: Brian Gallegos (Operator (print)) [signature] (Signature) 261179 (Z #) 10-21-13 (Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) [signature] (Signature) 240091 (Z #) 10/23/13 (Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68539

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-6-14
Range in ft-lb: 10-80
Tolerance: ±3% CW ±6% CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Justin Cofer / [signature] 126788 10-23-13
Operator (print) Signature Z# Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Justin Cofer / [signature] 126788 10-23-13
Operator (print) Signature Z# Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 6853a

6.[26] Scale File ID number: 0005

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 565 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Justin Cofer (Operator (print)) _____ (Signature) 1266321 (Z #) 10/23/13 (Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) _____ (Signature) 134096 (Z #) 10/23/13 (Date)

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

195 SP72

## Production Control

Container ID: S855290 Container Type: 55-GAL Gross Weight (lbs): 443
Inner Seal #: 021437 Filter Prefix: LAVC Filter Serial #: 03245
Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 A0746
Total PE-Ci Activity: 5.60E+00 Equivalent Combustible PE-Ci: 2.10E+00 AM-241 PE-Ci: 6.02E-01
Total Fissile Gram Equivalents: 52.9 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): D007; D008; D009
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/12/2007 Comment: ~~Impenetrable Obj.~~
Certified RTR Comment: None

| | | | | | |
|---|---|---|---|---|---|
| Prohibited Items: | ☒ Sealed > 4 Liters | ☒ Liquid | ☒ Pressurized Container | ☑ Impenetrable Item | ☒ Other |
| Security Determination: | | | | ☑ Green | ☐ Yellow |
| Remediation Determination: | | ☐ VE | ☑ PID | ☐ Split | ☑ Repack |
| Estimated 30-cm Dose Rate (mrem/hr): | | ☐ <100 | ☐ >100 and <1,000 | ☑ >1,000 and <10,000 | ☐ >10,000 |

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) Signature 100681 (Z Number) 12/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts
Net Wt: 383# Generator info shows 14 items of nitrate salts, weights range from 2-33#. No RTR BDR. Nitrate salts typically packaged in plastic bags; undocumented liquids (for other debris) may be present. RTR PS shows impenetrable object(s). No chemicals identified; nitrate salts carry waste codes for chromium, lead, F mercury. Nitrate salts require repack w/ admixture.

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature 112609 (Z Number) 1/18/13 (Date)

## TRU Remediation Operations

☒ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use hexavalent gloves during processing.
Processing Determination: ☒ Accept ☐ Reject
TRU Remediation Operations Comments: USE Proper PPE and Kitty litter Ratio

Performed By: Gilb (TRU Remediation Operations (Print)) Signature 149235 (Z Number) 1/19/13 (Date)
Jose Jerez 22452 6-20-13
145 Review - John Arnold and CSP, may contain Pb, Hg + Cr
No other concerns 1-29-13

## Noncertified TRU Waste Drum Item Information

DrumID: 021437

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | NT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9MX2-10NW1 | | 11.730 | NITRATE SALTS | | 1.78 | 52 | 1/13 | G468 | |
| 2 | 9MX3-13NE1 | | 6.550 | NITRATE SALTS | | 2.36 | 52 | 1/13 | G468 | |
| 3 | 9MX3-13NW1 | | 6.180 | NITRATE SALTS | | 2.25 | 52 | 1/13 | G468 | |
| 4 | 9DS2-20NE1 | | 5.850 | NITRATE SALTS | | 2.21 | 52 | 1/13 | G468 | |
| 5 | 9LR4-15NW1 | | 6.700 | NITRATE SALTS | | 2.27 | 54 | 1/13 | G468 | |
| 6 | 9UOX216NE1 | | 4.840 | NITRATE SALTS | | 0.72 | 53 | 1/13 | G468 | |
| 7 | 9OX3-11NE1 | | 7.830 | NITRATE SALTS | | 25.72 | 53 | 1/13 | G468 | |
| 8 | 9UOX114NE1 | | 1.150 | NITRATE SALTS | | 11.97 | 53 | 1/13 | G468 | |
| 9 | 9LR7-21NW1 | | | NITRATE SALTS | | 1.18 | 52 | 1/13 | G468 | CANNOT READ |
| 10 | 9LR3-24NW1 | | | NITRATE SALTS | | | 52 | 1/13 | G468 | CANNOT READ |
| 11 | 9OX5-23NW1 | | 14.830 | NITRATE SALTS | | 3.84 | 52 | 1/13 | G468 | |
| 12 | 9LR8-26NE1 | | 7.730 | NITRATE SALTS | | 1.05 | 54 | 1/13 | G468 | |
| 13 | 9LR4-27NE1 | | 6.750 | NITRATE SALTS | | 0.41 | 54 | 1/13 | G468 | |
| 14 | 9LR8-26NW1 | | 8.810 | NITRATE SALTS | | 0.51 | 54 | 1/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 201.1

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 13.62 | 45.14 |
| 53 | 38.41 | 13.82 |
| 54 | 4.24 | 29.99 |
| Totals | 56.27 | 88.95 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 5/21/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S855290 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 72 | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 2072.34 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Chris Hagen (CCP (Print)) 327975 (Z #)

Reviewed By: William Wales (CCP (Print)) 238546 (Z #)

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey (Waste Handling Operator (print)) Susan J. Ramsey (Signature) 1065 (Z #) 5/22/13 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130521c\
Data File : S855290.D
Acq On : 21 May 2013 3:19 pm (#1); 21-May-13, 15:18:51 (#2)
Operator : SA
Sample :
Misc : 55 GAL LFL DRUM THROUGH UNOBSTRUCTED 72 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 21 15:27:52 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.529 | 96 | 3924386 | 201.25 | ppmv | -0.04 |
| 15) Chlorobenzene-d5 | 5.868 | 117 | 3370722 | 177.00 | ppmv | -0.03 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.601 | GC1 | 14729m | 2072.34 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Tue May 21 15:27:58 2013

10-23-13

0600 Assuming WCRF operations center. -JColeman
0615 Pre-job being conducted by SOS.
0616 Late entry at 0610, outside rounds were started. JC
0624 Beginning inside rounds.
0635 Pre-job concluded.
0649 Item #63 is OOS, okay to proceed per CSE documentation.
0708 Late entry at 0705, inside rounds complete. JC
0725 Both rounds reviewed by SOS.
0726 Late entry at 0705, outside rounds complete. JC
0733 Mode change completed. We are now in operations in WCRF yard and 50-69.
0741
JC 10-23-13 0734 Bagging on drum #818255
0744 Initiating a drum movement from transportainer to 50-69.
0753 Bag on complete.
0755 Drum movement into 50-69 complete.
0756 Being relieved by CCO, Claissa Velarde. JColeman
0759 Assuming WCRF operations center -CVelarde
0830 Starting movement out of 50-69.
0851 movement out of 50-69 is complete.
0910 Bagging off 2 daughters, Bagging on 3855677.
0940 Bag on, Bag off complete
1107 Bagging off 1 daughter, Bagging on another.
1117 Bag on, Off complete.
1145 Bagging off, Bagging on 3855290
1210 Bag on, Bag off complete
1323 Bagging off 1 daughter, Bagging on another.
1340 Starting movement out of 50-69.
1400 Bag on, Bag off is complete. movement out of 50-69 is complete.
1435 Bagging off, Bagging on 3854614.
1458 Bag on, Bag off complete Starting movement into 50-69
1536 movement into 50-69 completed
1655 Starting outside rounds.
1702 Starting inside rounds.
- Continued on next pg -CVelarde

10-23-13

0600 Assumed the WCRR SOM position. John Guadagnoli
0632 Completed the pre-job brief conducted by the SOS (Clayton)
The safety topic was bullying and safety of LADDERS
There are no transfers scheduled in or out. Roles and responsibilities were assigned. Attitude topic was discussed by the SOM.
0705 Completed the call in to AREA 6 - to update POD - scheduled activities.
0725 The SOS signed off the rounds after reviewing. SOM reviewed and signed off.
0733 Mode Change: WCRR yard and 50/69 Facility transition from WARM/WARM to Operations/Operations.
Approval to perform procedural work is authorized by the SOM.
0741 Inside Operations report initiating bag-on of Parent drum 58B255
0753 Bag on was noted completed.
0758 Notification was received from the OM that 30 gallon lid restraints will require FSD approval prior to use. New restraints are being procured and will be issued after certification.
0903 Operators report bagging off 2 daughters and bagging on Parent 5855677
0940 Bag on and bag off was reported completed. Ops continues to process
1003 Craft supervisor requested review of slings, schackle, and lift devices to evaluate to ensure none expire in October. Notification was made to the SOS.
1145 Operators initiate bag off and bag on of Parent 5855290
1210 Bag off was noted completed. Rotation of personnel through lunch conducted.
1215 Completed the noon call in, with SOM, OM, providing facility update.
1333 Bagging off 1 daughter, bagging on another - continue Operations
1340 Outside movement from 50/69 to transportainer initiated
1400 Bag On - Bag off complete and movement out of 50-69 complete
1435 Bagging off, Bagging on 58546Lb
1458 Bag off and Bag on completed, observing outside operators move LLW with RCT support to obtain RAD Survey for eventual transfer,
1650 Completed observing LLW surveys and placing containers back into the area.
1810 All bagoffs were completed and the WCR is in a safe configuration
1820 Mode Change: WCRR yard and 50/69 transition from Operations/Operations to WARM/WARM
1825 Secured the SOM position John Guadagnoli

No further entries this page

10/23/13 WCRR SOS Log Book

0600 Assuming SOS position. CA
0615 Starting Pre-Job discussed ladder safety and anti-bullying, being respectful of others. Also ~~Hep~~ (cm 11-23-13) keeping a positive attitude while at work and out of work.
0635 Pre-Job complete.
0725 Signed off on the rounds.
0733 Mode change complete, WCRRF yard and 50-69 are now in Operations.
0741 Bagging on S 818255.
0744 Starting drawn movement into 50-69.
0753 Bag on complete.
1755 ~~0756~~ Movement in complete.
0830 ~~0756~~ (cm 10-23-13) Starting movement out of 50-69.
0902 Bagging off 2 daughters, bagging on 5855677
0940 Bag off/on complete.
1055 Bagging off 1st daughter, bagging on a 2nd.
1117 Bag off/on complete.
1145 Bagging off 2nd daughter, bagging on 5855290
1210 Bag off/on complete.
1333 Bagging off 1st daughter, bagging on a 2nd.
1340 Starting movement out of 50-69.
1400 Bag off/on complete. Also move out complete.
1435 Bagging off 2nd daughter, bagging on 5895616.
1458 Bag off/on complete. Also starting movement into 50-69.
1536 Move in complete.
1633 Bagging off first daughter, bagging on a 2nd.
1644 Bag off/on complete.
1743 Bagging off 2nd daughter to complete processing.
1802 Bag off complete
1810 Signed off on the rounds.
1820 Mode change complete, WCRRF yard and 50-69 are now in Warm Standby.
1825 Securing SOS position for the day. CA

No Further Entries on this Page

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0120 |
| Examination Date: | 10/30/2013 |
| Waste Container ID: | 68537 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0120 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 129.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 95.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 50 % |

# CCP Radiography Data Sheet



Waste Container ID: 68537

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | |
| R: | |
| XPM: | Plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 6.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 1.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 88.6 |
| Soils (S): | |
| Total WMP Weight: | 95.6 |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 68537

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Eric Lyles | | 10/30/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68537 | | Count Sequence Number: | 23758 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/30/2013 2:59:52 PM | | | | |
| Description 1: | 1LANDA1856 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 95.6 kg | Net: | 95.6 kg | |
| Container: | Volume: | 208.0 l | Full: | 50.0 % | |
| Density: | | 0.920 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23758 | Batch Number: | 1LANDA1856 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68537 | Analysis Date: | 10/30/2013 |

| | | |
|---|---|---|
| Net Weight | 95600.0 g | |
| Pu mass | 6.01E+001 +- | 9.37E+000 g |
| TRU Alpha Activity | 1.53E+001 +- | 7.40E+000 Ci |
| TRU Activity Concentration | 1.60E+005 +- | 7.74E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.55E+001 +- | 7.40E+000 Ci |
| Pu-239 FGE | 5.55E+001 +- | 8.59E+000 g |
| Decay heat | 5.00E-001 +- | 2.46E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.53E-001 | 1.08E-004 | 2.35E-005 | 4.56E-006 |
| PU238 | 1.43E-002 | 2.44E-001 | 3.81E-002 | 6.35E-005 |
| PU239 | 5.51E+001 | 3.41E+000 | 5.32E-001 | 8.87E-004 |
| PU240 | 4.85E+000 | 1.10E+000 | 1.72E-001 | 2.86E-004 |
| AM241 | 3.08E+000 | 1.06E+001 | 7.38E+000 | 1.83E-001 |
| PU241 | 1.24E-001 | 1.28E+001 | 2.00E+000 | 3.33E-003 |
| PU242 | 4.21E-002 | 1.66E-004 | 2.60E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.27E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 9.71E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.61E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 3.92E-005 |
| AM243 | 1.80E-003 | 3.61E-004 | 7.94E-005 | 1.28E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13 AG 10/31/13

ITR: _____ Date: 11-4-13

## Automated Independent Technical Review

Count Sequence Number: 23758 Batch Number: 1LANDA1856
Counter ID: MCS HENC #1
Container ID: 68537
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/30/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis | |
| Add-a-Source WARNINGS: | |
| Add-a-Source correction factor was set to one. | Ok |
| Add-a-Source correction factor is less than n-sigma * the correction factor error. | Ok |
| Section 2 - Passive Neutron Analysis | |
| Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings. | |
| - Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Section 3 - Data Combiner Analysis | |
| Override enabled; Passive Neutron Pu and Gamma U data specified as input. | Passive Neutron Pu and Gamma U data specified as input. |
| Pu results taken from Passive Neutron data, U from Quantitative Gamma data. | |
| Results comparison test passed. | |
| Section 4 - MGA Analysis<br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-53,52,54 |
| Section 5 - Gamma Analysis | |
| Analysis Status: No errors. | Ok |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlain Date: 10-31-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68537**

BDR Number: **LA13FG2114**

Sampling Date: **11/8/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131108c\
Data File : 68537.D
Acq On : 8 Nov 2013 10:24 am (#1); 08-Nov-13, 10:23:42 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 08 10:31:59 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.558 | 96 | 4662413 | 205.75 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 3560465 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S855290

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | | |
|---|---|---|
| [X] RTR Examination | [ ] RTR Replicate Scan | [ ] RTR Independent Observation |
| Site ID: | LANL | |
| Batch Number: | LA-RTR2-13-0120 | |
| Examination Date: | 10/30/2013 | |
| Waste Container ID: | 68539 | |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0120 | A&B |
| Procedure and Revision No.: | CCP-TP-053 | Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A | |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 165.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 132.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 68539

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | |
| R: | |
| XPM: | Plastic bags, liner lid |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 122.1 |
| Soils (S): | |
| Total WMP Weight: | 132.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68539

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | [X] Yes [ ] No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | [ ] Yes [X] No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | [ ] Yes [X] No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | [ ] Yes [X] No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | [ ] Yes [X] No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | [ ] Yes [X] No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | [ ] Yes [X] No |
| Is there an indication of wastes containing explosives or compressed gases? | [ ] Yes [X] No |
| Is there an indication of PCBs liquids? | [ ] Yes [X] No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | [ ] Yes [X] No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | [ ] Yes [X] No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | [ ] Yes [X] No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | [ ] Yes [X] No |
| Are there sealed containers GREATER than 4 liters? | [ ] Yes [X] No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | [ ] Yes [X] No |
| Comments: N/A | |

RTR Operator:

| Eric Lyles | | 10/30/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68539 | | Count Sequence Number: | 16657 | |
| Operator: | DCLTD231\Operator | | | | |
| Assay Start: | 10/30/2013 12:17:21 PM | | | | |
| Description 1: | 2LANDA1235 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gal Drum | | | | |
| Weight: | Net: | 132.0 kg | Net: | 132.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 80.0 % | |
| Density: | | 0.790 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16657 | Batch Number: | 2LANDA1235 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68539 | Analysis Date: | 10/30/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 132000.0 g | | |
| Pu mass | 1.16E+001 +- | 2.32E+000 | g |
| TRU Alpha Activity | 6.86E+000 +- | 3.27E+000 | Ci |
| TRU Activity Concentration | 5.20E+004 +- | 2.47E+004 | nCi/g |
| Pu-239 Equivalent Activity | 6.91E+000 +- | 3.27E+000 | Ci |
| Pu-239 FGE | 1.07E+001 +- | 2.31E+000 | g |
| Decay heat | 2.26E-001 +- | 1.09E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.46E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 7.45E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.44E-006 |
| NP237 | 1.05E-001 | 7.39E-005 | 1.47E-005 | 1.82E-006 |
| PU238 | 2.11E-003 | 3.61E-002 | 9.40E-003 | 1.58E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.21E-005 |
| PU239 | 1.06E+001 | 6.56E-001 | 1.43E-001 | 2.87E-002 |
| PU240 | 9.36E-001 | 2.12E-001 | 5.51E-002 | 9.30E-003 |
| AM241 | 1.74E+000 | 5.96E+000 | 3.26E+000 | 6.15E-002 |
| PU241 | 2.39E-002 | 2.46E+000 | 6.40E-001 | 1.08E-001 |
| PU242 | 7.99E-003 | 3.16E-005 | 8.05E-006 | 0.00E+000 |
| AM243 | 1.55E-003 | 3.10E-004 | 6.18E-005 | 1.08E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11-1-13

ITR: _____ Date: 11/4/13

## Automated Independent Technical Review

Count Sequence Number: 16657 Batch Number: 2LANDA1235
Counter ID: HENC #2
Container ID: 68539
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/30/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-53,52,54 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 10-31-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68539**

BDR Number: **LA13FG2114**

Sampling Date: **11/8/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 371.85 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

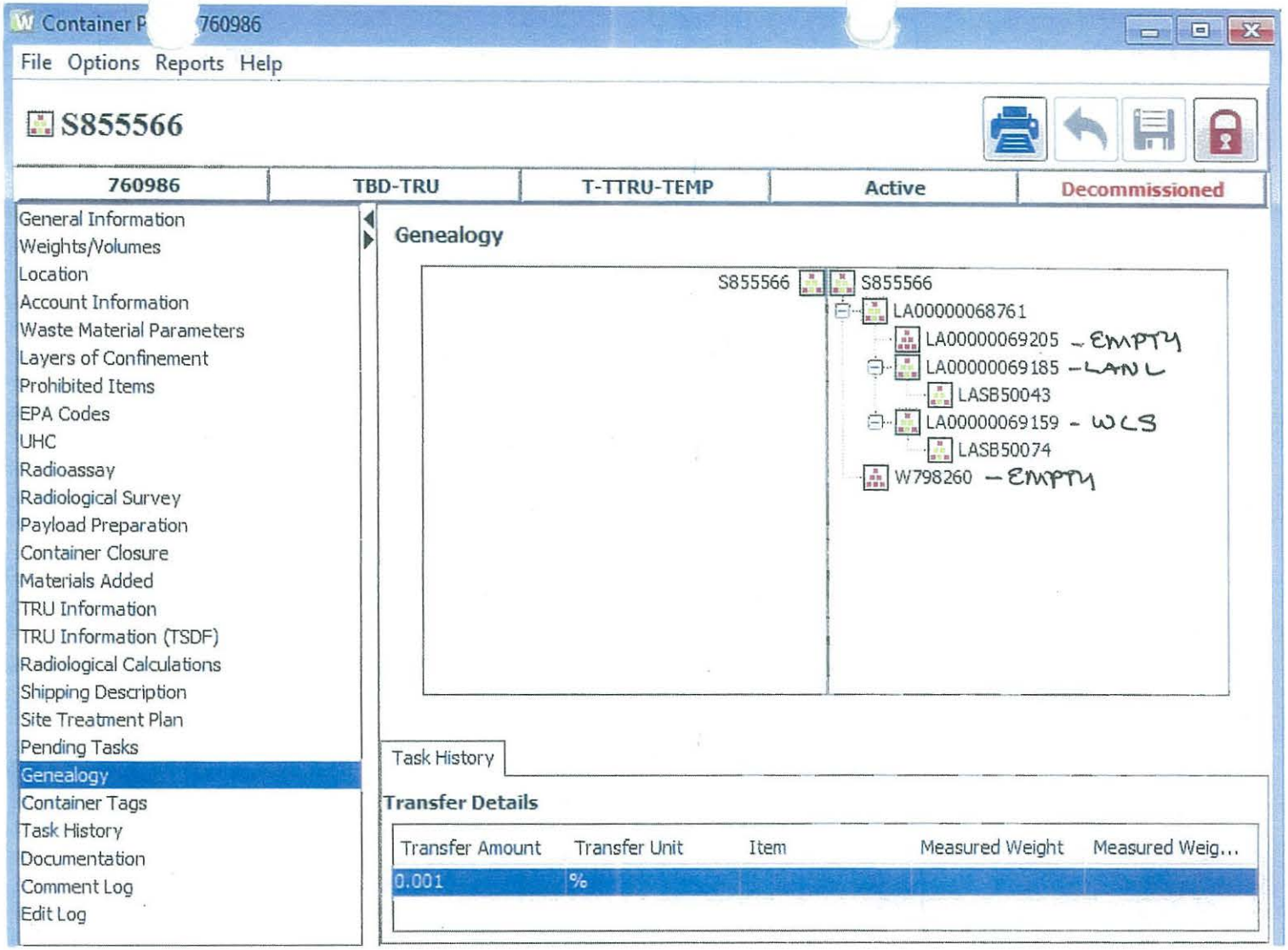
Data Path : C:\msdchem\1\DATA\131108c\
Data File : 68539.D
Acq On : 8 Nov 2013 10:48 am (#1); 08-Nov-13, 10:48:16 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 08 10:56:58 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.548 | 96 | 4566021 | 205.75 | ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 3517901 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.612 | GC1 | 2796m | 371.85 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855566


Container P 760986
File Options Reports Help
S855566
760986
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S855566
S855566
LA00000068761
LA00000069205 - EMPTY
LA00000069185 - LANL
LASB50043
LA00000069159 - WCS
LASB50074
W798260 - EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
0.001
%

**ATTACHMENT 1**
Page 1 of 4

Working Copy
1/10/14 RS

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 68761

6.2[4] Date Processed: 1-10-14

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D005, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brandon Chavez / _____ Z0172412 1-10-14
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 6874

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 424.4 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 83.1bs lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 507.4 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced.

Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 68761

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 69159 | | | |
| 10.1[4] | Daughter Drum Filter No. | L-10079 | | | |
| 10.1[4] | Daughter Drum Bag Filter No. | JL-846 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501892 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | ISOP | | | |
| | Model No. | bcpvc1525pvc | | | |
| | Serial No. | L-10081 | | | |
| | Date of Manufacture | 5/13 | | | |
| 10.2[5] | POC ID No | 69185 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | utility liner w/ waste bags | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | RC 204742 | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 381.2 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 960.5 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 6 gal | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | see comments | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | plastic & utility liner | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 68761

Comments: Lead, liquid, nitrate salts, & dry cotton / plastic

11.1[1] Performed By: Saundra Chavez / [signature] 105582 12-10-14
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Mir / [signature] 105255 12/12/14 1030
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

Working Copy

**WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET** 10/24/13

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 6238366
Manufacture Date: 13

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Tolerance: | | |

Overpack filtered vent information:

Manufacturer:
Model No.:
Serial No.: N/A
Manufacture Date:

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ Yes ☐ No

5. [11] Performed By: _____ / _____ / _____ / _____
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb

5. [18] 2-in. bung plug torque value: _____ ft-lb

Comments: prepped at TA-54

8.1[1] Performed By: Brandon Chase / 10/24/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Gilbert Martinez 146201 11/12/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

Work Instruction Complete
Date 1/10/14 HS

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68205

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038370
- Cal. Expiration Date: 8-2-14
- Range in ft-lb: 16-80
- Tolerance: ± 3% ± 6%

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez / [signature] Z# [illegible] Date 1-10-14
Waste Handling Technician (print) Signature

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 039265
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 1682 lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / [signature] Z# [illegible] Date 1-10-14
Waste Handling Technician (print) Signature

8.1[7] Reviewed By: Gilbert Martinez / [signature] Z# [illegible] Date 1/12/14
Supervisor or designee (print) Signature

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 1/5/14 HS

**WCRRF DRUM PREPARATION DATA SHEET**

5.[34][E] Drum ID No.: 69159

5.[3] Drum information:
Purchase Order No.: 501892
Lot No.: 0244449
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6C PVC
Serial No.: L-10079
Manufacture Date: 09/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11/12/14 | 08/05/14 |
| Range: | 20-200 in-lb CC 1/8/14 | 16-80 ft-lb |
| Tolerance (+/-): | ±4%(CW)±6%(CCW) | ±3%(CW)±6%(CCW) |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Joe Romero (Operator (print)) Joe Romero (Signature) 110704 (Z #) 1/5/14 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 01908
Serial No.: JL-846
Manufacture Date: 10/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 69159

Comments: N/C

5.[35] Performed By: Joe Romero [signature] 109021 1-8-14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez [signature] 109351 1/8/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 69159

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range: 16-80 ft-lb
Tolerance (+/-): ± 3% on ± 6% cw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brandon Chace / [signature] 124721 1-10-14
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☐ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range: | N/A in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO ☐ N/A

Performed By: / / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☐ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☐ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69159

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 456.6 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Brandon Chavez / [signature] Z# [illegible] Date 12-10-14
Operator (print) Signature

7.1[4] Reviewed By: Gilbert Martinez / [signature] Z# 149355 Date 12/12/14
Supervisor or designee (print) Signature

1-9-14 JL

**ATTACHMENT 3**
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 68761

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 424 lbs

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: Adam Segovia [signature] 276701 9-9-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez [signature] 145511 9/10/14
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Gilbert Martinez [signature] 145511 9/10/14 1130
SOS/SOM or designee (print) Signature Z # Date Time

Salvage Ops 1 of 4 SP77

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Production Control** New container used @ 412. New ID given in WCATS B. Smyth 12/2/13

Container ID: S855566 \ 687161 Container Type: 85-GAL Gross Weight (lbs): 503

Inner Seal #: 021435 Filter Prefix: LAVC Filter Serial #: 00897

AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR

TWSR Comments: LEACHED SOLIDS NITRATE SALTS MST 12 A0748

Total PE-Ci Activity: 9.15E+00 Equivalent Combustible PE-Ci: 3.43E+00 AM-241 PE-Ci: 9.42E-01

Total Fissile Gram Equivalents: 92.7 Total Surface Dose Rate (mrem/hr): 4

EPA Code(s): [redacted] D009

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 1/11/2007 Comment: Impenetrable Obj,

Certified RTR Comment: None

Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☐ VE ☑ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) / Susan D. Ramsey (Signature) / 100681 (Z Number) / 11/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☑ No ☐ Unknown

Processing Determination: ☑ Accept ☐ Reject

WDP Engineering Comments: Nitrate Salts
Net Wt: 380#, Generator info shows 12 items of nitrate salts, with weights ranging from 8-43#. No RTR BDR, RTR PS shows impenetrable item(s). Nitrate salts typically packaged in plastic bags; other debris t/or undocumented liquids often present. Applicable waste codes are chromium, lead, t-mercury. Repack w/ admixture is required.

Performed By: Valerie Rhodes (WDP Engineering (Print)) / Valerie Rhodes (Signature) / 112609 (Z Number) / 11/7/13 (Date)

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available

Other Specific Safety Concerns: Use Proper PPE And Kitty Litter Rules

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Do not push or press on waste with hands. Use hexavalent gloves during processing.

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) / Jose Jerez (Signature) / 149235 (Z Number) / 12/6/13 (Date)
Jose Jerez 221452 12/6/13

IHS REVIEW: RR 200362 11.27.12 NOTES: D007 = Chromium D008 = LEAD

## Noncertified TRU Waste Drum Item Information

DrumID: 021435

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10OX1-2NW1 | | 12.460 | NITRATE SALTS | | 4.12 | 53 | 1/13 | G468 | |
| 2 | 10OX2-5NW1 | | 8.500 | NITRATE SALTS | | 1.83 | 54 | 1/13 | G468 | |
| 3 | 10LR2-3NE1 | | 8.140 | NITRATE SALTS | | 5.61 | 52 | 1/13 | G468 | |
| 4 | 10LR3-6NW1 | | 3.850 | NITRATE SALTS | | 2.07 | 56 | 1/13 | G468 | |
| 5 | 10OSI-7NW1 | | 19.370 | NITRATE SALTS | | 38.35 | 52 | 1/13 | G468 | |
| 6 | 10OX3-8NW1 | | 11.180 | NITRATE SALTS | | 6.58 | 54 | 1/13 | G468 | |
| 7 | 10OX4-10NW1 | | 5.000 | NITRATE SALTS | | 0.575 | 54 | 1/13 | G468 | |
| 8 | 10OX4-10NE1 | | 10.000 | NITRATE SALTS | | 1.39 | 54 | 1/13 | G468 | |
| 9 | 10LR411NW1 | | 7.800 | NITRATE SALTS | | 1.47 | 53 | 1/13 | G468 | |
| 10 | 10OS212NE1 | | 11.000 | NITRATE SALTS | | 11. | 52 | 1/13 | G468 | |
| 11 | 10DS212NW1 | | 18.500 | NITRATE SALTS | | 28.3 | 52 | 1/13 | G468 | |
| 12 | 10DS212NE2 | | 5.200 | NITRATE SALTS | | 2.23 | 52 | 1/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 199.5

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 85.49 | 62.21 |
| 53 | 5.59 | 20.26 |
| 54 | 10.375 | 34.68 |
| 56 | 2.07 | 3.85 |
| Totals | 103.53 | 121.00 |

SP72



**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 1/18/11

7.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Gabe Romero | [redacted] | 1236973 | 1-26-11 |
| | / | / | / |
| CCP (Print) | Signature | Z # | Date |

| Container No. (7.[1]): | S8555566 | S8556033 | S8212b4 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (7.[1]): | 55 gal | 55 gal | 55 gal |
| Current Filter Vent No. (7.[1]): | 72 | 72 | 72 |
| New Filter Vent No.: (7.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filter Vent (7.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (7.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | 31.04 | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (7.[11]): | 31.04 | Ø | Ø |

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet*

| | | | | |
|---|---|---|---|---|
| Container Number (7.[1]): | | S8555566 | S8551633 | S8212G4 |
| | Hydrogen Reading (ppm) (7.[10]): | 2295.14 ppm | Ø ppm | Ø ppm |
| | Methane Reading (ppm) (7.[10]): | Ø ppm | Ø ppm | Ø ppm |
| | Total VOC Reading (ppm) (7.[11]): | 31.04 ppm | Ø ppm | Ø ppm |
| Filter Type (7.[9][F][c]/7.[9][G][a]): | | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]): | | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | N/A |
| Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | N/A |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (7.[9][F][a]/7.[9][G][d]) * | | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments:
All 55 gallon drums were sampled from inside an 85 gallon overpack.

11.1[1] Performed By: Alicia Herrera, [signature] 198450 11/24/11
Waste Handling Operator (print) Signature Z # Date

11.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

11.1[7][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT
- Hydrogen – less than or equal to 32,000 ppm
- VOC – less than or equal to 7,000 ppm

11.1[7][B]/ 11.1[8] Reviewed By: Kenny Romero Kenny Romero 111886 1.26.11
Waste Handling Supervisor (print) Signature Z # Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110118c\
Data File : S855566.D
Acq On : 18 Jan 2011 12:51 pm (#1); 18 Jan 2011 12:50 pm (#2)
Operator : GR
Sample :
InstName : Unit 8
Misc : 55 GAL LFL DRUM FROM INSIDE 85 GAL OVERPACK (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 18 13:00:03 2011
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.246 | 96 | 4707646 | 209.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.933 | 117 | 3864536 | 184.00 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 5.346 | GC1 | 581170m | 2295.14 | ppm | |
| 4) Methanol | 0.788 | 31 | 24296 | 31.04 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Tue Jan 18 13:00:10 2011

1-10-14

0600 ASSUMMING OPERATIONS CENTER HSMITH

0615 STARTING PRE-JOB BRIEFING

0630 PREJOB BRIEFING CONCLUDED

0640 STARTING OUTSIDE ROUNDS

0645 STARTING INSIDE ROUNDS

0658 ITEM #63 INSIDE ROUNDS OOS, POD IN PLACE, PERMISSION GRANTED TO PROCEED

0706 OUTSIDE ROUNDS COMPLETED

0710 INSIDE ROUNDS COMPLETED

0719 INSIDE AND OUTSIDE ROUNDS REVIEWED BY SDS.

0729 MODE CHANGE INCREASE TO OPERATIONS IN WCRA YARD AND TA 50-69

0729 LATE ENTRY: OPERATORS IN TO PROCESS AT 0700, HS

0805 BAGGING ON S852588

0817 BAG ON COMPLETED

1000 BAGGING OFF BAGGING ON S844215

1023 BAGGING ON COMPLETED

1059 STARTING SHIPMENT INTO TA50-194/75,

1126 OPERATORS NOTIFIED ~~OPERATORS~~ 1/10/14 HS OPS CENTER OF BROKE LED LINED GLASS ON GLOVEBOX STATION 2

1220 OPERATORS EWT FOR LUNCH

1346 BEING RELIEVED BY OCO CLARISA VELARDE, HSMITH

1351 Assumed WCRR operations center - CVelarde

1455 Late entry vehicle access gate 1 Rear Rear Restricted shipment into WCRR complete 1358 CV.

1435 Begin, Bag off complete

1440 Movement into 50-69 being performed

1520 movement into 50-69 complete. ~~Begin Bagging on~~

1523 Starting inside rounds

1537 Item 63 is OOS POD in place, okay to proceed per OSE documentation

1543 Inside rounds complete, starting movement out of 50-69

1615 Movement out of 50-69 complete.

1619 Bagging off, Bagging on W8761

1647 Bag on, Bag off complete.

Continued on next page

1-10-14 - Continued from previous page -Deland

1648 Rounds signed off by SDS

1745 Bagging off last drum, will be installing port covers.

1808 Bag off complete.

1821 Note change to ~~operations~~ warm stby by TASD-9 and WCRRF yard

1-6-14 18x Entry dry WCRRF operations center secure -CDeland.

HH

We Thank You for Visiting Us Today

1/10/14 WCRR SOM

0600 Reviewed Shift Turnover Checklist and assumed the WCRR SOM position.

0603 Bldg 50-69 inside temp @ >70°F as noted on HVA-001 display in Ops Center.

0634 Prejob brief conducted by SOS (G. Martinez) concluded ES-11 safety topic was proper use of PPE - eyewear in particular. Discussed current inventory of drums scheduled to be received today - backfill drums on spill pallets inside 50-69 and use of shielding stands for heavy SP-57 drums. Noted that a couple of operators having wounds

0711 Completed daily call in to TA 54 SOM for WCRR PAD activities

0729 Completed Mode Change. WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations

0735 Operators adjusted thermostat in 50-69 to 68°F.

0817 Completed bag on of drum # 5852588.

1023 Completed all bag offs for drum 5852588 (1 daughter total), bagged on drum # 5844215

1435 All bag off completed for drum # 5844215 (1 daughter and 1 POC total), bagged on #68754.

1500 Completed a move in of 4 drums from transportainers to 50 69. All drums are SP 72.

1647 Completed all bag offs for parent # 68754 (1 daughter total), bagged on drum # 68761

1808 Completed all bag offs for parent # 68761 (1 daughter, 1 POC total) Port cover in place.

1821 Completed Mode Change WCRR Yard / Bldg 50-69 from Operations / operations to Warm / Warm

1830 Secured the SOM position

No further entries this page
KM

PROJECT NAME LERF SFS LOGBook NOTEBOOK NO.

1/10/14

0600 Assuming SFS Position at 116 117.6
0600 Conducted shift Brief used over Informs Inside 50.65 also used over EP-WERR-FC-DOP-1192, R.0
0640 Conducted shift brief
0719 Informed SFT Fogde that is inside Bounds
0726 Made Change Complete WERF In Operations Mode Late entry Operator Tim to Operate At other Am
0803 Begging att Jan 3544215
0817 Bag on Complete.
1000 Begging att Jan 3544215
1017 Bag on Complete.
1035 Started Shipment to Form 6
1125 Operations initiated at broken Lod Load Blow on Station 2
1211 Operator exiting for Lunch
1236 Shipment Complete.
1330 Operator Returning operations
1416 begging att Jan 68754
1433 Bag on Lod complete.
1441 Moving SFS to building 864
1500 Move to Complete
1528 Starting Lowers.
1543 Starting Move at at 50.65
1605 Move out complete
1619 Begging att Jan 68761
1642 Bag on Lod complete
1646 Removed Fogde spot outside Bounds
1705 Begging at last drum of Day.
1726 begg att complete.
1731 Made Change Complete WERF In Operations Mode
1/10/2016 Securing SFS Position end of shift. [signature]

HA

Use Further entries on this page

Best Available Copy

SIGNATURE _____ DATE _____
READ AND UNDERSTOOD _____ DATE _____

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0005 |
| Examination Date: | 1/15/2014 |
| Waste Container ID: | 69159 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0005 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 206.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 173.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 69159

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Liner lid, plastic bags |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 23.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 144.1 |
| Soils (S): | |
| Total WMP Weight: | 173.1 |

# CCP Radiography Data Sheet



Waste Container ID: 69159

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Thad Hasselstrom | [signature] | 1/15/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 69159 | Count Sequence Number: | 1311 |
| Operator: | CLREMO67292\User | | |
| Assay Start: | 2/10/2014 11:43:34 AM | | |
| Description 1: | 4LANDA0049 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6, FAR | | |
| Matrix Type: | S3000 | | |
| Container Type: | 55 Gal Drum | | |
| Weight: | Net: 173.0 kg | Net: | 173.0 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.880 kg /l | | |

## System Configuration

| | | | |
|---|---|---|---|
| Counter: | MILCC | | |
| Efficiency Description: | 208 Drum Far 1_01_13 | | |
| Segments: | Number: 2 | Offset: | 0 |
| Count Type: | Item Assay | | |
| Collimator/Geometry Setting: | Far - 2 | | |

Errors quoted at 1.000 sigma

********** Radioassay Data Sheet **********

Engine Version: TMU Gamma 1.4

| | | | |
|---|---|---|---|
| Count Sequence Number: | 1311 | Batch Number: | 4LANDA0049 |
| Assay Instrument: | MILCC | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-076 v 0 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69159 | Analysis Date: | 2/10/2014 |

| | | |
|---|---|---|
| Net Weight | 173000.0 g | |
| Pu mass | 9.97E+001 +- | 3.08E+001 g |
| TRU Alpha Activity | 2.54E+001 +- | 6.60E+000 Ci |
| TRU Activity Concentration | 1.47E+005 +- | 3.81E+004 nCi/g |
| Pu-239 Equivalent Activity | 2.60E+001 +- | 6.60E+000 Ci |
| Pu-239 FGE | 9.75E+001 +- | 3.07E+001 g |
| Decay heat | 8.30E-001 +- | 2.18E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NA22 | 4.63E-010 | 2.89E-006 | 9.29E-007 | 7.40E-007 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.50E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.42E-002 |
| U234 | 9.03E-002 | 5.62E-004 | 1.81E-004 | 0.00E+000 |
| U235 | 6.45E+000 | 1.39E-005 | 4.49E-006 | 3.58E-006 |
| NP237 | 2.94E-001 | 2.07E-004 | 6.58E-005 | 3.70E-006 |
| PU238 | 1.59E-002 | 2.71E-001 | 9.56E-002 | 2.93E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 4.88E-005 |
| PU239 | 9.24E+001 | 5.73E+000 | 1.90E+000 | 6.19E-002 |
| PU240 | 6.91E+000 | 1.57E+000 | 5.67E-001 | 1.70E-002 |
| AM241 | 5.20E+000 | 1.78E+001 | 6.29E+000 | 5.86E-002 |
| PU241 | 2.92E-001 | 3.01E+001 | 1.07E+001 | 3.26E-001 |
| PU242 | 5.05E-002 | 2.00E-004 | 6.98E-005 | 0.00E+000 |
| AM243 | 1.54E-003 | 3.08E-004 | 9.78E-005 | 1.38E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 2-12-14

ITR: Maria Ega Date: 2.13.14

## Automated Independent Technical Review

Count Sequence Number: 1311
Counter ID: MILCC
Container ID: 69159
Waste Matrix Code: S3000
Sequence Type:

Batch Number: 4LANDA0049
Count Type:
Assay Date: 2/10/2014

| Comments | Disposition |
|---|---|
| Data Combiner Analysis<br><br>No Multi-Modal Results Combination TMU results available for reporting purposes. | OK |
| Data Combiner Analysis<br><br>No Multi-Modal Results Combination TMU results available for reporting purposes. | OK |
| MGA Analysis<br><br>Expert review is recommended; the following validity tests failed:<br><br>Normalized fit value ( 1.25) is greater than allowed ( 1.25).<br><br>Fit value (4.99) is greater than allowed ( 2.50).<br><br>Am separation time ( 85.2 years) is greater than allowed ( 50.0).<br><br>Note: The measured and declared isotopics are inconsistent. | Isotopic analysis failed. AK Isotopics applied. The AK information utilized was provided by S. Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54,56. |
| Gamma Analysis<br><br>Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: _____ Date: 2/12/14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69159**

BDR Number: **LA14FG2022**

Sampling Date: **2/19/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 581.98 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 66.35 | |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140219c\
Data File : 69159.D
Acq On : 19 Feb 2014 12:48 pm (#1); 19-Feb-14, 12:48:01 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 19 12:56:54 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.565 | 96 | 3169717 | 205.75 | ppmv | 0.05 |
| 15) Chlorobenzene-d5 | 5.868 | 117 | 2485532 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.621 | GC1 | 4376m | 581.98 | ppmv | |
| 4) Methanol | 0.870 | 31 | 16805 | 66.35 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0005 |
| Examination Date: | 1/15/2014 |
| Waste Container ID: | 69185 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0005 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 172.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 27.4 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 69185

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: |
| OI: |
| C: |
| R: |
| XPM: Plastic bag |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid, Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP), Liner/Sleeve (Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 25.4 |
| Soils (S): | |
| Total WMP Weight: | 27.4 |

# CCP Radiography Data Sheet



Waste Container ID: 69185

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: Standard Pipe Overpack Container (P.O.C.)
There is separation between liner lid and liner therefore liner is vented.

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 1/15/2014 |
|---|---|---|
| Print Name | Signature | Date |

S855566



NDA 2000 Assay Report

********** Item Information **********

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69185 | Count Sequence Number: | 24160 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/21/2014 1:58:08 PM | | | | |
| Description 1: | 1LANDA1894 | | | | |
| Description 2: | POC 172.5 | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 27.4 | kg | Net: | 27.4 kg |
| Container: | Volume: | 208.0 | l | Full: | 95.0 % |
| Density: | | 0.733 | kg /l | | |

********** System Configuration **********

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24160 | Batch Number: | 1LANDA1894 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69185 | Analysis Date: | 1/21/2014 |

| | | |
|---|---|---|
| Net Weight | 27400.0 g | |
| Pu mass | 5.31E+000 +- | 2.41E+000 g |
| TRU Alpha Activity | 1.84E+000 +- | 1.00E+000 Ci |
| TRU Activity Concentration | 6.71E+004 +- | 3.67E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.86E+000 +- | 1.00E+000 Ci |
| Pu-239 FGE | 4.97E+000 +- | 2.40E+000 g |
| Decay heat | 6.04E-002 +- | 3.33E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.06E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.17E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 9.63E-007 |
| NP237 | 2.54E-002 | 1.79E-005 | 3.44E-006 | 1.64E-006 |
| PU238 | 7.76E-004 | 1.33E-002 | 6.63E-003 | 7.21E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 9.17E-006 |
| PU239 | 4.93E+000 | 3.06E-001 | 1.49E-001 | 1.66E-002 |
| PU240 | 3.68E-001 | 8.36E-002 | 4.22E-002 | 4.54E-003 |
| AM241 | 4.19E-001 | 1.44E+000 | 9.93E-001 | 9.61E-002 |
| PU241 | 8.76E-003 | 9.02E-001 | 4.53E-001 | 4.90E-002 |
| PU242 | 2.71E-003 | 1.07E-005 | 5.35E-006 | 0.00E+000 |
| CM243 | 6.36E-007 | 3.12E-005 | 6.51E-006 | 7.00E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.22.14

ITR: _____ Date: 1.23.14

## Automated Independent Technical Review

Count Sequence Number: 24160 Batch Number: 1LANDA1894
Counter ID: MCS HENC #1
Container ID: 69185
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/21/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Cosmic Ray Rejection Analysis complete with warnings.<br><br>- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok<br><br>Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,54, 53,56. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 1-22-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69185**

BDR Number: **LA14FG2011**

Sampling Date: **1/30/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

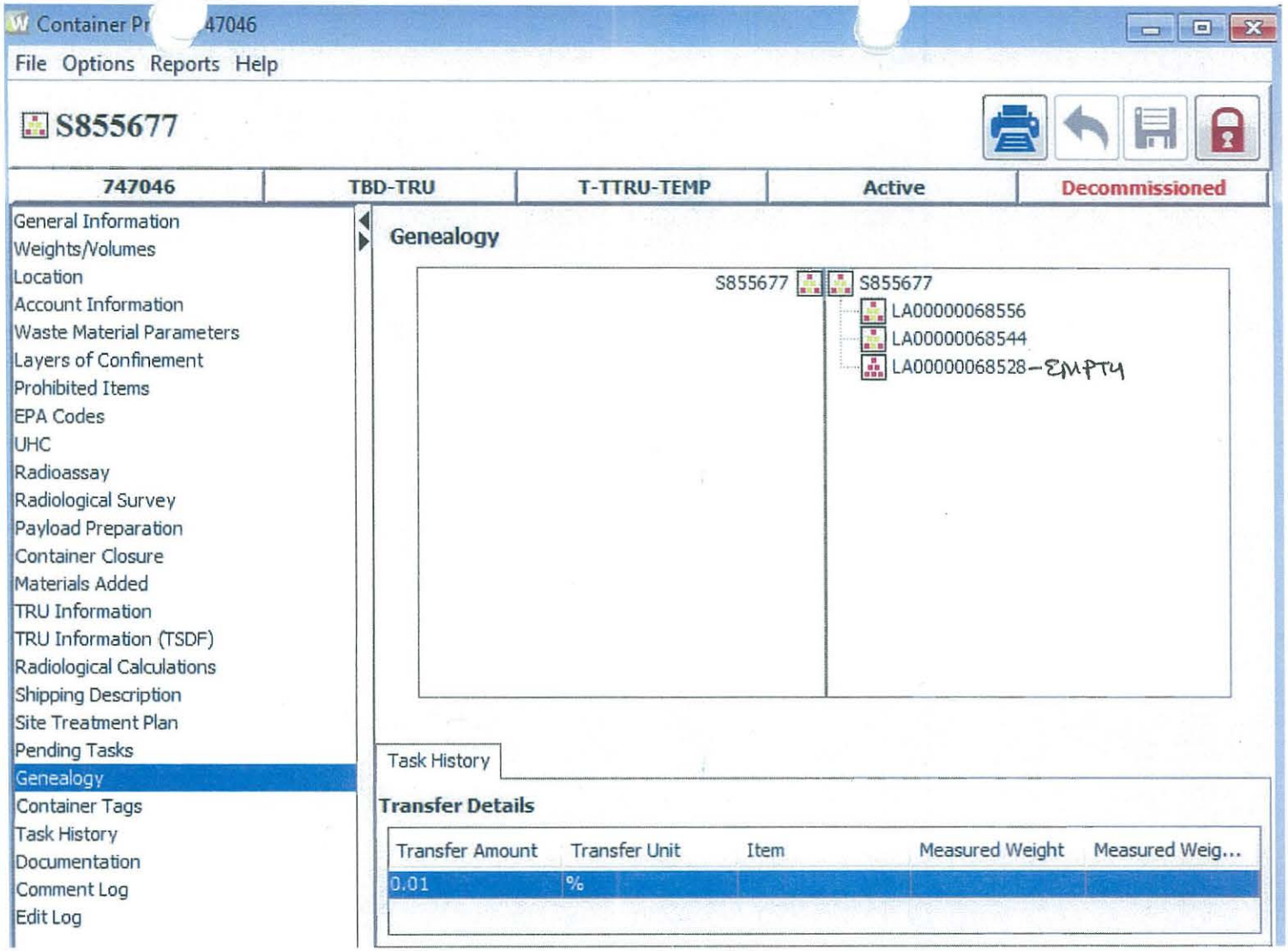
Data Path : C:\msdchem\1\DATA\140130c\
Data File : 69185.D
Acq On : 30 Jan 2014 3:15 pm (#1); 30-Jan-14, 15:14:34 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 30 15:22:59 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.558 | 96 | 3180621 | 205.75 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 2543290 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855677


Container Pr 47046
File Options Reports Help
S855677
747046
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S855677
S855677
LA00000068556
LA00000068544
LA00000068528 – EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
0.01
%

Working Copy
Date: 10-23-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 5855677

6.2[4] Date Processed: 10-23-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D001, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 0190605
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brian Gallegos / Bri Nolley 267129 10-23-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5855617

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 421.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): .0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 421.0 lb

6.2[7] **($)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A / / /
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A / / / /
EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5835677

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68556 | 68544 | N | |
| 10.1[4] | Daughter Drum Filter No. | LM-361 | LM-356 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-11507 | L-01886 | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | ☐ NO | ☑ N/A | |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | ☐ NO | ☑ N/A | |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | A | N/A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | N | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 4 GALLONS | 2 LITERS | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | LEAD SHIELDING | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | N/A | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | SEE COMMENTS | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | 70% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | KITTY LITTER | KITTY LITTER | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 8855477

Comments: ROOM TRASH, PLASTICS, NITRATE SALTS, KITTY LITTER, LEAD SHIELDING

11.1[1] Performed By: BRIAN GALLEGOS / BL Gallegos 126712 9 10 23-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins / CA 124009 / 10/23/13 1656
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 10-4-13 jc

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238366-1
Manufacture Date: 13

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | ± 4% cw ± 6% ccw | ± 3% cw ± 6% ccw |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: JL-1030
Manufacture Date: 10-11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Brandon Chavez / [signature] 124742 / 10-4-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/A

8.1[1] Performed By: Brandon Chavez / [signature] 124742 / 10-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / [signature] 240092 / 10/23/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-23-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68528

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 037418
- Cal. Expiration Date: 3-06-14
- Range in ft-lb: 10-80
- Tolerance: ±3% CW ±6% CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: BRIAN GALLEGOS / Bi Hollen / 267129 10-23-13
Waste Handling Technician (print) Signature Z# Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 165.6 lb

Comments: N/C

8.1[1] Performed By: BRIAN GALLEGOS / Bi Hollen / 267129 10-23-13 ~~10-23-14~~ BG 10-23-14
Waste Handling Technician (print) Signature Z# Date

8.1[7] Reviewed By: Clayton Mullins / CM / 240094 10/23/13
Supervisor or designee (print) Signature Z# Date

Working Copy
Date: 10-21-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68344

5.[3] Drum information:
- Purchase Order No.: 501578
- Lot No.: 240999
- Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 6CPVC1.5-2SPK
- Serial No.: L-6786
- Manufacture Date: 1/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4Y·cw±6Y·ccw | ±3Y·cw±6Y·ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: BRIAN GALLEGOS / B. Gallegos 246129 10-21-13
Operator (print) Signature Z# Date

5.[23] Filtered vent information:
- Manufacturer: NJCFIL
- Model No.: 0190S
- Serial No.: LH-356
- Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 74 lbs

5.[34][E] Drum ID No.: 68544

Comments: N/c

5.[35] Performed By: BRIAN GALLEGOS / Brian Gallegos / 267179 10-21-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] 1240092 10/23/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

Working Copy
Date: 10-23-13

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68544

6.[9] Drum closure ring torque wrench information:

| | |
|---|---|
| M&TE No.: | 037418 |
| Cal. Expiration Date: | 3-06-14 |
| Range in ft-lb: | 10-80 |
| Tolerance: | ±3% cw ±6% ccw |

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: BRIAN GALLEGOS / Bi Hadley / 267129 / 10.23.13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☐ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: _____ / _____ / _____
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68544

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 2946. lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/A

6.[32] Performed By: [illegible] [illegible] 1275[illegible] [illegible]
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins [illegible] 240092 10/23/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-4-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68556

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC1.5-2PVC
Serial No.: L-11507
Manufacture Date: 6/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12/18/13 | 12/18/13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4%cw ±6%ccw | ±3%cw ±6%ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: MICHAEL MONTOYA (Operator (print)) [signature] (Signature) 191352 (Z#) 10/21/13 (Date)

5.[23] Filtered vent information:
Manufacturer: NUKEL
Model No.: 019 PS
Serial No.: LM-361
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019069

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68556

Comments: _____

5.[35] Performed By: MICHAEL MONTOYA / [signature] / 191352 / 10/21/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] / 240096 / 10/23/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

Working Copy
Date: 10-23-13

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68556

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-06-14
Range in ft-lb: 10-80
Tolerance: ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: BRIAN GALLEGOS / Brian Gallegos / 1267129 / 10.23.13
Operator (print) / Signature / Z # / Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range in ft-lb: | N/A | N/A |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: _____ / _____ / _____ / _____
Operator (print) / Signature / Z # / Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68556

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 357.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: [illegible] | [signature] | 1228524 | 10/23/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins | [signature] | 240096 | 10/23/13
Supervisor or designee (print) Signature Z # Date

Imported SP78

# LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Planning and Technical Solutions

Container ID: S855677 Container Type: STEEL DRUM (55 GAL) Gross Weight (lbs): 435.9285
Total PE-Ci Activity: 5.23E+00 Equivalent Combustible PE-Ci: 1.96E+00
Total Fissile Gram Equivalents: 5.41E+01 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): D007; D008; D009
Waste Description: Nitrate salts

Remediation/Characterization Activities: Ensure EPA Codes D007, D008, and D009 are indicated on the Haz Waste Label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

RTR pre-screen indicates ~4 gallons of liquid throughout drum and @ the bottom of drum

Potential Safety Risks: Nitrate salt drums often contain free liquids and are packaged in individual plastic bags. Net weight is ~265 lbs. and generator data shows 15 items of nitrate salts with weights ranging from ~12–30 lbs.

Performed By: Susan Ramsey (LTP-PTS (Print)) | Signature | 100681 (Z#) | 7/30/13 (Date)

## IHS Representative

Potential IHS Safety Risks: Mercury Contains lead, Mercury, Chromium 4 gal of free liquid

Performed By: Tiffany Smallwood (IHS Representative (Print)) | Signature | 241659 (Z#) | 7-31-13 (Date)

## LTP Engineering

Waste container remediation compliant with applicable facility safety basis requirements: ☒ Yes ☐ No
Engineering Comments: NA

Performed By: Valerie Rhodes (LTP Engineering (Print)) | Valerie Rhodes (Signature) | 12601 (Z#) | 8/5/13 (Date)

## TRU Remediation Operations

Potential Safety Risks: USE Proper PPE and Kitty Litter Ratio

Performed By: Gilbert Martinez (TRU Operations (Print)) | Signature | 149235 (Z#) | 8/12/13 (Date)

## Operations Manager or designee

Processing Determination: ☒ Accept ☐ Reject
OM or designee Comments: Do not push or press on waste with hands. Use hexarmor gloves during processing. Use tools when possible to handle waste.

Approved By: Jose Jerez (OM or designee (Print)) | Signature | 221452 (Z#) | 8-13-13 (Date)

## Noncertified TRU Waste Drum Item Information

DrumID: 021413

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9LR9-28NE1 | | 5.630 | NITRATE SALTS | | 0.64 | 53 | 1/13 | G468 | |
| 2 | 9OX6-29NW1 | | 12.310 | NITRATE SALTS | | 1.36 | 53 | 1/13 | G468 | |
| 3 | 9OX7-31NW1 | | 6.740 | NITRATE SALTS | | 1.08 | 52 | 1/13 | G468 | |
| 4 | 9OX8-32NE1 | | 9.880 | NITRATE SALTS | | 3.16 | 52 | 1/13 | G468 | |
| 5 | 9RR2-34NE1 | | 6.200 | NITRATE SALTS | | 3.57 | 52 | 1/13 | G468 | |
| 6 | 9RR2-34NW1 | | 6.600 | NITRATE SALTS | | 4.56 | 52 | 1/13 | G468 | |
| 7 | 9LR10-33NW1 | | 9.600 | NITRATE SALTS | | 2.92 | 53 | 1/13 | G468 | |
| 8 | 9LR11-36NW1 | | 5.820 | NITRATE SALTS | | 1.72 | 53 | 1/13 | G468 | |
| 9 | 9LR11-36NE1 | | 5.430 | NITRATE SALTS | | 1.31 | 53 | 1/13 | G468 | |
| 10 | 9LR11-36NW2 | | 6.610 | NITRATE SALTS | | 0.96 | 53 | 1/13 | G468 | |
| 11 | 9OX935NE1 | | 10.210 | NITRATE SALTS | | 22.46 | 52 | 1/13 | G468 | |
| 12 | 9OX1037NE1 | | 13.860 | NITRATE SALTS | | 2.88 | 53 | 1/13 | G468 | |
| 13 | 9LR1238NW1 | | 6.530 | NITRATE SALTS | | 4.47 | 53 | 1/13 | G468 | |
| 14 | 9OX1139NE1 | | 8.740 | NITRATE SALTS | | 1.43 | 54 | 1/13 | G468 | |
| 15 | 9MX4-40NE1 | | 6.480 | NITRATE SALTS | | 5.83 | 52 | 1/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 197.7

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 40.66 | 46.11 |
| 53 | 16.26 | 65.79 |
| 54 | 1.43 | 8.74 |
| Totals | 58.35 | 120.64 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 5/28/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S855677 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 072 | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 14966 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Gabe Romero / 236973
CCP (Print) Z#

Reviewed By: Rick Jagielski / 266088
CCP (Print) Z#

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey / Susan Ramsey / 100681 / 5/28/13
Waste Handling Operator (print) / Signature Z# Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130528c\
Data File : S855677.D
Acq On : 28 May 2013 1:10 pm (#1); 28-May-13, 13:10:11 (#2)
Operator : GR
Sample :
Misc : 55 GAL DRUM THROUGH UNOBSTRUCTED NucFil-072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 13:19:01 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.513 | 96 | 3756047 | 201.25 | ppmv | -0.06 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 3232493 | 177.00 | ppmv | 0.05 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.606 | GC1 | 10637 | 1496.61 | ppmv | 100 |

(#) - qualifier out of range (m) = manual integration (+) - signals summed

vocgas.m Tue May 28 13:19:37 2013

10-23-13

0600 Assuming WCRF operations center. -JColeman
0615 Pre-job being conducted by SOS.
0616 Late entry at 0610, outside rounds were started. JC
0624 Beginning inside rounds.
0635 Pre-job concluded.
0649 Item #63 is OOS, okay to proceed per CSE documentation.
0708 Late entry at 0705, inside rounds complete. JC
0725 Both rounds reviewed by SOS.
0726 Late entry at 0705, outside rounds complete. JC
0733 Mode change completed. We are now in operations
0741 in WCRF yard and 50-69.
JC 10-23-13 ~~0734~~ Bagging on drum #818255
0744 Initiating a drum movement from transportainer to 50-69.
0753 Bag on complete.
0755 Drum movement into 50-69 complete.
0756 Being relieved by CCO, Clarissa Velarde. -JColeman
0759 Assuming WCRF operations center. -CVelarde
0830 Starting movement out of 50-69.
0851 movement out of 50-69 is complete.
0910 Bagging off & daughter, Bagging on 3955677
0940 Bag on, Bag off complete
1107 Bagging off, daughter, Bagging on another
1117 Bag on, Bag off complete
1145 Bagging off, Bagging on 3955279
1210 Bag on, Bag off complete
1333 Bagging off, daughter, Bagging on another
1340 Starting movement out of 50-69
1400 Bag on, Bag off is complete movement out of 50-69 is complete
1435 Bagging off, Bagging on 9854616
1458 Bag on, Bag off complete starting movement into 50-69
1536 movement into 50-69 complete
1655 Starting outside rounds
1742 Starting inside rounds.
- Continued on next pg. -CVelarde

10-23-13 - Continued from previous page Melanie

1722 Completed outside rounds.

1730 Item #43 is 005, POD in place okay to proceed per documentation.

1740 Late entry at 1633 bagging off 1 daughter, Bagging on 1 daughter. Melanie

1743 Bagging off last drum of the day.

1802 Bag off complete

1810 Rounds signed off by SDS

1820 Mode change performed TA50-69 and WCREF now in warm stand by

23-0-1820 End of day (WCREF Operations entries is complete Eld

All further entries this page.

0600 Assumed the WCBR SOM Position, John Gradagnola

0652 Completed the pre-job brief conducted by the SOS (Clayton) The safety topic was bullying and safety of Workers There were no transfers scheduled in or out. Roles and responsibilities were assigned. Attitude topic was discussed by the SOM.

0705 Completed the call in to ARCEN by to update POD - scheduled activities

0725 The SOS signed off the rounds after reviewing. SOM reviewed and signed off.

0733 Made Change in WCBR Yard and notified Facility to switch from Comm/Comm to Operations/Operations. Attempt to perform procedural work is unchanged by the SOM.

0741 Inside Operators started initiating bag-on of Parent dlvn SEG255

0743 Bag-on and build completed.

0758 Notification was received from the OM that 30 gallon lid restraints will require FAD approval prior to use. New restraints are being reviewed and will be issued after certification.

0805 Operators repeat bagging off 2 dumpsters and bagging on Parent SE055677

0940 Bag on and bag off cycle reported completed. Cycle continue to process

1005 Unit Supervisor requested review of slings, schedule and lift devices to evaluate to ensure none expire in October, notification was made to the SOS.

1145 Operators initiate bag off and bag on of Parent SE055260

1210 Bagoff was noted completed. Rotation of personnel through lunch conducted

1215 Completed the meet and greet with Sally, OM, providing facility update.

1333 Bagging off 1 dumpster, bagging on one new - continue Operations

1340 Outside movement from SE/ET to transportation initiated

1400 Bag on - Bag off complete and movement out of yard complete

1435 Bagging off, Bagging on SE04616

1458 Bag off and Bag on completed, observing outside operators move each item SAT depart to certain. RAD Survey for external transfers

1450 Completed observing RAD surveys and placing containers back into the area.

1610 All bagoffs were completed and the yard is in a safe configuration

1620 Made Change in WCBR Yard and notified transition from Operations/Operations to CAREN/WCBR

1625 Secured the SOM position for the evening shift

No further entries this page

PAS

10/23/13 WCRR SOS Log Book

0600 Assuming SOS position. CA

0615 Starting Pre-Job discussed ladder safety and anti-bullying, being respectful of others. Also ~~trip~~ cm 10-23-13 keeping a positive attitude while at work and out of work.

0635 Pre-Job complete.

0725 Signed off on the rounds.

0733 Mode change complete, WCRRF yard and 50-69 are now in Operations.

0741 Bagging on S818255.

0744 Starting drum movement into 50-69.

0753 Bag on complete.

0755 ~~0756~~ Movement in complete.

0830 cm 10-23-13 ~~0756~~ cm 10-23-13 Starting movement out of 50-69.

0902 Bagging off 2 daughters, bagging on S855677

0940 Bag off/on complete.

1055 Bagging off 1st daughter, bagging on a 2nd.

1117 Bag off/on complete.

1145 Bagging off 2nd daughter, bagging on S855290

1210 Bag off/on complete.

1333 Bagging off 1st daughter, bagging on a 2nd.

1340 Starting movement out of 50-69.

1400 Bag off/on complete. Also move out complete.

1435 Bagging off 2nd daughter, bagging on S945016.

1458 Bag off/on complete. Also starting movement into 50-69.

1536 Move in complete.

1633 Bagging off first daughter, bagging on a 2nd.

1644 Bag off/on complete.

1743 Bagging off 2nd daughter to complete processing.

1802 Bag off complete

1810 Signed off on the rounds.

1820 Mode change complete, WCRRF yard and 50-69 are now in Warm Standby.

1825 Securing SOS position for the day. CA

No Further Entries on this Page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0119 |
| Examination Date: | 10/28/2013 |
| Waste Container ID: | 68544 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0119 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 133.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 100.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 65 % |

# CCP Radiography Data Sheet



Waste Container ID: 68544

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 88.1 |
| Soils (S): | |
| Total WMP Weight: | 100.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68544

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Benito Maestas | | 10/28/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68544 | | Count Sequence Number: | 23744 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/29/2013 1:37:14 PM | | | | |
| Description 1: | 1LANDA1855 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 100.0 kg | Net: | 100.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 65.0 % | |
| Density: | | 0.740 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23744 | Batch Number: | 1LANDA1855 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68544 | Analysis Date: | 10/29/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 100000.0 g | | |
| Pu mass | 1.98E+001 +- | 6.70E+000 | g |
| TRU Alpha Activity | 4.40E+000 +- | 1.65E+000 | Ci |
| TRU Activity Concentration | 4.40E+004 +- | 1.65E+004 | nCi/g |
| Pu-239 Equivalent Activity | 4.46E+000 +- | 1.65E+000 | Ci |
| Pu-239 FGE | 1.85E+001 +- | 6.68E+000 | g |
| Decay heat | 1.43E-001 +- | 5.47E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.04E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.78E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.28E-006 |
| NP237 | 5.89E-002 | 4.16E-005 | 7.97E-006 | 2.18E-006 |
| PU238 | 1.81E-003 | 3.09E-002 | 1.20E-002 | 8.84E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.79E-005 |
| PU239 | 1.84E+001 | 1.14E+000 | 4.14E-001 | 3.26E-002 |
| PU240 | 1.35E+000 | 3.06E-001 | 1.19E-001 | 8.76E-003 |
| AM241 | 8.53E-001 | 2.93E+000 | 1.60E+000 | 4.38E-002 |
| PU241 | 2.96E-002 | 3.05E+000 | 1.19E+000 | 8.70E-002 |
| PU242 | 7.73E-003 | 3.05E-005 | 1.19E-005 | 0.00E+000 |
| AM243 | 9.30E-004 | 1.86E-004 | 3.60E-005 | 6.34E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 10-31-13

## Automated Independent Technical Review

Count Sequence Number: 23744 Batch Number: 1LANDA1855
Counter ID: MCS HENC #1
Container ID: 68544
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/29/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | <br><br>Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | <br><br>Ok<br><br><br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | <br><br>Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | <br><br>Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 10-30-13

S855677

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68544**

BDR Number: **LA13FG2114**

Sampling Date: **11/8/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131108c\
Data File : 68544.D
Acq On : 8 Nov 2013 1:20 pm (#1); 08-Nov-13, 13:19:48 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 08 13:28:05 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.548 | 96 | 4481455 | 205.75 | ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.855 | 117 | 3497560 | 177.50 | ppmv | 0.00 |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S855677

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | | |
|---|---|---|
| [X] RTR Examination | [ ] RTR Replicate Scan | [ ] RTR Independent Observation |
| Site ID: | LANL | |
| Batch Number: | LA-RTR2-13-0119 | |
| Examination Date: | 10/28/2013 | |
| Waste Container ID: | 68556 | |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0119 | A&B |
| Procedure and Revision No.: | CCP-TP-053 | Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A | |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 162.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 128.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 90 % |

# CCP Radiography Data Sheet



Waste Container ID: 68556

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags, plastic lid |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 114.6 |
| Soils (S): | |
| Total WMP Weight: | 128.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68556

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Benito Maestas | | 10/28/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68556 | | Count Sequence Number: | 23747 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/29/2013 3:50:41 PM | | | | |
| Description 1: | 1LANDA1855 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 129.0 | kg | Net: | 129.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 90.0 % |
| Density: | | 0.690 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23747 | Batch Number: | 1LANDA1855 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68556 | Analysis Date: | 10/29/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 129000.0 g | | |
| Pu mass | 8.77E+001 | +- 1.57E+001 | g |
| TRU Alpha Activity | 1.15E+001 | +- 2.86E+000 | Ci |
| TRU Activity Concentration | 8.94E+004 | +- 2.22E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.18E+001 | +- 2.86E+000 | Ci |
| Pu-239 FGE | 8.20E+001 | +- 1.46E+001 | g |
| Decay heat | 3.70E-001 | +- 9.44E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.10E-001 | 7.75E-005 | 1.42E-005 | 3.88E-006 |
| PU238 | 8.02E-003 | 1.37E-001 | 2.46E-002 | 3.06E-005 |
| PU239 | 8.15E+001 | 5.05E+000 | 9.06E-001 | 1.13E-003 |
| PU240 | 5.98E+000 | 1.36E+000 | 2.43E-001 | 3.03E-004 |
| AM241 | 1.45E+000 | 4.98E+000 | 2.70E+000 | 8.84E-002 |
| PU241 | 1.31E-001 | 1.35E+001 | 2.42E+000 | 3.02E-003 |
| PU242 | 3.42E-002 | 1.35E-004 | 2.42E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.83E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 8.39E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.40E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.70E-005 |
| AM243 | 2.13E-003 | 4.27E-004 | 7.93E-005 | 1.13E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 10-31-13

## Automated Independent Technical Review

Count Sequence Number: 23747 Batch Number: 1LANDA1855
Counter ID: MCS HENC #1
Container ID: 68556
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/29/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 10-30-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68556**

BDR Number: **LA13FG2114**

Sampling Date: **11/8/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 338.60 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

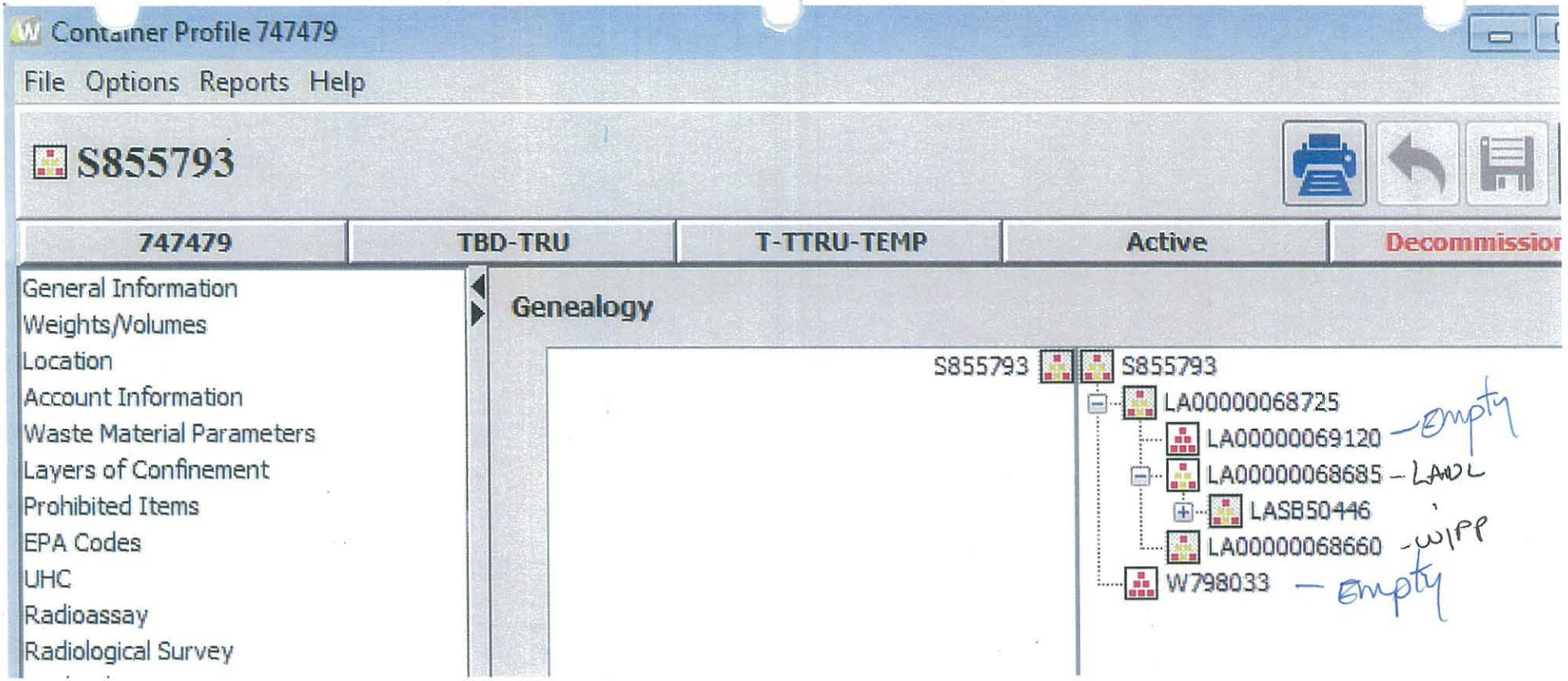
Data Path : C:\msdchem\1\DATA\131108c\
Data File : 68556.D
Acq On : 8 Nov 2013 1:55 pm (#1); 08-Nov-13, 13:54:39 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 08 14:03:54 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.571 | 96 | 4499309 | 205.75 | ppmv | 0.05 |
| 15) Chlorobenzene-d5 | 5.874 | 117 | 3483764 | 177.50 | ppmv | 0.01 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.604 | GC1 | 2546m | 338.60 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855793


Container Profile 747479
File Options Reports Help
S855793
747479
TBD-TRU
T-TTRU-TEMP
Active
Decommissior
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Genealogy
S855793
S855793
LA00000068725
LA00000069120
LA00000068685
LASB50446
LA00000068660
W798033
empty
LANL
WIPP
empty

Working Copy
12-4-13
Date: ~~12-3-13~~

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 68725

6.2[4] Date Processed: 12-4-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ~~☐ Repack~~

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ~~☐ N/A~~

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the ~~OPERATION~~ or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019005
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to ~~624~~ lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Edward Matthew I [signature] 1239911 12-4-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 68725

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 444.6 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 22.0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 466.4 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☒ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A

Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A

EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 608725

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 608660 | 608685 | | |
| 10.1[4] | Daughter Drum Filter No. | LM-870 | LM-866 | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10325 | L-10041 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | ☐ NO | ☑ N/A | |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | ☐ NO | ☑ N/A | |
| 10.2[4] | POC bag-on bag: Manufacturer | / | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | N/A | | N/A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 2 Gallons | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | N/A | lead shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | N/A | | N/A |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See Comments | See Comments | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 60% | 85% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty litter & wet gloves | Kitty litter plastic Stub outs | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 68725

Comments: Room trash, Kitty litter, Nitrate salts 2 gallons pH-0 liquid & glass neutralized, stub out bags

11.1[1] Performed By: Federico Mendoza / [signature] 1225826 / 12-4-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Martinez / [signature] 1149235 / 12/6/13 0903
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 2
Page 1 of 1

Working Copy
Date: 12-3-13

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238366-1
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Tolerance: | | |

Overpack filtered vent information:

Manufacturer: N
Model No.:
Serial No.:
Manufacture Date: A

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ Yes ☐ No

5. [11] Performed By: _____ / _____ / _____
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb

5. [18] 2-in. bung plug torque value: _____ ft-lb

Comments: Drum not prepped at WCRRF

8.1[1] Performed By: DeLorra Arbuckle / [signature] 1278826 12-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Gilbert Martinez [signature] 114935 12/6/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 12-3-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 69120

7.[23] Overpack drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16 - 80
Tolerance: +/- 3% CW +/- 6% CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Federico Arboleda / [signature] 1228826 / 12-4-13
Waste Handling Technician (print) Signature Z# Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 167.0 lb

Comments: NC

8.1[1] Performed By: Federico Arboleda / [signature] 1228826 / 12-4-13
Waste Handling Technician (print) Signature Z# Date

8.1[7] Reviewed By: Gilbert Martinez / [signature] 149238 / 12/6/13
Supervisor or designee (print) Signature Z# Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 11/12/13 LTS

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 685660

5.[3] Drum information:
- Purchase Order No.: 501578
- Lot No.: 0240119
- Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 60PUC 1.5-2 SAM
- Serial No.: L-10325
- Manufacture Date: 6-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 108216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 8-5-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | +/- 4% CW +/- 6% CCW | +/- 3% CW +/- 6% CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick Abeleda | [signature] 1270886 | 11-12-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
- Manufacturer: Nucon
- Model No.: 019DS
- Serial No.: LM 870
- Manufacture Date: 12-12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68662

Comments: N/C

5.[35] Performed By: Frederick Archuleta [signature] 122[illegible] 11-12-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez [signature] 114[illegible] 12/6/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68660

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range: 16-80 ft-lb
Tolerance (+/-): +/- 3% cw +/- 6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick Archuleta [signature] 1228826 / 12.4.13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | |
| Range: | N/A in-lb | N/A ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO ☐ N/A

Performed By: Frederick Archuleta [signature] 1228826 / 12.4.13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 086060

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 255.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Frederick Hobbs I [signature] 12268261 12-4-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez I [signature] 419235 12/6/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 11-18-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68685

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: , 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BDP
Model No.: 6CPVC-1.5-2.5PVC
Serial No.: L-10041
Manufacture Date: 05/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12/18/13 | 08/05/14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | ±4/cw ±6/ccw | ±3/cw ±6/ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Andrew N. Romero / Andrew N Romero 187006 11/18/13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NucFil
Model No.: 019DS
Serial No.: LM-866
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68685

Comments: N/C

5.[35] Performed By: Andrew H. Rosero (Operator (print)) Andrew Thomas (Signature) 187004 (Z #) 11/15/13 (Date)

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) (Signature) 149235 (Z #) 12/6/13 (Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 608685

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range: 116 - 80 ft-lb
Tolerance (+/-): +/- 3% CW +/- 10% CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick Bartlett / [signature] 122888 / 12-4-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range: | N/A in-lb | N/A ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☐ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 086855

6.[26] Scale File ID number: 0190605

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 392.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Frederick McLeod / [signature] Z228826 / 12-4-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] Z49285 12/6/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 12-3-13

**ATTACHMENT 3**
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 68725

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 444.6

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/A

8.1[1] Performed By: Frederick Ackleh / [signature] 1226826 12-3-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez / [signature] 149238 12/6/13
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: Gilbert Martinez / [signature] 149238 12/6/13 0910
SOS/SOM or designee (print) Signature Z # Date Time

Salvage Drum Parent Drum SP72 1954

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container was re-labeled & given new number. B Smith 11/21/13

Container ID: S855793 / 168725 (Parent / Daughter) Container Type: 85-GAL Gross Weight (lbs): 513

Inner Seal #: 021419 Filter Prefix: LAVC Filter Serial #: 00299

AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR

TWSR Comments: LEACHED SOLIDS NITRATE SALTS MST 12 A0749

Total PE-Ci Activity: 3.44E+00 Equivalent Combustible PE-Ci: 1.29E+00 AM-241 PE-Ci: 3.02E-01

Total Fissile Gram Equivalents: 36.2 Total Surface Dose Rate (mrem/hr): 3

EPA Code(s): [redacted], D009

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 1/10/2007 Comment: Impenetrable Obj,

Certified RTR Comment: None

Prohibited Items: ☒ Sealed > 4 Liters ☒ Liquid ☒ Pressurized Container ☑ Impenetrable Item ☒ Other

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☐ VE ☑ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) / [signature] (Signature) / 100681 (Z Number) / 11/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown

Processing Determination: ☒ Accept ☐ Reject

WDP Engineering Comments: Nitrate Salts
Net Wt: 453#. Generator info shows 14 items of nitrate salts; weights range from 10-33#. Nitrate salts are typically packaged in plastic bags; undocumented liquids &/or debris may be present. No RTR BDR. RTR PS shows impenetrable item(s). No chemicals identified. Applicable waste codes are for chromium, lead, & mercury. Nitrate salts require repack w/ admixture.

Performed By: Valerie Rhodes (WDP Engineering (Print)) / Valerie Rhodes (Signature) / 112609 (Z Number) / 11/23/13 (Date)

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available

Other Specific Safety Concerns: Use Proper PPE And Kitty Litter Ratio

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments:

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) / [signature] (Signature) / 149235 (Z Number) / 11/13/13 (Date)

Darrel L. Blain / [signature] / 218069 / 11/14/13
Jose Jerez / [signature] / 221452 / 11/19/13

IHS REVIEW: IHS 206362 11.27.12 NOTES: D007 = Chromium
D008 = LEAD



IHS. Review. Juliana Smallwood CSP, may contain Pb. Hard Cr.

## Noncertified TRU Waste Drum Item Information

DrumID: 021419

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10LALR1W | | 5.940 | NITRATE SALTS | | 3.58 | 53 | 1/13 | G468 | |
| 2 | 10LR5W1 | | 4.800 | NITRATE SALTS | | 0.52 | 53 | 1/13 | G468 | |
| 3 | 10LR5E1 | | 9.710 | NITRATE SALTS | | 1.73 | 53 | 1/13 | G468 | |
| 4 | 10LR16W1 | | 8.600 | NITRATE SALTS | | 2.39 | 53 | 1/13 | G468 | |
| 5 | 10LR16E1 | | 7.400 | NITRATE SALTS | | 0.64 | 53 | 1/13 | G468 | |
| 6 | 10LR17W1 | | 7.000 | NITRATE SALTS | | 0.77 | 53 | 1/13 | G468 | |
| 7 | 10LR17E1 | | 7.200 | NITRATE SALTS | | 0.35 | 53 | 1/13 | G468 | |
| 8 | 10RR18E1 | | 9.680 | NITRATE SALTS | | 4.34 | 52 | 1/13 | G468 | |
| 9 | 10OX11W1-1 | | 9.960 | NITRATE SALTS | | 8.19 | 52 | 1/13 | G468 | |
| 10 | 10OX11W1-2 | | 10.970 | NITRATE SALTS | | 9.02 | 52 | 1/13 | G468 | |
| 11 | 10LR18E1 | | 14.200 | NITRATE SALTS | | 1.17 | 52 | 1/13 | G468 | |
| 12 | 10LR18W1 | | 12.930 | NITRATE SALTS | | 2.26 | 52 | 1/13 | G468 | |
| 13 | 10OX21E1 | | 9.600 | NITRATE SALTS | | 1.32 | 52 | 1/13 | G468 | |
| 14 | 10OX21W1 | | 15.100 | NITRATE SALTS | | 2.42 | 52 | 1/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 204.1

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 31.11 | 94.34 |
| 53 | 7.59 | 42.05 |
| Totals | 38.7 | 136.39 |

**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 1·11·11

7.[7] Certified CCP Technician:

| Gabe Ramos | [signature] | 1356973 | 1-12-11 |
|---|---|---|---|
| CCP (Print) | Signature | Z # | Date |
| / | / | / | / |
| CCP (Print) | Signature | Z # | Date |

| Container No. (7.[1]): | S855793 | S824555 | |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (7.[1]): | 55gal | 55gal | |
| Current Filter Vent No. (7.[1]): | 72 | 72 | |
| New Filter Vent No.: (7.[8][A]): | 72 | 72 | |
| WIPP-Approved Filter Vent (7.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| VOC | Value (ppm) (7.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (7.[11]): | Ø | Ø | |

No Further Entries
GR 1/12/11

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | | |
|---|---|---|---|---|
| Container Number (7.[1]): | | S855793 | S824555 | |
| Hydrogen Reading (ppm) (7.[10]): | | 26290 ppm | 18264 ppm | ppm |
| Methane Reading (ppm) (7.[10]): | | Ø ppm | Ø ppm | ppm |
| Total VOC Reading (ppm) (7.[11]): | | Ø ppm | Ø ppm | ppm |
| Filter Type (7.[9][F][c]/7.[9][G][a]): | | 72 | 72 | |
| WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][u]): | | SAT | SAT | |
| Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | |
| Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | |
| Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☑ YES ☐ NO ☐ N/A |
| Filter Torque Value (7.[9][F][a]/7.[9][G][d]) * | | N/A | N/A | |

No Tweezer Cutters 1.13.11

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments:
All 55 gallon drums were sampled from inside an 85 gallon overpack.

11.1[1] Performed By: Alicia Herrera / [signature] 198480 / 1-10-11
Waste Handling Operator (print) Signature Z # Date

11.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

11.1[7][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

- Hydrogen – less than or equal to 32,000 ppm
- VOC – less than or equal to 7,000 ppm

11.1[7][B]/ Reviewed By: Henry Romero Henry Romero 111886 / 1.13.11
11.1[8] Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110111c\
Data File : S855793.D
Acq On : 11 Jan 2011 4:31 pm (#1); 11-Jan-11, 16:30:29 (#2)
Operator : EL
Sample :
Misc : 55 GAL LFL DRUM FROM 85 GAL OVERPACK (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 11 16:41:48 2011
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Mon Jan 10 10:28:07 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.639 | 96 | 9126585 | 205.50 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.961 | 117 | 7843561 | 182.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.660 | GC1 | 2057m | 262.90 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Tue Jan 11 16:42:05 2011

12-4-13 Continued from previous page: HColeman

0506 Item #63 is COS, okay to proceed per CSE documentation.

0507 Inside rounds complete.

0525 Drum movement out of 5016 Complete.

0526 Bagging off | daughter, bagging on Le8725.

0555 Bag off/on complete. operators have identified several gloves that need to be changed out.

0608 Both rounds reviewed by SOS.

12-4-13 0613 Being relieved by OCO, Howard Smith - HColeman

No further entries this page.

12/4/13

0613 ASSUMING OPERATIONS CENTER H SMITH
0625 STARTING PRE-JOB BRIEFING
0700 PRE JOB CONCLUDED
0723 OPERATORS ENTER FACILITY TO INSPECT GLOVEBOX GLOVES FOR GLOVE CHANGES
0815 OPERATORS NOTIFIED OPERATIONS CENTER GLOVEBOX GLOVE STATION #7, WILL NEED TO BE CHANGED.
0821 MODE CHANGE DECREASE TO WARM STANDBY IN TA50-69 AND WCRRF YARD.
0832 STARTING GLOVEBOX GLOVE CHANGES AT STATION #7 BOTH LEFT & RIGHT GLOVES
0858 COMPLETED GLOVE CHANGES
0904 MODE CHANGE INCREASE WCRR YARD AND TA50-69 NOW IN OPERATIONS MODE
0920 OPERATORS ADVISE OPS CENTER ON POST JOB SURVEYS RE FOUND 10 DPM ALPHA AT STATION #7, WIPE DOWN AND WILL RE-EVALUATE. $ 12/4/13
0934 OPERATORS ADVISED OPERATION CENTER SMEARS FROM GLOVE SURVEYS WERE NDA
0936 BAGGING OFF, BAGGING ON DAUGHTER
0953 BAG OFF COMPLETE AND CONTINUING TO PROCESS
1005 EWMD DIVISION BEP MEETING BEGINNING
1041 BAGGING OFF, BAGGING S861976
1116 OPERATORS NOTIFIED OPS CENTER OF LEFT HAND CONTAMINATED GLOVE WHILE PERFORMING BAG CUT DURING BAG OFF, PPE GLOVE REMOVED AND RCT'S STATED LEVEL BELOW RWP LIMITS AND OPERATORS CONTINUED WITH OPERATION
1144 OPERATORS NOTIFIED OPERATIONS CENTER OF 15 GALLONS ON FLUIDS IN S861976, AND DRUM STILL CONTAINS FROZEN MATTER
1154 BAGGING OFF, BAGGING ON 1 DAUGHTER
1155 LATE ENTRY: EWMD DIVISION BEP BRIEFING CONCLUDED 1145 HS
1210 BAG ON BAG OFF COMPLETED

CONTINUED ON NEXT PAGE H SMITH

12-4-13 CONTINUED FROM PREVIOUS PAGE H SMITH

1250 OPERATORS OUT WASTE IN SAFE CONFIGURATION TO PAUSE WORK FOR MEETING AND LUNCH

1510 WORK SCHEDULE ~~BS~~ HS 12/4/13 BRIEFING CONCLUDED

1620 OPERATORS DONNING AND BAGGING OU.

1700 STARTING OUTSIDE ROUNDS

1720 BAG ON BAG OFF COMPLETED, BAG ON 68734

1730 OUTSIDE ROUNDS COMPLETED

1731 BEGIN MOVEMENT OUT OF TA50-69 INTO TA50-194/75

1731 STARTED INSIDE ROUNDS

1749 ITEM #63 INSIDE ROUNDS OOS, POD IN PLACE PERMISSION TO PROCEED PER COE DOCUMENTATION

1755 MOVEMENT INTO TA50-194/75 IS COMPLETED.

1756 INSIDE ROUNDS COMPLETE

12-4-13 1800 BEING RELIEVED BY TERRI COLEMAN H SMITH

NO FURTHER ENTRIES ON THIS PAGE H SMITH

12/3/13 Night Shift

1810 Reviewed shift turnover checklist and assumed WCRR SOM position

1817 Approved and posted the Night Shift operations watch bill.

1835 Pre job brief conducted by SOS was completed. Discussed drums inside 50-69 staged for processing of pinholes identified from day shift. We will seal the holes w/ sealant during denesting. Priority is to process remaining SP-3 drums inside 50-69 and tomorrow day shift will start processing SP-72 drums. IH discussed reporting of first aid injuries no matter how minor or location at work - whether it occurred in a controlled area or not.

1945 Completed briefing of all operators, RCT's and management on new BEP being rolled out next Monday 12/9/13

2100 Completed briefing of SOM, SOS and DCO's for BEP implementation of DOP's and actions.

2219 Completed movement of 2 drums into 50-69 for processing.

12/4/13 0008 Operators completed denesting 2 drums - a third they noticed w/ a split drum ring and severe dent (drum # 68811) and closed back up. All bag offs were completed for parent # 5824128 (1 daughter, 1 POC total) and drum # 68801 was bagged on.

0016 Operators breaking for lunch.

0120 Resuming operations.

0258 Operators completed all bag offs for parent # 68801 (1 daughter total) Bagged on drum # 68808.

0304 Operators encountered a sealed 30 gal container.

0311 Ops Center received report of an operator w/ a contaminated bootie. RP-1 is conducting surveys of area. Operations on hold.

0318 RP-1 reported that all surveys of area are NDA. Operator was able to pass thru HFM twice w/out alarming. Direct survey of bootie did not show any contamination - all other operators were surveyed w/ no contamination. Resuming operations.

0335 WCG receptacles re de energized - drum has been breeched - beginning 30 minute wait.

0405 30 minute wait time elapsed. Resuming operations

0525 Completed move out of 8 drums.

0555 Completed bag offs of parent # 68808 (1 daughter total) and bagged on drum # 68725 (SP-72).

Continued on next page →

12/3/13 Night Shift continued

12/4/13 0612 Reviewed round sheets, TSR tracking worksheet and verified status board updated.

0617 Relieved by J. Goodegnol as SOM.

No further entries this page

LAG



12-4-13 DAYSHIFT

0606 Reviewed shift turnover checklist and assumed the WCRR SOM position John Goudegnol

0638 Completed attending the pre-job brief conducted by the SOS (Claussen). The safety topic was high wind, be careful when opening transportation doors on morgan shed / PPE dress. During shift relief, it was reported stations 1, 2, 3, 4, 7, and 8 gloves require changing due to wear. The PIC and RCT will inspect prior to operations commencing. There is one scheduled transfer out.

0728 Completed daily PDD call in with ARER 6 - SOM

0815 Inside operations report they will change station 7 - 2R hand -

0821 Mode Change: 56/69 and yard transition from Operations/Operations to WARM/WARM

0832 The saxon radio was checked and was noted operational, no battery required.

0856 Glove change noted completed.

0904 Mode change 56/69 and Yard transition from WARM/WARM to Operations/Operations

0936 Inside operation initiate bag off and bag on of 1 daughter of Parent GB725 SF-72

1010 Initiate Training in Operations Center on EWMO Division Bldg Emergency Plan Ops Center Protocol with (CD) ES trainer.

1041 Inside Operations report bagging off and bagging on Parent SB61976.

1116 Inside Operations report that the Left hand / PPE glove was contaminated during bag off, RCTs removed and contained / threw away glove, levels were within RWP limits - PPE glove replaced and operations continued.

1144 Operators report 15 gallons of liquid from parent 9861976 and they observe freeze marker within the drum. Pit is noted as Ø.

1154 Operators are bagging off 1 daughter and bagging on another

1252 Operations place weld in a safe configuration and exit for lunch

1330 Operations completed meeting with ES Project Manager and reenter 52/69

1620 Operations initiated denesting 2 parents and will perform bag off / bag on.

1718 The bag off and bag on is noted complete Placed drum bagged on is GB794

1731 Operations initiate movement of 4 drums.

1752 All movements were completed, weld secured for night shift.

1809 Relieved of SOM by R. Axtell John Goudegnol

No further Entries this page

LAG

40

PROJECT NAME WCRR SOS log book NOTEBOOK NO.

12/03/13

1800 Assuming SOS position from Clarissa Valverde. [signature]

1815 Shift Turn over with off going shift conducted

1825 Pre job briefing started. Discussed planned events for the shift. Denesting, Drum movements, Bagon/off, Process Parents. Discussed hazards associated sharps, dropped drums.

1855 Pre job completed.

1900 Training for LTP Building Emergency Plan starts. Course # 23182

1945 Training completed for all of crew now the operation Center, SOM and SOS get more training. Did not have enough people to denest or start work until training is completed.

2100 Training completed.

2205 Moving drums into 50-69. 2 SP3 drums.

2219 Drum Movement completed.

2245 De Nesting 3 drums and bagging off 1 daughter and 1 POC. Operators only denested 2 drums. 1 drum had a busted Ring and was dented. Lid Placed back on and closed up. See Pictures on camera.

0008 De nesting completed. Bag off completed Bag on 68801.

0315 Begin outside rounds.

0231 Bagging off 1 daughter, Bagging on 68808

0245 Outside rounds complete.

0258 Bag off/on completed.

0304 Operators have encountered a sealed 30 gallon sealed container.

0311 Notified that operator 38 went through the hand and foot monitor after an evolution and his bootie alarmed the monitor. RCTs did a large area massilin of the floor and found no contamination. The bootie was checked and nothing was found. RCTs let operation to continue.

0335 Receptacles have been de-energized and the 30 gallon container has been breached Starting 30 minute wait

0405 30 minute wait time is over. Resuming operations

0450 Drum movement out of the building 50-69

0525 Drum movement completed out of 50-69.

0526 Bagging off 1 daughter, Bagging on 68725.

0608 Rounds signed off.

0625 Relieved by SOS Clarissa Valverde.

No further entries this page. AHB 12-4-13

SIGNATURE _____ DATE _____ 20

READ AND UNDERSTOOD _____ DATE _____ 20

41

PROJECT NAME _____ NOTEBOOK NO.

12-4-13

0625 Assuming WCRRF SOS position.

0626 Starting Pre-job briefing

0700 Pre job concluded

0818 Glove inspection complete. Will need to change out 4th 12-4-13 station 7 left and right

0821 mode change to Warm on WCRRF yard and TA50 69

0832 Started glove changes.

0858 Glove changes completed.

0904 mode change performed. TA50 69 and WCRRF yard in operations.

0920 Operators inside notified ops center. that post job results showing 100 dpm alpha from station 7 glove changes. RCTs to perform @ 12-4-13 reperforming smears after wipe down.

0935 Post results of smears of station 7 are. WDA.

0936 Bagging off 1 daughter, bagging on 1 daughter.

0953 Bag on, Bag off complete.

1000 Briefing being conducted on Emergency plan operations Centers response Protocal.

1041 Bagging off, Bagging on 5861976

1116 Worker pic, notified ops center of a Hot left hand PPE glove while performing bag out. PPE glove removed and RCTs have control RWP limits not exceeded. Operators continuing with operations.

1144 Anoxide pic notified ops center of 15 gallons of liquid from drum 5861976 and drum still contains 200

1155 Bagging off 1 daughter, Bagging on 1 daughter.

1156 late entry briefing completed at 1130 CD

1210 Bag on, Bag off complete.

1300 meeting with ES Ops manager

1500 meeting concluded.

1620 starting to denest and bag off. Then bagging on 68734

1708 Bagon, Bag off complete. Denesting also complete.

1721 Starting inside rounds.

1736 Completed outside rounds.

1736 Starting movement out of 50-69

1800 Completed inside rounds.

1815 Being relieved by SOS Darrell Blair, - Cvalverde

no further entries this page

SIGNATURE _____ DATE _____ 20

READ AND UNDERSTOOD _____ DATE _____ 20

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0135 |
| Examination Date: | 12/12/2013 |
| Waste Container ID: | 68660 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0135 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 116.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 82.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 65 % |

# CCP Radiography Data Sheet



Waste Container ID: 68660

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | |
| OI: | |
| C: | |
| R: | Leaded rubber gloves |
| XPM: | Plastic bags, liner lid, plastic containers |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 5.0 |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 71.6 |
| Soils (S): | |
| Total WMP Weight: | 82.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68660

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 12/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68660 | | Count Sequence Number: | 24046 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/2/2014 4:07:48 PM | | | | |
| Description 1: | 1LANDA1885 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 82.2 | kg | Net: | 82.6 kg |
| Container: | Volume: | 208.0 | l | Full: | 65.0 % |
| Density: | | 0.610 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24046 | Batch Number: | 1LANDA1885 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68660 | Analysis Date: | 1/2/2014 |

| | | |
|---|---|---|
| Net Weight | 82600.0 g | |
| Pu mass | 8.01E+000 +- | 1.24E+000 g |
| TRU Alpha Activity | 7.09E-001 +- | 7.56E-002 Ci |
| TRU Activity Concentration | 8.58E+003 +- | 9.20E+002 nCi/g |
| Pu-239 Equivalent Activity | 7.46E-001 +- | 7.59E-002 Ci |
| Pu-239 FGE | 7.86E+000 +- | 1.16E+000 g |
| Decay heat | 2.24E-002 +- | 2.36E-003 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 3.66E-002 | 2.58E-005 | 4.45E-006 | 2.00E-006 |
| PU238 | 1.22E-003 | 2.08E-002 | 3.22E-003 | 4.96E-005 |
| PU239 | 7.46E+000 | 4.63E-001 | 7.14E-002 | 1.10E-003 |
| PU240 | 5.31E-001 | 1.21E-001 | 1.86E-002 | 2.87E-004 |
| AM241 | 3.04E-002 | 1.04E-001 | 1.61E-002 | 2.48E-004 |
| PU241 | 1.95E-002 | 2.00E+000 | 3.10E-001 | 4.77E-003 |
| PU242 | 2.65E-003 | 1.05E-005 | 1.62E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.75E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.42E-003 |
| U234 | 7.45E-003 | 4.63E-005 | 1.29E-005 | 0.00E+000 |
| U235 | 5.31E-001 | 1.15E-006 | 3.20E-007 | 1.08E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.10E-005 |
| AM243 | 1.71E-003 | 3.41E-004 | 5.91E-005 | 5.93E-006 |

Errors quoted at 1.000 sigma

Operator: RR Bowman Date: 1-8-14

ITR: [signature] Date: 1-8-14

039 PA 1-8-14

## Automated Independent Technical Review

Count Sequence Number: 24046 Batch Number: 1LANDA1885
Counter ID: MCS HENC #1
Container ID: 68660
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/2/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | OK |
| Cosmic Ray Rejection Analysis complete with warnings.<br><br>- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | OK |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Pu results taken from Passive Neutron data, U from Quantitative Gamma data. |
| Section 4 - MGA Analysis<br><br>Expert review is recommended; the following validity tests failed:<br><br>Normalized fit value (38.46) is greater than allowed ( 1.15).<br><br>Fit value (476.0) is greater than allowed ( 2.50).<br><br>Uncertainty in Pu240 effective ( 26.7%) is greater than allowed ( 20.0%).<br><br>Pu239 weight percent is outside limits [ 92.5, 95.0].<br><br>Note: The measured and declared isotopics are inconsistent. | Isotopic analysis failed. AK Isotopics applied. The AK information utilized was provided by Steve, AKE, and conists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |

| Comments | Disposition |
|---|---|
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: _____ Date: 1/7/14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68660**

BDR Number: **LA14FG2002**

Sampling Date: **1/3/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 161.59 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140103c\
Data File : 68660.D
Acq On : 3 Jan 2014 12:17 pm (#1); 03-Jan-14, 12:17:12 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 03 12:26:06 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.594 | 96 | 3513652 | 205.75 | ppmv | 0.08 |
| 15) Chlorobenzene-d5 | 5.891 | 117 | 2786116 | 177.50 | ppmv | 0.03 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.618 | GC1 | 1215m | 161.59 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-13-0121 |
| Examination Date: | 12/13/2013 |
| Waste Container ID: | 68685 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0121 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 177.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 144.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68685

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | Scrap metal |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | |
| R: | |
| XPM: | Plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.2 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 25.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 112.9 |
| Soils (S): | |
| Total WMP Weight: | 144.1 |

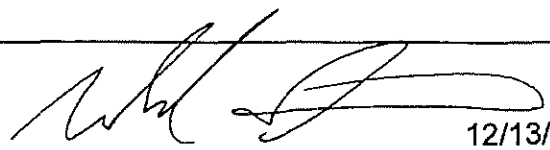
# CCP Radiography Data Sheet



Waste Container ID: 68685

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Michael Simmons |  | 12/13/2013 |
|---|---|---|
| Print Name | Signature | Date |

S855793



# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68685 | | Count Sequence Number: | 24027 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 12/20/2013 10:21:07 AM | | | | |
| Description 1: | 1LANDA1884 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 144.0 kg | Net: | 144.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 85.0 % | |
| Density: | | 0.810 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24027 | Batch Number: | 1LANDA1884 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68685 | Analysis Date: | 12/20/2013 |

| | | |
|---|---|---|
| Net Weight | 144000.0 g | |
| Pu mass | 2.41E+001 +- | 4.87E+000 g |
| TRU Alpha Activity | 8.34E+000 +- | 3.49E+000 Ci |
| TRU Activity Concentration | 5.79E+004 +- | 2.42E+004 nCi/g |
| Pu-239 Equivalent Activity | 8.41E+000 +- | 3.49E+000 Ci |
| Pu-239 FGE | 2.19E+001 +- | 4.84E+000 g |
| Decay heat | 2.73E-001 +- | 1.16E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.16E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 8.63E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.70E-006 |
| NP237 | 1.05E-001 | 7.42E-005 | 1.50E-005 | 3.80E-006 |
| PU238 | 8.87E-003 | 1.52E-001 | 8.15E-002 | 4.45E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.42E-005 |
| PU239 | 2.17E+001 | 1.35E+000 | 3.00E-001 | 3.95E-002 |
| PU240 | 2.27E+000 | 5.14E-001 | 1.23E-001 | 1.51E-002 |
| AM241 | 1.84E+000 | 6.32E+000 | 3.47E+000 | 8.95E-002 |
| PU241 | 4.43E-002 | 4.56E+000 | 1.04E+000 | 1.34E-001 |
| PU242 | 5.28E-002 | 2.09E-004 | 7.22E-005 | 0.00E+000 |
| AM243 | 4.17E-003 | 8.35E-004 | 1.70E-004 | 1.13E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.2.14

ITR: _____ Date: 1-7-14

## Automated Independent Technical Review

Count Sequence Number: 24027 Batch Number: 1LANDA1884
Counter ID: MCS HENC #1
Container ID: 68685
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 12/20/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Not data affecting. |
| Cosmic Ray Rejection Analysis complete with warnings.<br><br>- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| - The Pu-240 Eff Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. FRAM results applied. FRAM results attached. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chambers Date: 1-2-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68685**

BDR Number: **LA14FG2003**

Sampling Date: **1/10/2014**

S855793

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 185.79 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

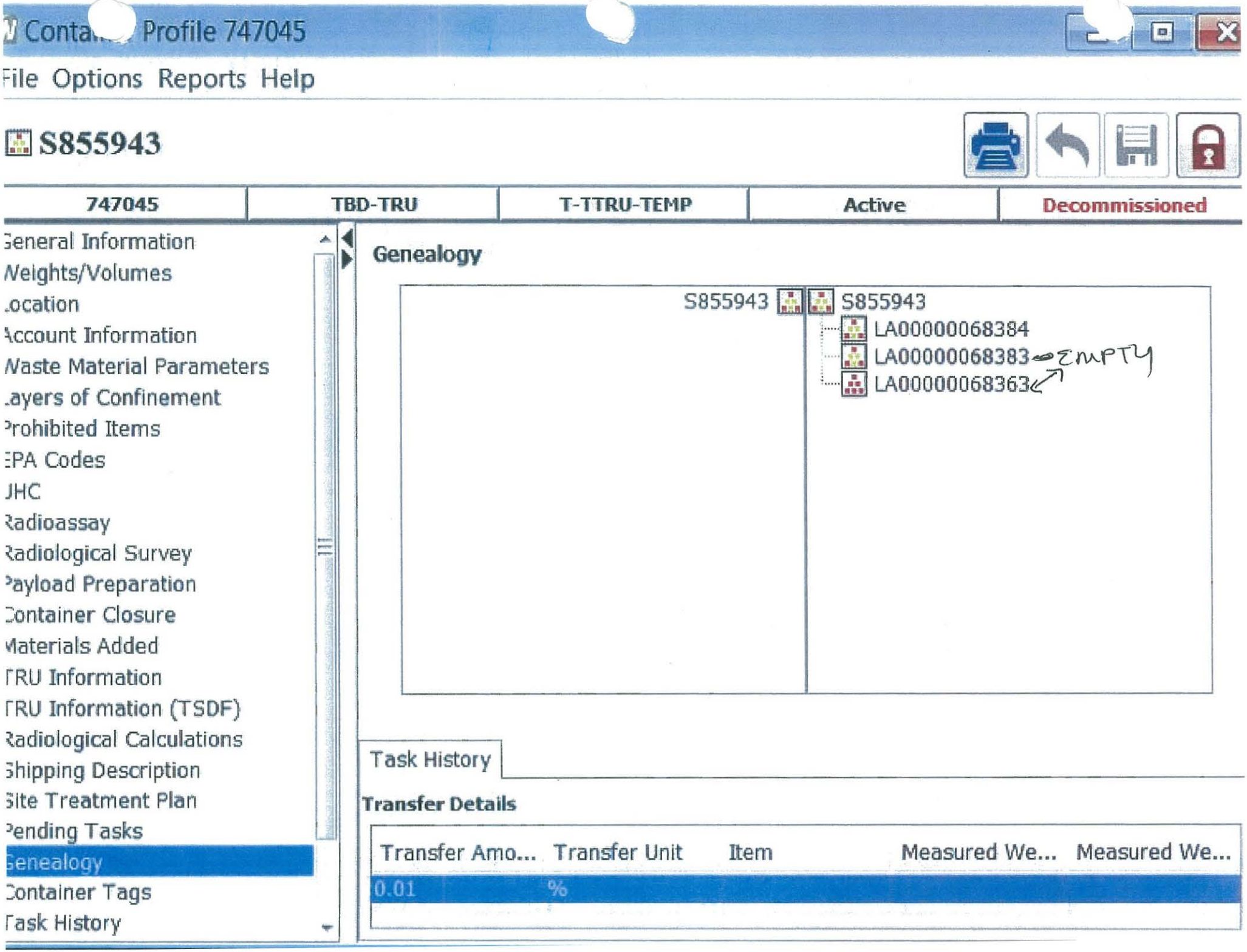
Data Path : C:\msdchem\1\DATA\140110c\
Data File : 68685.D
Acq On : 10 Jan 2014 1:01 pm (#1); 10-Jan-14, 13:01:07 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 10 13:09:57 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.555 | 96 | 3219690 | 205.75 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 2574317 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.615 | GC1 | 1397m | 185.79 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S855943


Profile 747045
File Options Reports Help
S855943
747045
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
JHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Genealogy
S855943
S855943
LA00000068384
LA00000068383
LA00000068363
EMPTY
Task History
Transfer Details
Transfer Amo...
Transfer Unit
Item
Measured We...
Measured We...
0.01
%

Working Copy
Date: 9-17-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: $855943

6.2[4] Date Processed: 9-17-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brandon Chavez / _____ Z# _____ Date 9-17-13
Waste Handling Tech (print) Signature

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5855913

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 474.4 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): Ø lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 474.4 lb

6.2[7] **($)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N / A / /
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

EWMO-FOD (print) N/A Signature / / Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5855943

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68384 | 68383 | | |
| 10.1[4] | Daughter Drum Filter No. | KL-434 | KL-533 | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6890 | L-6781 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | N/A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 4. GAL | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | LEAD SHIELDING | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | N/A | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | SEE COMMENTS | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 75 % | 100 % | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Glovework gloves PLASTIC | PLASTIC | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 3855943

Comments: NITRATE SALTS, PLASTIC, LEAD SHIELDING, POLY LINER,

11.1[1] Performed By: GERALD ESPINOZA [signature] 1237720 / 9/7/13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins [signature] 1240092 / 9/18/13 0552
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 6-28-13 JL

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

| | |
|---|---|
| Purchase Order No.: | 501323 |
| Lot No.: | 0238025 |
| Manufacture Date: | 13 |

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100210 | 0383169 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | 40-200 | 10-80 |

Overpack filtered vent information:

| | |
|---|---|
| Manufacturer: | NIDLFIL |
| Model No.: | 013 |
| Serial No.: | JL-1957 |
| Manufacture Date: | 10-11 |

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Gerald Espinoza [signature] 1237120 6-28-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Gerald Espinoza [signature] 1237120 6-28-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins [signature] 240092 9/18/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 683603

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038370
- Cal. Expiration Date: 8-2-14
- Range in ft-lb: ~~15~~ GET-17.13 10-80
- Tolerance: ±3% cw ±6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: GERALD ESPINOZA (D. Espinoza) 1237701
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 1738 lb

Comments: N/C

8.1[1] Performed By: GERALD ESPINOZA (Gerald Espinoza) 1237724 9/18/13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins (CA) 124008 9/18/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 9-10-13 aw

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68383

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 4CPVC 1.5-2 SPVL
Serial No.: L-6781
Manufacture Date: 1-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 030369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4% CW ±6% CCW | ±3% CW ±6% CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Dan Mueller / [signature] K76701 7-11-0
Operator (print) Signature Z# Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019 DS
Serial No.: KL 533
Manufacture Date: 11-11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 74 lbs

5.[34][E] Drum ID No.: 68383

Comments: N/C

5.[35] Performed By: [illegible] [illegible] [illegible] Z96201 9:11MST
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullis [illegible] 240092 9/18/13
Supervisor or designee (print) Signature Z # Date

Working Copy

Date: 9/18/13

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 168383

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range in ft-lb: 10-80
Tolerance: ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Gerard Espinosa (Operator (print)) G. Espinosa (Signature) 123770 (Z#) 9.18.13 (Date)

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Gerard Espinosa (Operator (print)) G. Espinosa (Signature) 123770 (Z#) 9.18.13 (Date)

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68383

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 4630 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: GERMAN ESPINOZA (Operator (print)) (Signature) Z# 1237701 Date 9/18/13

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) (Signature) Z# 124009 Date 9/18/13

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 9-10-13a

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68384

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOI
Model No.: 6C PVC 1.5-2.5 PVC
Serial No.: L-6890
Manufacture Date: 01/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: JM MARQUEZ (Operator (print)) (Signature) KR6701 7-11-13 (Z # Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: KL-434 KL-434
Manufacture Date: 11/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68384

Comments: n/c

5.[35] Performed By: Ian Montalvo / [signature] / 276708 / 9-11-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] / 240097 / 9/18/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

Working Copy
Date: 9-17-13

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68384

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range in ft-lb: 10-80
Tolerance: ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: GERALD ESPINOZA (Operator (print)) [signature] (Signature) 123T201 (Z #) [illegible] (Date)

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: GERALD ESPINOZA (Operator (print)) [signature] (Signature) 123T201 (Z #) 9-17-13 (Date)

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68384

6.[26] Scale File ID number: 019005

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 231.4 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: GERMAN ESPINOZA (Operator (print)) (Signature) 1237729 (Z #) 9/7/13 (Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) (Signature) 240092 (Z #) 9/18/13 (Date)

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# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S855943 | Container Type: 55-GAL | Gross Weight (lbs): ~~[illegible]~~ 471 lbs 3.22.12

Inner Seal #: 021422 ✓ | Filter Prefix: LAVC | Filter Serial #: 00496 ✓

AK Waste Stream: LA-MHD01.001 Wipes? | Certified RTR BDR: LA-RTR2-12-0023

TWSR Comments: LEACHED SOLIDS MST 12 A0751

Total PE-Ci Activity: 4.57E+00 ✓ | Equivalent Combustible PE-Ci: 1.71E+00 ✓ | AM-241 PE-Ci: 3.71E-01 ✓

Total Fissile Gram Equivalents: 50.4 ✓ | Total Surface Dose Rate (mrem/hr): 2 ✓

EPA Code(s): None

NCR RTR/NDA Comment: LANL: remediate-Prohibited Item

RTR Pre-Screen Date: 1/9/2012 | Comment: Lead liner, >1% liquid, impenetrable item, Sealed container > 4L

Certified RTR Comment: Greater than 50% Homogeneous solids, Greater than 1% prohibited liquid, Impenetrable material

Prohibited Items: ☐ Sealed > 4 Liters ☑ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☑ Other

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ~~☑ PVE~~ 10/31/12 ☑ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000

TRUCON Code: LA125M | Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of Nitrate salts.

Performed By: R.W. Jones | 117434 | 3.15.12

Production Control (Print) SUSAN S. RAMSEY | Signature | Z Number 100481 | Date 10/31/12

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown

Processing Determination: ☒ Accept ☐ Reject

WDP Engineering Comments: Waste includes scrap lead, plastic, and a homogeneous solid material. Liquid > 1% of outermost container present. No hazardous constituents identified. Netwaste weight = 659 LBS. An RWP for dose rates > 100 mR/hr may be required.

Performed By: Mark Everett | Mark Everett | 149638 | 4/11/12

WDP Engineering (Print) | Signature | Z Number | Date

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available

Other Specific Safety Concerns: Do not push or press on waste with hands Use Kevlar gloves when processing

Processing Determination: ☒ Accept ☐ Reject

TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste.

Performed By: Jose Perez | [signature] | 221452 | 11-29-12

TRU Remediation Operations (Print) | Signature | Z Number | Date

Published 282-272695 2/15/13

IHS Review [signature] CSP, may contain Pb, Hg, Cr.

11/5/12

## Noncertified TRU Waste Drum Item Information

DrumID: 021422

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10OX31E1 | | 23.290 | NITRATE SALTS | | 18.42 | 52 | 9/13 | G468 | |
| 2 | 11OX1W1 | | 13.230 | NITRATE SALTS | | 8.26 | 52 | 9/13 | G468 | |
| 3 | 11RR1W1 | | 4.100 | NITRATE SALTS | | 3.31 | 52 | 9/13 | G468 | |
| 4 | 11LR4E1 | | 12.420 | NITRATE SALTS | | 4.18 | 52 | 9/13 | G468 | |
| 5 | 11LR4E2 | | 5.800 | NITRATE SALTS | | 1.46 | 52 | 9/13 | G468 | |
| 6 | 11DS5W1 | | 4.760 | NITRATE SALTS | | 0.952 | 52 | 9/13 | G468 | |
| 7 | 11DS5W2 | | 6.450 | NITRATE SALTS | | 3.35 | 52 | 9/13 | G468 | |
| 8 | 11LR5W1 | | 6.150 | NITRATE SALTS | | 1.5 | 52 | 9/13 | G468 | |
| 9 | 11LR5E1 | | 5.600 | NITRATE SALTS | | 0.458 | 52 | 9/13 | G468 | |
| 10 | 11DS7W1 | | 10.600 | NITRATE SALTS | | 1.14 | 52 | 9/13 | G468 | |
| 11 | 11DS7E1 | | 13.800 | NITRATE SALTS | | 3.36 | 52 | 9/13 | G468 | |
| 12 | 11DS7W2 | | 5.900 | NITRATE SALTS | | 0.339 | 52 | 9/13 | G468 | |
| 13 | TS14W1S | | 20.100 | NITRATE SALTS | | 4.62 | 52 | 9/13 | G468 | |
| 14 | TS12LRE1 | | 11.570 | NITRATE SALTS | | 2.23 | 52 | 9/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 223.6

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 53.579 | 143.77 |
| Totals | 53.579 | 143.77 |

Attachment 2 – CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| ☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-12-0023 |
| Examination Date: | 02/09/2012 |
| Waste Container ID: | S855943 |
| Video/Audio Recorded Media Number: | LA-RTR2-12-0023 A |
| Procedure and Revision No.: | CCP-TP-053 Rev. 11 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | ☐ NO ☑ YES<br><br>NCR No.: NCR-LANL-0307-12<br>NCR No.: NCR-LANL-0308-12<br>NCR-LANL-0309-12 |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA225 |
| Waste Matrix Code: | S5400 |
| Waste Stream I.D.: | LA-MHD01.001 |
| Waste Container Weights: | Gross Wt: 214.0 kg.<br>Tare Wt: 35.1 kg.<br>Net Wt: 178.9 kg. |
| Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner") | 90mil Liner - ~~Vented~~ not vented PO 2/20/12 |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 95 % |

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Attachment 2 – CCP Radiography Data Sheet (Continued)



Waste Container ID: S855943

| Section 3: Container Inventory and Comments ( Detailed descriptions ) |
|---|
| Scrap lead, lead shielding |
| Plastic bag, horsetail |
| Homogeneous solid material |

| Section 4: Packaging (Matrix) and Waste Material Parameters | |
|---|---|
| Packaging Material: | Estimated Weight (kg) |
| Steel (ST): | 27.7 |
| Plastics (PP): Rigid Liner | 7.4 |
| Others: | 0.0 |
| Total Packaging Weight: | 35.1 |
| Waste Material Parameter: | Estimated Weight (kg) |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 50.0 |
| Other Inorganic Materials (OI): | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 126.9 |
| Soils (S): | |
| Total WMP Weight: | 178.9 |

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Attachment 2 – CCP Radiography Data Sheet (Continued)



Waste Container ID: S855943

| Section 5: RTR Summary (Questions answered YES will be explained in the Comments block, except for Question 11) | Yes | No |
|---|---|---|
| Is there observable liquid? | ☑ | ☐ |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ | ☑ |
| Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container? | ☑ | ☐ |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ | ☑ |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ | ☑ |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ | ☑ |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ | ☑ |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ | ☑ |
| Is there an indication of PCBs liquids? | ☐ | ☑ |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)? | ☐ | ☑ |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☑ | ☐ |
| CH or RH TRAMPAC | | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ | ☑ |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☑ PURGE with | ☑ no vent/fill |
| Are there sealed containers GREATER than 4 liters? | ☐ | ☑ |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ | ☑ |

Comments: NCR-LANL-0307-12
NCR-LANL-0308-12
NCR-LANL-0309-12

| RTR Operator: | | |
|---|---|---|
| Philip Dillard | | 2/9/12 |
| Print Name | Signature | Date |

2/20/12

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**ATTACHMENT 1**
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**HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET**

5.[1] Sample Date 6/17/11

5.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Mabel Simmons | | [illegible] | 6/17/11 |
| | | | |

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| | | | |

12 12 12 NEW

| Container No. (5.[1]): | 62227 | S855943 | S832556 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (5.[1]): | 55 gal. | 55 gal. | 55 gal. |
| Current Filtered Vent No. (5.[1]): | 19ds | 72 | 72 |
| New Filtered Vent No.: (5.[8][A]): | 19ds | 72 | 72 |
| WIPP-Approved Filtered Vent (5.[8][B]): | ☒ SAT ☐ UNSAT | ☒ SAT ☐ UNSAT | ☒ SAT ☐ UNSAT |
| VOC | Value (ppm) (5.[10]) | | |
| Benzene | 2.32 | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | 8.04 | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | 6.76 | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (5.[11]): | 17.12 | 0 | 0 |

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | |
|---|---|---|---|
| Container Number (5.[1]): | 02227 | S855943 | S832556 |
| Hydrogen Reading (ppm) (5.[10]): | 0 ppm | 0 ppm | 0 ppm |
| Methane Reading (ppm) (5.[10]): | 0 ppm | 0 ppm | 0 ppm |
| Total VOC Reading (ppm) (5.[11]): | 17.12 ppm | 0 ppm | 0 ppm |
| Filtered Type (5.[9][F][c]/5.[9][G][a]): | 19d5 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]): | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]): | 033157 | N/A | N/A |
| Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]): | 2/10/12 | N/A | N/A |
| Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]): | ±4% | N/A | N/A |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | ☒ YES ☐ NO ☐ N/A | ☐ YES ☐ NO ☒ N/A | ☐ YES ☐ NO ☒ N/A |
| Filter Torque Value (5.[9][F][a]/5.[9][G][d]) * | 10 A. lbs. | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments: N/C

8.1[1] Performed By: Valerie Martinez, Valerie Martinez 123968 7/7/11
Waste Handling Operator (print) Signature Z# Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☒ No deficiencies

8.1[7][A] **(S)** WCRRF waste container satisfies the following criteria: ☒ SAT ☐ UNSAT
- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

8.1[7][B]/ 8.1[8] Reviewed By: Michael Vigil Michael Vigil 215267 7/8/11
Waste Handling Supervisor (print) Signature Z# Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110617c\
Data File : S855943.D
Acq On : 17 Jun 2011 1:57 pm
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON LFL DRUM FROM UNDER DRUM LID (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 17 14:13:21 2011
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.259 | 96 | 2967052 | 206.75 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.936 | 117 | 2119753 | 183.50 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Fri Jun 17 14:13:27 2011

9-17-13

| | |
|---|---|
| 0600 | Assuming WERF OCC position - Relanded |
| 0600 | Assuming WERF OPS CENTER IN TRAINING HSMITH |
| 0615 | PRE-JOB BRIEFING CONDUCTED BY SOS |
| 0632 | PRE JOB BRIEFING CONCLUDED |
| 0714 | OPERATORS ENTER BUILDING TO BEGIN PROCESSING |
| 0808 | BAGGING OFF 1 DAUGHTER AND 2 POC's |
| 0815 | OPERATORS NOTIFIED RCT's STROBE IN HI-BAY NOT LIT. |
| 0823 | ~~RCE~~ 9/17/13 HS CAR 9/17/13 HS OPERATORS NOTIFIED OPS CENTER RED STROBE IN HI BAY IS NOW WORKING. |
| 0853 | BAG OFF COMPLETE, BAGGED OFF 1 DAUGHTER 2 POC's |
| 1029 | BAGGING OFF 1 DAUGHTER. BAGGING ON S 855240 |
| 1058 | BAGOFF. BAG ON COMPLETED |
| 1130 | STARTING MOVEMENT INTO TA50-69 |
| 1149 | MOVEMENT INTO TA50-69 IS COMPLETE |
| 1151 | LATE ENTRY 1135 PAUSING WORK DUE TO POTENTIALLY CONTAMINATION ~~CAUSED BY~~ 9/17/13 HS GLOVE, OPERATOR HAD FULL BODY FRISK. NO CONTAMINATION DECTECTED HSMITH ON STATION 3 HSMITH |
| 1201 | OPERATOR ADVISED BY RCT NO CONTAMINATION. OKAY TO CONTINUE THE PROCESS. NO CONTAMINATION ON GLOVE |
| 1202 | PER RCT SUPERVISION, REQUESTING MORE SURVEYS TO BE PERFORMED |
| 1211 | PER RCT ~~SUPERVISOR~~ 9/17/13 HS SUPERVISOR FOLLOW UP SURVEYS NOA |
| 1224 | OPERATORS EXITING FOR LUNCH |
| 1310 | OPERATORS ENTERING BUILDING TO CONTINUE PROCESSING |
| 1415 | Starting movement out of 50-69 to transportation. |
| 1453 | Bagging off 1 POC and 1 Daughter then will continue processing. |
| 1524 | Bag on, Bag off is complete. |
| 1526 | movement out of 50-69 is complete. |
| 1547 | Starting inside rounds. |
| 1601 | Item #63 is CIS, POD in place OKay to proceed per CSE documentation. |

-Continued on next page - relanded

9-17-13 – Continued from previous page - CK Edwards

1407 Inside rounds complete.
1415 Bagging off, bagging on 3855943
1430 Starting ~~inside~~ 9-17-13 Outside rounds.
1450 Bag on, bag off complete
1453 Item #19 to unseat, FSR in place OK to proceed per CSE documentation.
1455 Late entry mode change performed TM50-109 and WERF gand now in warm standby 1450 - CK Edwards
1705 Starting glove changes on station 1 and station 3 Right and left hands
1745 RCTs pausing work due to operators having problems with glove expanding.
1801 Operators notifying operations center of a elevated rem and will not be changing out station 1 due to having problems with expanding.
1807 Rems are back in with normal range.
9/17/13 1813 9-17-13 being relieved by OCO Terri Coleman - CK Edwards

No further entries this page

9-17-13

1813 Assuming WCRR operations) center. JColeman
1823 Pre-job being conducted by SOS. Discussed ~~systems~~ symptoms and signs of stress and ways to reduce it.
1837 Pre-job concluded.
1918 Operators entering 50-69 to perform glove inspections and glove changes.
1952 Initiating a drum movement from 50-69 to a transportainer.
2020 Operators beginning glove changes on Station 1 (L)+(R), station 2 (L) gloves.
2025 Drum movement out of 50-69 complete.
2124 Glove changes complete.
2129 Mode change complete. We are now in operations in WCRRF yard and 50-69.
2250 Bagging off 1 daughter, bagging on another daughter.
2300 Bag off/on complete.
0008 Operators out for lunch.
0030 Beginning outside rounds.
0049 Item #19 on the rounds is unsat, okay to proceed, FSR in place.
0057 Outside rounds complete.
0127 Operators back from lunch.
0220 Bagging off 1 daughter, bagging on S844673.
0248 Bag off/on complete.
0255 Beginning inside rounds.
0309 Item #63 on the rounds is OOS, okay to proceed per CSE documentation
0320 Inside rounds complete.
0423 Bagging off 1 daughter, bagging on S841240.
0436 Both rounds reviewed by SOS.
0442 Bag off/on complete.
0540 Operator reports a leak by the scale and toolbox.
9-18-13 0600 Relieved by OCO Clarissa Velarde-JColeman

JJ

No further entries this page.

9-17-13 DAYSHIFT

0612 Reviewed the shift turnover checklist and assumed the dayshift SOM position John Guadagnoli

0638 Completed attending the pre-job brief conducted by the SOS (Gilbert) The safety topic was pay attention to detail and watch out for each other. Facility update was provided. The current drum has multiple POCs and the lead liner is between the poly liner and drum. Removal of the poly liner will be difficult. Station #1 and #3 glaces will require evaluating

0709 completed the daily update status POD call to AREA 6.

0735 Turned the WCRR SOM over to Lou Talbert John Guadagnoli

0735 ASSUMED ~~SSM~~ SOM 9-17-13 FOR WCRR.

1059 BAGGED OFF CURRENT CONTAINER. MUCH PROBLEMS WITH THE POLY LINER SURROUNDED BY LEAD. BAGGED ON ANOTHER PARENT.

1200 TUESDAY ROUNDUP

1208 WCRR OC CALLS IN - A WCC OPERATOR PERFORMED A SELF FRISK AND THE INSTRUMENT SOUNDED.

1215 NO ISSUES WITH CONTAMINATION ON WCC. NO GLOVE HOLES, OR OTHER CONTAMINATION FOUND. CONSIDERED FALSE ALARM.

1222 ROUND UP COMPLETE

1230 DAILY CALL IN - Talbert, Guadagnoli AND Fasbender

1251 TURN SOM DUTIES OVER TO GUADAGNOLI.

1251 Assumed the ~~SSM~~ SOM 9-17-13 FOR WCRR John Guadagnoli

1347 Communicated to operations not to use Lock-777 on Nitrates - per the PM - until further evaluation and discussion with Project Control management. The PM will advise accordingly.

1415 Outside operators initiated a movement from the facility 50/69 to the transportainer.

1435 Core Crafts arrived to conduct Fire Sprinkler testing on facility 50-54. Upon review of package 465733, it required FOD to approve as a result, the work was not released, and the crafts were requested to obtain FOD approval to conduct work, and notify personnel in the facility when testing is initiated and completed.

1456 Inside operations initiate bagging off a POC and 1 Daughter

(continued on next page)

9-17-13 DAYSHIFT (Continued)

1450 (continued) and will continue to process.

1515 Operators completed the transfer into the facility (Hi Bay) Four drums were transfered — All 55 gallon containers.

1520 Inside operators report that all Bag offs and Bag ons were completed. Operations will continue to process.

1610 Supported Craft Supervision in discussing and evaluating Friday work packages with the RP-1 Supervisor. Currently there are 3 respirator required Jobs.

1615 inside Operators report bagging off Parent drum S855240 which generated 2 daughters and 1 POC, and bag on of Parent S855943.

1648 Bag offs were reported completed.

1650 Mode Change: 50/69 and yard transition from Operations/Operations to Warm/Warm to initiate glove changes Stations 1 and station 3

1705 ~~1745~~ 1745 Inside Operators initiate glove changes

1745 RCTs pause glove changes due to the expander not working properly.

1813 Operators reported the expander was going concave vs convex. Operators successfully changed out Station 3 Right and Left,
- The SOS obtained a new expander to try - Station 1 will require changing out - both L+R gloves, then the SOM can go back to operations mode.

1816 Reviewed shift turnover checklist with oncoming SOM.

1820 SECURED the SOM position, relieved by R. Artell 9-17-13.

No further Entries this Page
9-17-13

9/17/13 Night Shift

1820 Reviewed Shift turnover checklist, approved and posted Night Shift Warm Standby watchbill and assumed the WCRR SOM position.

1821 Attended pre job brief conducted by SOS. Safety topic from IH was stress - causes, indications and ways to deal with it. Discussed current condition of facility - Station #1 gloves both R+L require changing, prior shift having problems w/ glove ring expander.

1941 SOS reported that other gloves in the WCG were caked w/ waste material and operators are cleaning them to determine if any other gloves will be required to be changed.

2015 Notified by Operators they are in process of changing gloves - in addition to Station #1 R+L, station #2 L will also be changed.

2025 Operators completed a movement of 4 drums from 50-69 to transporters - Inventory control reported that WCATS hand held scanner worked w/ no issues for move out.

2124 All glove changes are completed.

2129 Completed mode change: WCRR Year / Bldg 50-69 from Warm / Warm to Operations / Operations.

2300 Completed bagging off 1 daughter - continuing processing.

9/18/13 0006 Operators breaking for lunch.

0127 Resuming operations.

0157 Sent marked up version of 55 gal Daughter Drum prep and closure procedure to procedure writers to address labeling and weighing issues in regards to WCAT's.

0220 Bagging off another daughter to complete drum # S855943 (2 daughters total) and bagging on S844573.

0423 Bagged off 1 daughter and parent # S844573. Bagged on drum # S841240.

0538 Operators reported a small amount of rainwater leaking into facility at the floor scale and tool box areas as identified during prior rain events.

9/18/13 0600 Relieved by J. Guadagnoli as SOM

No further entries this page

119

9/17/13 WCRR SOS LOG BOOK

0600 Assuming SOS Position [illegible]
0615 Conducted shift brief with Operator discussed weather changes. Also discussed that night shift had problems removing Lead from parcels. Operators will try to remove DE out Parcels will be keyed off with Lead Inside.
[illegible] 9-17-13
0645 Concluded shift brief
0714 Operators Entering 50-69 to operate
0808 Bagging off 1 Daughter And 2 PACs
0853 Bag off complete
1029 Bagging off 1 Daughter Bagging on 5855240
1058 Bag on/off complete
1130 Moved In to 50-69
1149 Move In Complete Late Entry Reveal work done to Potential Contamination on operators Glove Full body Frisk no contamination smear wipe NDA GP 1175 GM
1202 RCT supervision suggesting more surveys be done.
1211 Per RCT Supervisor All smears NDA.
1229 Operator Exiting For Lunch
1310 Operator reented
1415 started movement from 50-69 to transportainers
1453 Bagging off 1 PAC and 1 Daughter And Continuing.
1524 Bag on/off complete
1526 Move out Complete
1547 Started Rounds
1615 Bagging on 5855543 And Bagging off
1650 Mode change Complete WCRRF In warm for Glove Changes
1705 started Glove Changes on station 1 And 3 both hands.
1745 Pausing work on Glove Changes due to expanders
1841 Operators notified of Elevated cam And will not change station 1
1907 Cam back to normal
HA 1815 Relieved by Christen Mullins

no further entries on this page



9/17/13 WCRR SOS Log Book

1816 Assuming SOS position. CA
1823 Starting Pre-Job, discussed topic from IH about the signs and symptoms of stress, and the ways to reduce or manage stress.
1840 Pre-Job complete.
1952 Starting movement out of 50-69.
2010 After cleaning and inspecting glovebox glove, operators will have to chang station 2 left hand along with both gloves on station 1 as ~~reparet~~ cm 9-17-13 previously notified.
2020 Beginning to change station 1 both gloves and station 2 left hand.
2025 Movement out of 50-69 complete.
2050 Notified by operators inside that glove expanders not working properly. Assembling a new expander and passing it into 50-69 to complete glove changes
2122 Glove changes complete.
2129 Mode change complete, WCRRF yard and 50-69 are now in Operations.
2250 Bagging off 1st daughter, bagging a 2nd daughter on.
2300 Bag off/on complete.
0220 Bagging off 2nd daughter, bagging on 5844573.
0248 Bag off/on complete.
0423 Bagging off 1 daughter, bagging on 5841240.
0436 Signed off on the rounds.
HA 0441 Bag off/on complete.
0610 Relieved by Gilbert Martinez on 9/18/13. CA

No Further Entries on this Page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0113 |
| Examination Date: | 9/24/2013 |
| Waste Container ID: | 68383 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0113 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 210.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 176.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 68383

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 2.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 8.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 166.6 |
| Soils (S): | |
| Total WMP Weight: | 176.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68383

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: The scan of this drum was performed by in-training operator Eddie Rios under the supervision of qualified operator Thad Hasselstrom. | |

| RTR Operator: | | |
|---|---|---|
| Eddie Rios<br>Thad Hasselstrom | Eddie Rios<br>Thad Hasselstrom | 9-24-13<br>9/24/2013 |
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68383 | Count Sequence Number: | 16569 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 9/26/2013 10:52:48 AM | | |
| Description 1: | 2LANDA1228 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 177.0 kg | Net: | 177.0 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.900 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16569 | Batch Number: | 2LANDA1228 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68383 | Analysis Date: | 9/26/2013 |

| | | |
|---|---|---|
| Net Weight | 177000.0 g | |
| Pu mass | 6.19E+001 +- | 1.36E+001 g |
| TRU Alpha Activity | 1.09E+001 +- | 3.60E+000 Ci |
| TRU Activity Concentration | 6.13E+004 +- | 2.04E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.10E+001 +- | 3.60E+000 Ci |
| Pu-239 FGE | 5.84E+001 +- | 1.36E+001 g |
| Decay heat | 3.52E-001 +- | 1.19E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.48E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 9.61E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.18E-006 |
| NP237 | 1.21E-001 | 8.51E-005 | 1.83E-005 | 2.46E-006 |
| PU238 | 5.66E-003 | 9.68E-002 | 2.65E-002 | 1.05E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.24E-005 |
| PU239 | 5.81E+001 | 3.60E+000 | 8.43E-001 | 3.92E-002 |
| PU240 | 3.72E+000 | 8.43E-001 | 2.31E-001 | 9.19E-003 |
| AM241 | 1.84E+000 | 6.31E+000 | 3.50E+000 | 7.88E-002 |
| PU241 | 7.15E-002 | 7.36E+000 | 2.01E+000 | 8.02E-002 |
| PU242 | 1.24E-002 | 4.90E-005 | 1.34E-005 | 0.00E+000 |
| AM243 | 3.04E-003 | 6.08E-004 | 1.31E-004 | 1.46E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.27.13

ITR: _____ Date: 9.27.13

## Automated Independent Technical Review

Count Sequence Number: 16569 Batch Number: 2LANDA1228
Counter ID: HENC #2
Container ID: 68383
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/26/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | OK |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | OK<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | Isotopic analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | OK |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: _____ Date: 9/27/13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68383**

BDR Number: **LA13FG12106**

Sampling Date: **10/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 73.18 | |
| 74-82-8 | Methane | 9.63 | U |
| 67-56-1 | Methanol | 42.10 | |
| 60-29-7 | Ethyl Ether | 1.77 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.36 | U |
| 67-64-1 | Acetone | 11.55 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.29 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.36 | U |
| 78-93-3 | Methyl ethyl ketone | 2.55 | U |
| 110-82-7 | Cyclohexane | 2.09 | U |
| 71-43-2 | Benzene | 0.47 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.92 | U |
| 71-36-3 | 1-Butanol | 0.54 | U |
| 108-10-1 | Methyl isobutyl ketone | 3.11 | U |
| 108-88-3 | Toluene | 2.73 | U |
| 108-90-7 | Chlorobenzene | 0.87 | U |
| 100-41-4 | Ethylbenzene | 1.15 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.59 | U |
| 95-47-6 | o-Xylene | 0.63 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.72 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131022c\
Data File : 68383.D
Acq On : 22 Oct 2013 2:00 pm (#1); 22 Oct 2013 1:59 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 14:12:47 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.060 | 96 | 7329710 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.639 | 117 | 5222964 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.907 | GC1 | 20874m | 73.18 | ppmv | |
| 4) Methanol | 0.827 | 31 | 16307 | 42.10 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

5855943

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | | |
|---|---|---|
| [X] RTR Examination | [ ] RTR Replicate Scan | [ ] RTR Independent Observation |
| Site ID: | LANL | |
| Batch Number: | LA-RTR2-13-0113 | |
| Examination Date: | 9/24/2013 | |
| Waste Container ID: | ~~68380~~ 68384 7JH 9-25-13 2 Jm 9-25-13 | |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0113 | A&B |
| Procedure and Revision No.: | CCP-TP-053 | Rev. 13 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A | |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 104.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 71.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 55 % |

# CCP Radiography Data Sheet



Waste Container ID: ~~68380~~ 68384 RSH 9-25-13 RLR 9-25-13

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | Metal hardware |
| AM: | |
| OM: | |
| OI: | |
| C: | |
| R: | Leaded rubber gloves |
| XPM: | Liner lid, plastic bag |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.1 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 5.0 |
| Plastics (waste materials) (XPM): | 3.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 63.0 |
| Soils (S): | |
| Total WMP Weight: | 71.1 |

# CCP Radiography Data Sheet



Waste Container ID: ~~68389~~ 68384 TJH 9-25-13 E Rios 9-25-13

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: The scan of this drum was performed by in-training operator Eddie Rios under the supervision of qualified operator Thad Hasselstrom.
ON THE RECORDING IT SHOWS CONTAINER NUMBER 68389 THE CORRECT CONTAINER NUMBER IS REFLECTED ON THIS ATTACHMENT TWO. THE DATA IS NOT AFFECTED. TJH 9-25-13
E Rios 9-25-13

| RTR Operator: | | |
|---|---|---|
| Eddie Rios<br>Thad Hasselstrom | Eddie Rios<br>Thad Hasselstrom | 9-24-13<br>9/24/2013 |
| Print Name | Signature | Date |

~~Thad Hasselstrom~~ TJH 9-25-13
Eddie Rios

Eddie Rios Thad Hasselstrom

9-25-13
9-25-13

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68384 | Count Sequence Number: | 16565 | | |
| Operator: | DCLTD231\Operator | | | | |
| Assay Start: | 9/25/2013 4:00:02 PM | | | | |
| Description 1: | 2LANDA1227 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gal Drum | | | | |
| Weight: | Net: | 71.1 | kg | Net: | 71.1 kg |
| Container: | Volume: | 208.0 | l | Full: | 55.0 % |
| Density: | | 0.620 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16565 | Batch Number: | 2LANDA1227 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68384 | Analysis Date: | 9/25/2013 |

| | | |
|---|---|---|
| Net Weight | 71100.0 g | |
| Pu mass | 3.16E+000 +- | 6.03E-001 g |
| TRU Alpha Activity | 1.53E+000 +- | 2.26E-001 Ci |
| TRU Activity Concentration | 2.15E+004 +- | 3.18E+003 nCi/g |
| Pu-239 Equivalent Activity | 1.54E+000 +- | 2.26E-001 Ci |
| Pu-239 FGE | 3.74E+000 +- | 6.32E-001 g |
| Decay heat | 5.04E-002 +- | 7.50E-003 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 6.31E-009 | 8.71E-007 | 2.29E-007 | 0.00E+000 |
| CS137 | 1.00E-008 | 8.71E-007 | 2.29E-007 | 2.69E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.24E-003 |
| U234 | 1.66E-002 | 1.03E-004 | 2.66E-005 | 0.00E+000 |
| U235 | 1.18E+000 | 2.55E-006 | 6.57E-007 | 1.72E-006 |
| NP237 | 2.80E-002 | 1.97E-005 | 3.40E-006 | 8.28E-007 |
| PU238 | 2.89E-004 | 4.94E-003 | 1.22E-003 | 3.43E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 8.34E-006 |
| PU239 | 2.96E+000 | 1.84E-001 | 3.72E-002 | 1.28E-002 |
| PU240 | 1.89E-001 | 4.30E-002 | 1.06E-002 | 2.99E-003 |
| AM241 | 3.78E-001 | 1.30E+000 | 2.23E-001 | 2.97E-002 |
| PU241 | 3.64E-003 | 3.75E-001 | 9.28E-002 | 2.61E-002 |
| PU242 | 6.32E-004 | 2.50E-006 | 6.17E-007 | 0.00E+000 |
| AM243 | 9.77E-004 | 1.95E-004 | 3.38E-005 | 4.97E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.26.13

ITR: _____ Date: 9-26-13

## Automated Independent Technical Review

Count Sequence Number: 16565 Batch Number: 2LANDA1227
Counter ID: HENC #2
Container ID: 68384
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/25/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>Add-a-Source WARNINGS:<br><br>Add-a-Source correction factor is less than one. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings.<br><br>- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 9-26-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68384**

BDR Number: **LA13FG12106**

Sampling Date: **10/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 151.56 | |
| 74-82-8 | Methane | 9.63 | U |
| 67-56-1 | Methanol | 132.40 | |
| 60-29-7 | Ethyl Ether | 1.77 | U |
| 75-35-4 | 1,1-Dichloroethylene | 5.36 | U |
| 67-64-1 | Acetone | 11.55 | U |
| 75-34-3 | 1,1-Dichloroethane | 2.29 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.36 | U |
| 78-93-3 | Methyl ethyl ketone | 2.55 | U |
| 110-82-7 | Cyclohexane | 2.09 | U |
| 71-43-2 | Benzene | 0.47 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.92 | U |
| 71-36-3 | 1-Butanol | 0.54 | U |
| 108-10-1 | Methyl isobutyl ketone | 3.11 | U |
| 108-88-3 | Toluene | 2.73 | U |
| 108-90-7 | Chlorobenzene | 0.87 | U |
| 100-41-4 | Ethylbenzene | 1.15 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.59 | U |
| 95-47-6 | o-Xylene | 0.63 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.72 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| 79-20-9 | Methyl Acetate | 23.26 |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131022c\
Data File : 68384.D
Acq On : 22 Oct 2013 2:16 pm (#1); 22 Oct 2013 2:15 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

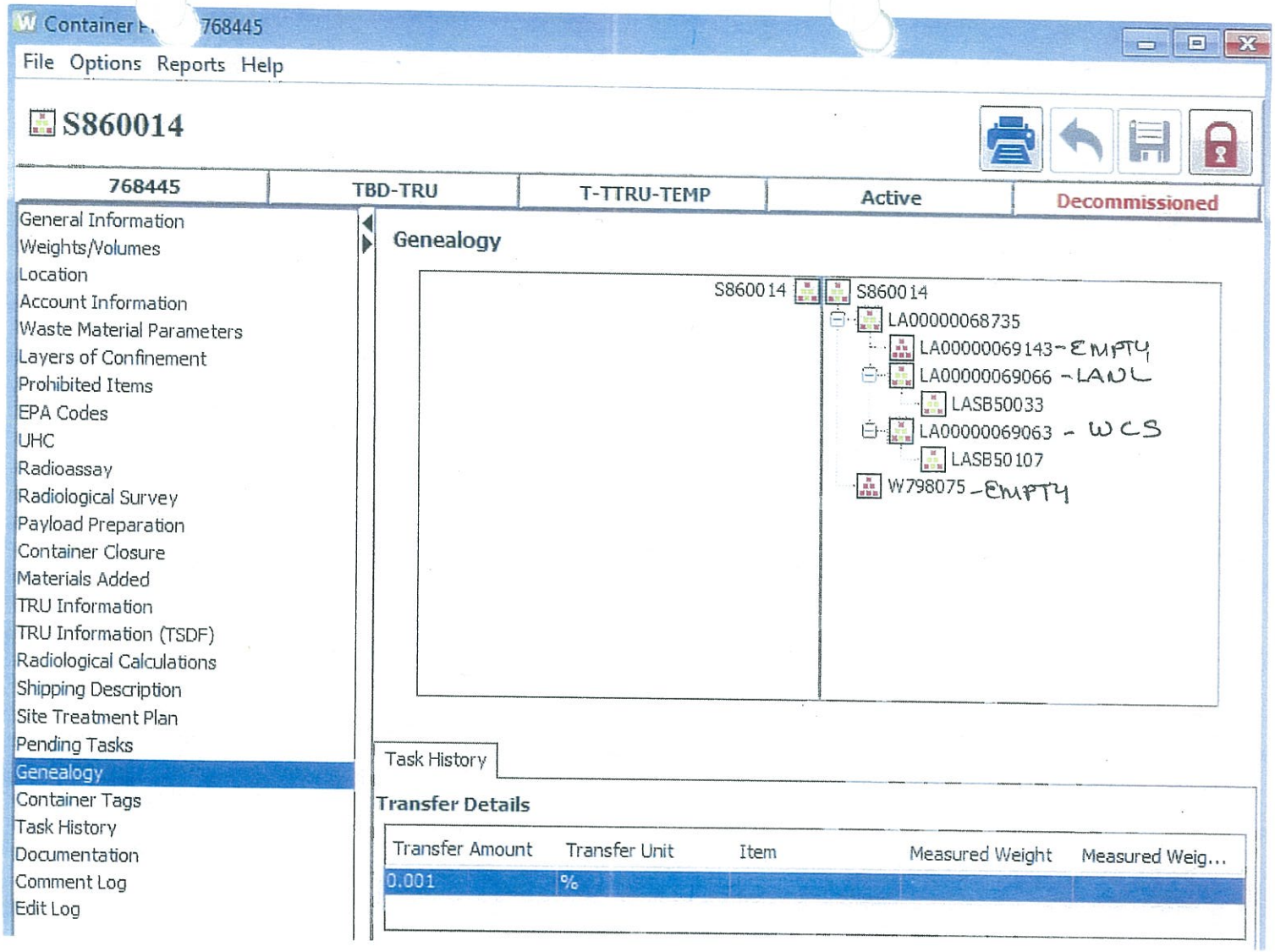
Quant Time: Oct 22 14:35:09 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.060 | 96 | 7269134 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.639 | 117 | 5220393 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.907 | GC1 | 43233m | 151.56 | ppmv | |
| 4) Methanol | 0.827 | 31 | 50853 | 132.40 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

S860014

# S860014


Container F 768445
File Options Reports Help
S860014
768445
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S860014
S860014
LA00000068735
LA00000069143 - EMPTY
LA00000069066 - LANL
LASB50033
LA00000069063 - WCS
LASB50107
W798075 - EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
0.001
%

Working Copy
Date: 12-14-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 68735

6.2[4] Date Processed: 12-15-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☐ Moderate (≤ 10 rem/hr) ☑ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) NA
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Frederick Mehlert / [signature] 1228826 / 12-15-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 68735

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 434.4 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 434.4 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. / N/A
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

/ N/A / /
EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 089735

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 089063 | 089066 | | |
| 10.1[4] | Daughter Drum Filter No. | JL-881 | JL-867 | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10136 | L-11523 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501892 | 501892 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | ☐ NO | ☑ N/A | |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | ☐ NO | ☑ N/A | |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | N/A | | N/A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 5 gallons | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | lead sticking | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | N/A | |
| 10.3[10] | Remaining Waste Description | See comments | See Comments | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 80% | 100% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty litter | Kitty litter plastic stirs and bags | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 68735

Comments: plastic, kitty litter, N. Waste salts, 1 poly liner lid, 5 gallons ph-4 liquid also neutralized to a 7, lead shielding

11.1[1] Performed By: Frederico Ruiz [signature] 1228874 12-15-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton McNeil [signature] 1248094 12/24/13 1512
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 2
Page 1 of 1

Working Copy
Date: 12/15/13 HB

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: _____

Lot No.: _____

Manufacture Date: _____

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Tolerance: | | |

Overpack filtered vent information:

Manufacturer: _____

Model No.: _____

Serial No.: _____

Manufacture Date: _____

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ Yes ☐ No

5. [11] Performed By: _____ / _____ / _____
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb

5. [18] 2-in. bung plug torque value: _____ ft-lb

Comments: Drum Not Prepped at WCRRF

8.1[1] Performed By: Frederico Archuleta / [signature] 1278524 12-15-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / [signature] 1249921 1/23/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

Working Copy
Date: 12/15/13 HS

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 609143

7.[23] Overpack drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/- 3% CW +/- 6% CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Frederico Arbildo / [signature] 1228826 / 12-15-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 174.0 lb

Comments: N/C

8.1[1] Performed By: Frederico Arbildo / [signature] 1228826 12-15-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] 1249091 1/23/14
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 1
Page 1 of 2

Working Copy
Date: 12/13/13 HJ

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 690163

5.[3] Drum information:
- Purchase Order No.: 501892
- Lot No.: 244449
- Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 6cPVC15-25PVC
- Serial No.: L-10136
- Manufacture Date: 6/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-2013 | 8-05-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | ±4% cw ±6% ccw | 3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brian Gallegos / [signature] / 267129 / 12-13-13
Operator (print) / Signature / Z # / Date

5.[23] Filtered vent information:
- Manufacturer: NJCFIL
- Model No.: C19DS
- Serial No.: JL-881
- Manufacture Date: 10-11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 760 lbs

5.[34][E] Drum ID No.: 690663

Comments: N/C

5.[35] Performed By: Brian Gallegos (B Dalling) 124129 12-13-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullis (CT) 240921 1/23/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 690623

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range: 16-80 ft-lb
Tolerance (+/-): +/- 3% CW +/- 6% CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick Archuleta | [signature] | 1278826 | 12-15-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.. | | |
| Cal. Expiration Date: | | |
| Range: | in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Frederick Archuleta | [signature] | 1278826 | 12-15-13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 690063

6.[26] Scale File ID number: 0190065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 350.2 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: n/c

6.[32] Performed By: Frederick Arellano / [signature] 1220581 1/2-15-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullis / [signature] 240096 1/23/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy Date: 12/13/13 HS

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 69066

5.[3] Drum information:
- Purchase Order No.: 501892
- Lot No.: 0244449
- Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 6cpvc-1.5-2spvc
- Serial No.: L-11523
- Manufacture Date: 6-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 08-5-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | ±4% cw, ±6% ccw | ±3% cw, ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Justin Cofer (Operator (print)) / (Signature) 1266430 (Z #) 12-13-13 (Date)

5.[23] Filtered vent information:
- Manufacturer: NuCfil
- Model No.: 019DS
- Serial No.: JL-867
- Manufacture Date: 10-11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 109069

Comments: N/C

5.[35] Performed By: Frederico Heleta / [signature] 12288201 / 12-15-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullis / [signature] 1240092 1/23/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 609066

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range: 16-80 ft-lb
Tolerance (+/-): +/- 3% cal +/- 6% cal

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederics / / / /
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☐ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range: | N/A in-lb | N/A ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: Frederics Archuleta / [signature] 1228801 12-15-13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69066

6.[26] Scale File ID number: 0190605

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 379.6 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Frederick Holdsteen / [signature] 1220526 / 12-15-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton McWhorter / [signature] 1240096 / 1/23/14
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 3
Page 1 of 1

Working Copy
Date: 12/15/13 HS

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 68735

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 434.4

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: Frederico Arbuleta / [signature] 1225524 / 12-15-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Miller / [signature] 240092 1/23/14
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: [signature] 1425 1/24/14 10:10
SOS/SOM or designee (print) Signature Z # Date Time

Salvage Drum 195 SPD

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Production Control** Container re-labeled & given new number. SDouglas 11/20/13

Container ID: S860014 / 68735 Container Type: 85-GAL Gross Weight (lbs): 445

Inner Seal #: 021421 Filter Prefix: LAVC Filter Serial #: 00983; 02973

AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR

TWSR Comments: LEACHED SOLIDS MST 12 A0750

Total PE-Ci Activity: 1.56E+01 Equivalent Combustible PE-Ci: 5.86E+00 AM-241 PE-Ci: 1.28E+00

Total Fissile Gram Equivalents: 171.9 Total Surface Dose Rate (mrem/hr): 6

EPA Code(s): [redacted]D009

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 7/9/2007 Comment: Liquids, Impenetrable Obj Liquid Location: 18

Certified RTR Comment: None

Prohibited Items: ☑ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☐ VE ☑ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) / Susan J. Ramsey (Signature) / 100681 (Z Number) / 11/20/12 (Date)

**WDP Engineering** Put in compliant 85gal @ 224/412 to ship to WCCR.

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown

Processing Determination: ☒ Accept ☐ Reject

WDP Engineering Comments: Nitrate Salts
Net Wt: 385#. Generator info shows 15 items of nitrate salts, with weights ranging from 5-54#. No RTR, BDR. RTR PS shows prohibited liquids + impenetrable item(s). Nitrate salts typically packaged in plastic bags, debris, t/or undocumented liquids commonly present. Applicable waste codes are lead, chromium, + mercury. Repack w/ admixture is required.

Performed By: Valerie Rhodes (WDP Engineering (Print)) / Valerie Rhodes (Signature) / 112609 (Z Number) / 11/7/13 (Date)

**TRU Remediation Operations**

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available

Other Specific Safety Concerns: USE Proper PPE And Kitty Litter Kabom

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Do not push or press on waste with hands. Use heavy gauge gloves during processing.

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) / [signature] / 114235 (Z Number) / 11/13/13 (Date)

David L. Blain / David L Blain / 218069 / 11/14/13

Jose Serer / Jose Serer / 221452 / 12/6/13

THS REVIEW: RB 206362 11.27.12 NOTES: D007 = Chromium D008 = LEAD

## Noncertified TRU Waste Drum Item Information

DrumID: 021421

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 53 TW | | |
| 1 | 10LR22W1 | | 5.010 | NITRATE SALTS | | 0.87 | 52 | 9/13 G468 | |
| 2 | 10LR22E1 | | 8.310 | NITRATE SALTS | | 2. | 53 | 9/13 G468 | |
| 3 | 10LR22W2 | | 11.250 | NITRATE SALTS | | 2. | 53 | 9/13 G468 | |
| 4 | 10OX23W1 | | 12.800 | NITRATE SALTS | | 8.89 | 52 | 9/13 G468 | |
| 5 | 10RR23E1 | | 5.190 | NITRATE SALTS | | 2.28 | 52 | 9/13 G468 | |
| 6 | 10OX23E1 | | 2.640 | NITRATE SALTS | | 0.359 | 52 | 9/13 G468 | |
| 7 | 10LR24E1 | | 3.100 | NITRATE SALTS | | 0.07 | 52 | 9/13 G468 | |
| 8 | 10LR24W2 | | 9.800 | NITRATE SALTS | | 0.43 | 52 | 9/13 G468 | |
| 9 | 10LR24W1 | | 4.400 | NITRATE SALTS | | 0.29 | 52 | 9/13 G468 | |
| 10 | 10LR28E1 | | 4.850 | NITRATE SALTS | | 3.16 | 52 | 9/13 G468 | |
| 11 | 10LR28W1 | | 9.070 | NITRATE SALTS | | 2.66 | 52 | 9/13 G468 | |
| 12 | 10LR28E2 | | 10.900 | NITRATE SALTS | | 4.29 | 52 | 9/13 G468 | |
| 13 | 10OX29E1 | | 8.370 | NITRATE SALTS | | 137.3 | 52 | 9/13 G468 | |
| 14 | 10DS31W1 | | 24.500 | NITRATE SALTS | | 17.61 | 52 | 9/13 G468 | |
| 15 | 10DS31E1 | | 2.400 | NITRATE SALTS | | 0.52 | 52 | 9/13 G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 201.8

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 178.69 | 103.03 |
| 53 | 4. | 19.56 |
| Totals | 182.69 | 122.59 |

**ATTACHMENT 1**
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 1/26/11

7.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Sara Aragon | I Sara Aragon | 1237975 | 1-31-11 |
| / | / | / | / |

| Container No. (7.[1]): | S8100014 LS | S832287 OK | S832199 OK |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (7.[1]): | 55gal | 55 gal | 55 gal |
| Current Filter Vent No. (7.[1]): | 72 | 72 | 72 |
| New Filter Vent No.: (7.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filter Vent (7.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (7.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (7.[11]): | Ø | Ø | Ø |

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | | |
|---|---|---|---|---|
| Container Number (7.[1]): | | 5960014 | 5832387 | 5832199 |
| | Hydrogen Reading (ppm) (7.[10]): | 2625.58 ppm | 198.87 ppm | Ø ppm |
| | Methane Reading (ppm) (7.[10]): | Ø ppm | Ø ppm | Ø ppm |
| | Total VOC Reading (ppm) (7.[11]): | Ø ppm | Ø ppm | Ø ppm |
| Filter Type (7.[9][F][c]/7.[9][G][a]): | | 72 | 72 | 72 |
| WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]): | | SAT | SAT | SAT |
| Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | N/A |
| Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | N/A |
| Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]): | | N/A | N/A | N/A |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| Filter Torque Value (7.[9][F][a]/7.[9][G][d]) * | | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments:
All 55 gallon drums were sampled from inside an 85 gallon overpack.

11.1[1] Performed By: Alicia Herrera / [signature] 198450 / 1/31/11
Waste Handling Operator (print) Signature Z # Date

11.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

11.1[7][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT
- Hydrogen – less than or equal to 32,000 ppm
- VOC – less than or equal to 7,000 ppm

11.1[7][B]/ 11.1[8] Reviewed By: Kenny Romero Kenny Romero 111784 / 1.31.11
Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110126c\
Data File : 0860014.D
Acq On : 26 Jan 2011 4:46 pm (#1); 26-Jan-11, 16:46:00 (#2)
Operator : EL
Sample :
Misc : 55 GAL DRUM FROM 85 GAL OVERPACK (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 26 16:57:26 2011
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Mon Jan 10 10:28:07 2011
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.727 | 96 | 7800983 | 205.50 | ppmv | 0.09 |
| 15) Chlorobenzene-d5 | 6.046 | 117 | 6523030 | 182.75 | ppmv | 0.09 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.648 | GC1 | 20543m | 2625.58 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Wed Jan 26 16:57:41 2011

12-15-13

0550 Assuming WCER OPS CENTER POSITION H SMITH
0550 STARTING OUT SIDE ROUNDS
0606 OUTSIDE ROUND COMPLETED
0610 STARTING PRE-JOB BRIEFING
0614 STARTING INSIDE ROUNDS
0628 ITEM #63 INSIDE ROUNDS OOS, PDD IN PLACE. PERMISSION TO PROCEED PER CSE DOCUMENTATION
0640 ~~0t~~ HS 12/15/13 INSIDE ROUNDS COMPLETED
0656 INSIDE AND OUTSIDE ROUNDS REVIEWED BY SOS
0736 BAGGING ON 68738
0747 BAG ON COMPLETED
0751 OPERATORS NOTIFIED OPS CENTER CAMS ELEVATED AFTER BAG ON, RCT'S CHECKING AND WILL NOTIFY
0753 OPERATORS NOTIFIED OPS. CENTER, RCT STATES CAM A LITTLE ELEVATED, BACK TO NORMAL RANGE AND RELEASE ROOM FOR PROCESSING. CONTINUING TO PROCESS
0858 BAGGING OFF - BAGGING ON 1 DAUGHTER
0913 BAG ON COMPLETED
0958 BEGIN DENESTING 4 DRUMS
1014 OPERATORS CALLED OUT WHILE DENESTING S842526 FOUND HOLES IN LID. THEY FILLED HOLES WITH SILICONE AND TAPED, ALSO TOOK PICTURES AND CONTINUED DENESTING.
1105 RCTs NOTIFIED OPS. CENTER CAMS ALARM 12/15/13 HS LOW FLOW ALARM, WILL NEED TO CHANGE FILTERS AND RESET AFTER DENESTING
1136 BAG ON, BAG OFF, DENESTING COMPLETED, BAGGED ON S842525
1146 LATE ENTRY: MODE CHANGE TO OPERATIONS IN INCR YARD AND TA50-69 AT 0703 HS
1330 BAGGING OFF 1 DAUGHTER, 1 POC, BAGGING ON DAUGHTER
HLH 1354 BAG ON-BAG OFF COMPLETED, CONTINUING TO PROCESS
1415 PERMISSION GRANTED TO BEGIN MOVEMENT INTO TA 50-69
1429 MOVEMENT INTO TA50-69 COMPLETED
1440 STARTING OUTSIDE ROUNDS
1451 BAGGING OFF BAGGING ON 67835
12/15/13 1482 CONTINUED IN NEW LOG BOOK H SMITH

12-15-13 CONTINUED FROM PREVIOUS LOGBOOK H SMITH

1459 COMPLETED OUTSIDE ROUNDS

1522 BAG OFF - BAG ON COMPLETED

1603 PERMISSION GRANTED TO MOVE WASTE FROM TA50-69 TO TA50-194

1604 OPERATORS NOTIFIED OPS CENTER BOX SMOULDERING AND TURNING ORANGE CLOUD. NOTIFYING I.H.

1608 ITEM # 63 INSIDE ROUNDS OOS. POD IN PLACE, PERMISSION TO PROCEED PER CSE DOCUMENTATION

1613 INSIDE ROUNDS COMPLETED

1628 MOVEMENT TO TA50-75 FROM TA50-69 IS COMPLETED 9 CONTAINERS MOVED FROM TA50-69.

1635 OPERATORS NOTIFIED OPS CENTER OF REACTION DUE TO FAST CHEMICAL CHANGE WHEN NUETRALIZER WA ADDED IN THE BOX. OPERATORS ADDED MORE KITTY LITTER WHICH SLOWED THE PROCESS. IH IS OBSERVING AND HAS GIVEN PERMISSION TO CONTINUE PROCESSING.

ABNORMAL EVENT

1638 LATE ENTRY: OPERATORS NOTIFIED OPS CENTER OF ~~HS~~ 12-15-13 SMOULDERING IN BOX DISCHARGING ORANGE CLOUD. NOTIFIED SOM & SOS AND IH, AT 1632. HS

1656 BAGGING OFF - BAGGING ON 1 DAUGHTER

1702 I-H INFORMED OPS. CENTER OF NO MORE REACTION TO LIQUID, AND WILL CONTINUE TO PROCESS.

1712 BAG ON, BAG OFF COMPLETE OF DAUGHTER

1713 INSIDE AND OUTSIDE ROUNDS REVIEW BY SOS

1738 BAGGING OFF 2ND DAUGHTER AND INSTALLING PORT COVER

1802 BAG OFF COMPLETE

1805 WCG RECEPTACLE HAS BEEN TURNED ON

1811 MODE CHANGE DECREASE TO WARM - WARM STANDBY

12-15-13 1830 END OF DAY, WCRR OPS CENTER SECURED H SMITH

NO FURTHER ENTRIES ON THIS PAGE H SMITH

12/15/13 WCRR SOM

0600 Assumed the WCRR SOM position.

0635 Completed pre-job brief conducted by SOS. Safety topic from IH was to keep focused on last day of shift. House Keeping of WCC to be performed @ end of shift w/ thorough glove inspections. Challenged operators to improve efficiencies of operations - one idea was to have enough glove expanders to prep all gloves prior to donning respirators - currently have 2 inside 50-69. Due to changing to SP72 processing, outside PIC is accumulating materials required i.e. - Kitty litter, neutralizer, etc.

0656 Inside / Outside rounds reviewed w/ TSR Tracking sheet updated / Status board updated.

0703 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations.

0747 Completed bag on of drum # 68738.

0751 Operators noticed OCO of slightly elevated CAMs, RP-1 investg.

0753 RP-1 reported that CAMs are reading normal - continuing to process.

0913 Completed bag off of 1 daughter - continuing to process.

0958 Operators beginning to decest 4 drums (~~12/13/13~~ 12/15/13 SP 72's)

1014 While decesting drum # 5842524 operators encountered a hole in the lid of inner drum. They filled the holes w/ silicon and taped over, pictures were taken and continued to decest

1105 RP-1 reported to ops center they have a low flow alarm on CAMs (CAMs still functional and filters will be changed after decesting completed.

1136 Decesting is completed. All bag offs completed for drum # 68738 (2 daughters total) Completed bag on of drum # 5842524.

1215 RP-1 lead reported that all CAM filters were changed out despite only 1 was alarming — others were indicating getting close to low flow setpoints and Monday is scheduled change out day.

1354 Completed bag off of 1 daughter and 1 POC - continuing to process

1400 SOS update for- 412 operations - had an operator become sick so will complete SWB ~~12/13/13~~ 12/15/13 decest in progress. Another operator is being provided for- Done 375 operations to assist

continued on next page →

12/15/13 WCRR SOM continued.

1423 Relieved by L. Jalbert as SOM.

1423 ASSUMED SOM DUTIES.

1604 During neutralization of 300 parent liquids (pH of 4 → pH of 7), orange/brown vapors appeared. Parse called, workers stepped back and IH investigated. IH was onbox at time. Minor exothermic reaction. No damage to bags, gloves or tooling. Not unusual for most neutralization concern Nitric acid.

1633 Move out commences (w containers)

1635 Ops resumed - IH considered it a "fast" reaction

1652 1656 Bag off 1st daughter, bag on second daughter commences

1702 IH concludes observation of neutralization activities.

1712 bag on, bag off of daughters complete

1738 bag off commences for second daughter, parent, install port covers

1811 Mode change: Operations/operations to warm/warm for site/facility

1817 LATE ENTRY 1755: BAG OFFS COMPLETE

1830 SECURE SOM SHIFT.

No further entries this page

55

12-15-13

0700 Incoming WCCF 505 position as Dave
0715 pre-job being conducted briefed to being safe while downing, gate changes and efficiency
0735 Pre-job concluded.
0756 Rounds carried out
0730 Bagging on 48738
0747 Bag on completed
0858 Bagging on 1 daughter, bagging off 1 daughter
0913 Bag on complete
0948 Starting to dewax 4 drums
1136 Bag on, bag off completed bagged on 584252lb and completed dewaxing.
1137 late entry - mode change to operations inside TASF and WCCF yard at 703 Chetarde
1330 Starting bag off of 1 daughter and 1 PRC will be bagging on another daughter
1354 Bag on, Bag off complete.
1415 Starting movement into SC 69.
1429 movement into SC 69 is complete.
1440 Starting shift 12-15-13 outside rounds.
1455 Bagging off, bagging on 47835
1459 Completed outside rounds
1522 Bag on, bag off complete
1603 Starting movement into transportainers
1604 notified by LPO reeder of oncoming liquid and turning into tank. smoke inside plenum per IH has been notified
1613 Inside rounds complete
1629 movement out of SC 69 complete
1639 IH notified that reaction in WCC was caused from a past Chemical change when neutralizer was added. OK to continue processing.
1656 Bagging on 1 daughter, bagging off 1 daughter
1712 Bag on, bag off, complete
1713 Rounds carried out
1755 starting bag off and unloading pert (WCC)
1803 Bag on Bag off complete
1805 WCC recipitate has been burned on
1811 mode change performed to warm standby in SC 69 and WCCF yard
1838 End of day SCS position as of 1838 hrs

see further entries in page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0138 |
| Examination Date: | 12/19/2013 |
| Waste Container ID: | 69063 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0138 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 159.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 125.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 69063

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Closure ring

AM:

OM:

OI:

C:

R:

XPM: Plastic bags, liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 2.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 7.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 116.6 |
| Soils (S): | |
| Total WMP Weight: | 125.6 |

# CCP Radiography Data Sheet



Waste Container ID: 69063

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 12/19/2013 |
|---|---|---|
| Print Name | Signature | Date |

5860014



# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69063 | | Count Sequence Number: | 24085 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/10/2014 2:26:13 PM | | | | |
| Description 1: | 1LANDA1888 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 126.0 kg | Net: | 126.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 80.0 % | |
| Density: | | 0.760 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24085 | Batch Number: | 1LANDA1888 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69063 | Analysis Date: | 1/10/2014 |

| | | |
|---|---|---|
| Net Weight | 126000.0 g | |
| Pu mass | 1.09E+002 +- | 2.29E+001 g |
| TRU Alpha Activity | 1.41E+001 +- | 3.61E+000 Ci |
| TRU Activity Concentration | 1.12E+005 +- | 2.86E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.43E+001 +- | 3.61E+000 Ci |
| Pu-239 FGE | 1.03E+002 +- | 2.28E+001 g |
| Decay heat | 4.51E-001 +- | 1.19E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.12E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.32E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.93E-006 |
| NP237 | 1.29E-001 | 9.12E-005 | 1.78E-005 | 6.16E-006 |
| PU238 | 9.99E-003 | 1.71E-001 | 4.50E-002 | 2.13E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.42E-005 |
| PU239 | 1.03E+002 | 6.36E+000 | 1.41E+000 | 7.95E-002 |
| PU240 | 6.63E+000 | 1.51E+000 | 3.97E-001 | 1.88E-002 |
| AM241 | 1.75E+000 | 6.02E+000 | 3.29E+000 | 1.52E-001 |
| PU241 | 1.25E-001 | 1.28E+001 | 3.38E+000 | 1.60E-001 |
| PU242 | 2.19E-002 | 8.66E-005 | 2.28E-005 | 0.00E+000 |
| AM243 | 3.69E-003 | 7.38E-004 | 1.45E-004 | 1.79E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1/14/14

ITR: _____ Date: 1.14.14

## Automated Independent Technical Review

Count Sequence Number: 24085 Batch Number: 1LANDA1888
Counter ID: MCS HENC #1
Container ID: 69063
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/10/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chandler Date: 1-13-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69063**

BDR Number: **LA14FG12009**

Sampling Date: **1/21/2014**

S 8600014

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 742.39 | |
| 74-82-8 | Methane | 6.56 | U |
| 67-56-1 | Methanol | 8.48 | |
| 60-29-7 | Ethyl Ether | 0.12 | U |
| 75-35-4 | 1,1-Dichloroethylene | 0.20 | U |
| 67-64-1 | Acetone | 1.30 | |
| 75-34-3 | 1,1-Dichloroethane | 0.72 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.09 | U |
| 78-93-3 | Methyl ethyl ketone | 0.90 | U |
| 110-82-7 | Cyclohexane | 0.59 | U |
| 71-43-2 | Benzene | 0.27 | |
| 107-06-2 | 1,2-Dichloroethane | 0.56 | U |
| 71-36-3 | 1-Butanol | 0.38 | U |
| 108-10-1 | Methyl isobutyl ketone | 0.66 | U |
| 108-88-3 | Toluene | 0.93 | U |
| 108-90-7 | Chlorobenzene | 0.67 | U |
| 100-41-4 | Ethylbenzene | 0.59 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.38 | U |
| 95-47-6 | o-Xylene | 0.36 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.65 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\140121C\
Data File : 69063.D
Acq On : 21 Jan 2014 1:27 pm (#1); 21 Jan 2014 1:26 pm (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 21 13:36:42 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Tue Dec 03 09:52:38 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.060 | 96 | 8739916 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.636 | 117 | 6804704 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.910 | GC1 | 211768 | 742.39 | ppmv | 100 |
| 4) Methanol | 0.824 | 31 | 3917m | 8.48 | ppmv | |
| 7) Acetone | 1.363 | 58 | 3031 | 1.30 | ppmv | 82 |
| 12) Benzene | 3.720 | 78 | 9732 | 0.27 | ppmv | 95 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0138 |
| Examination Date: | 12/19/2013 |
| Waste Container ID: | 69066 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0138 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 172.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 138.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 90 % |

# CCP Radiography Data Sheet



Waste Container ID: 69066

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 20.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 114.6 |
| Soils (S): | |
| Total WMP Weight: | 138.6 |

# CCP Radiography Data Sheet



Waste Container ID: 69066

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Thad Hasselstrom | | 12/19/2013 |
|---|---|---|
| Print Name | Signature | Date |

5860014



# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69066 | | Count Sequence Number: | 24083 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/10/2014 1:01:15 PM | | | | |
| Description 1: | 1LANDA1888 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 139.0 | kg | Net: | 139.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 90.0 % |
| Density: | | 0.740 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24083 | Batch Number: | 1LANDA1888 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69066 | Analysis Date: | 1/10/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 139000.0 g | | |
| Pu mass | 1.14E+002 | +- 3.48E+001 | g |
| TRU Alpha Activity | 1.49E+001 | +- 5.01E+000 | Ci |
| TRU Activity Concentration | 1.07E+005 | +- 3.60E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.51E+001 | +- 5.01E+000 | Ci |
| Pu-239 FGE | 1.07E+002 | +- 3.48E+001 | g |
| Decay heat | 4.77E-001 | +- 1.64E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.24E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 9.46E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.72E-006 |
| NP237 | 1.07E-001 | 7.56E-005 | 1.45E-005 | 4.33E-006 |
| PU238 | 1.04E-002 | 1.77E-001 | 6.21E-002 | 1.97E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.18E-005 |
| PU239 | 1.07E+002 | 6.61E+000 | 2.15E+000 | 7.32E-002 |
| PU240 | 6.89E+000 | 1.56E+000 | 5.56E-001 | 1.73E-002 |
| AM241 | 1.90E+000 | 6.50E+000 | 4.49E+000 | 1.20E-001 |
| PU241 | 1.29E-001 | 1.33E+001 | 4.73E+000 | 1.48E-001 |
| PU242 | 2.28E-002 | 8.99E-005 | 3.19E-005 | 0.00E+000 |
| AM243 | 3.09E-003 | 6.18E-004 | 1.20E-004 | 1.29E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1/14/14

ITR: _____ Date: 1.14.14

## Automated Independent Technical Review

Count Sequence Number: 24083 Batch Number: 1LANDA1888
Counter ID: MCS HENC #1
Container ID: 69066
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/10/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 1-13-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69066**

BDR Number: **LA14FG12009**

Sampling Date: **1/21/2014**

S 8/00014

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 567.94 | |
| 74-82-8 | Methane | 6.56 | U |
| 67-56-1 | Methanol | 15.55 | |
| 60-29-7 | Ethyl Ether | 0.12 | U |
| 75-35-4 | 1,1-Dichloroethylene | 0.20 | U |
| 67-64-1 | Acetone | 1.03 | |
| 75-34-3 | 1,1-Dichloroethane | 0.72 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.09 | U |
| 78-93-3 | Methyl ethyl ketone | 0.90 | U |
| 110-82-7 | Cyclohexane | 0.59 | U |
| 71-43-2 | Benzene | 0.24 | |
| 107-06-2 | 1,2-Dichloroethane | 0.56 | U |
| 71-36-3 | 1-Butanol | 0.38 | U |
| 108-10-1 | Methyl isobutyl ketone | 0.66 | U |
| 108-88-3 | Toluene | 1.38 | |
| 108-90-7 | Chlorobenzene | 0.67 | U |
| 100-41-4 | Ethylbenzene | 0.59 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.38 | U |
| 95-47-6 | o-Xylene | 0.36 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.65 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

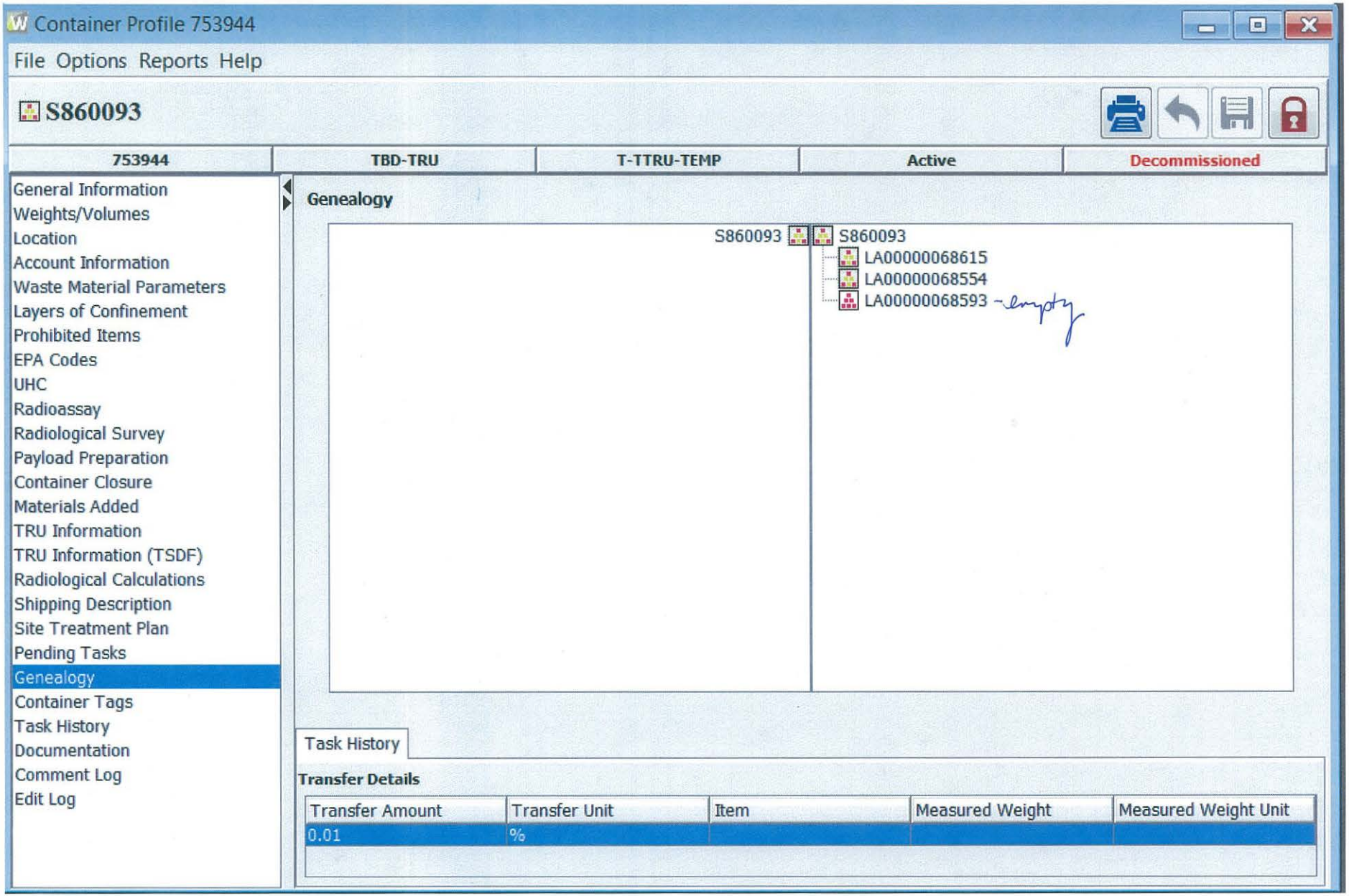
Data Path : C:\msdchem\1\DATA\140121C\
Data File : 69066.D
Acq On : 21 Jan 2014 1:39 pm (#1); 21 Jan 2014 1:38 pm (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 21 13:47:50 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Tue Dec 03 09:52:38 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 3) Fluorobenzene | 4.063 | 96 | 8796689 | 207.75 | ppmv | | 0.00 |
| 15) Chlorobenzene-d5 | 6.636 | 117 | 6841488 | 178.75 | ppmv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 1) Hydrogen | 1.903 | GC1 | 162006 | 567.94 | ppmv | | 100 |
| 4) Methanol | 0.831 | 31 | 7229 | 15.55 | ppmv | | 100 |
| 7) Acetone | 1.357 | 58 | 2400m | 1.03 | ppmv | | |
| 12) Benzene | 3.720 | 78 | 8587 | 0.24 | ppmv | # | 87 |
| 17) Toluene | 5.580 | 92 | 38250 | 1.38 | ppmv | | 94 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S860093


Container Profile 753944
File Options Reports Help
S860093
753944
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S860093
S860093
LA00000068615
LA00000068554
LA00000068593 - empty
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weight Unit
0.01
%

**ATTACHMENT 1**
Page 1 of 4

11/6/13 HS

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: S8699093

6.2[4] Date Processed: 11-06-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019965
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brian Gallegos / Brian Gallegos 267129 11-06-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: S860093 | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 428.8 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | .0 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 428.8 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[17][D] | Drum lift hinge pin retaining clip replaced. | Initials / N/A / Z# / Date |

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

EWMO-FOD (print) — N/A — Signature — Z # — Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5860093

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68615 | 68554 | | |
| 10.1[4] | Daughter Drum Filter No. | LH-317 | LM-353 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10339 | L-11506 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | N/A | N/A | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 5 GALLONS | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead Shielding | Lead Shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | See Comments | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 80% | 90% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | KITTY LITTER, BAG OUT STUBS | Kitty Litter Plastic | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S860093

Comments: Room Trash, Plastic, Nitrate Salts, Kitty Litter,

11.1[1] Performed By: Melinda Stewart Melinda Stewart 127265 11-6-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins CM 124092 11/7/13 0341
SQS or designee (print) Signature Z # Date/Time

10/31/13 ME

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 02388666
Manufacture Date: 13

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 160216 | 036745 |
| Cal. Expiration Date: | 12.18.13 | 8.5.14 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: JL.925
Manufacture Date: 10-11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: GERALD ESPINOZA / [signature] 1237720 / 10/31/13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: GERALD ESPINOZA / [signature] 1237720 / 10/31/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton McInnis / [signature] 240091 / 11/7/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 11/6/13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68593

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038369
- Cal. Expiration Date: 12-18-13
- Range in ft-lb: 16-80
- Tolerance: +/-3% cw & 7-6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Melinda Stewart / Melinda Stewart 1277268 11-6-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 171.8 lb

Comments: N/C

8.1[1] Performed By: Melinda Stewart / Melinda Stewart 1277268 11-6-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / CX 240091 11/7/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 1
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68554

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 60RVC1.5-2SPVC
Serial No.: L-11506
Manufacture Date: 6/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | ~~038369~~ 038369 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | ~~16-80~~ 16-80 | 10-80 |
| Tolerance: | ~~±3% CW ± 6% CCW~~ ±3% CW ± 6% CCW | ±3% CW ± 6% CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brian Gallegos / B. Gallegos 126729 10-21-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 01905
Serial No.: ~~LM-867~~ ~~LM-353~~ LM-867
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: ~~120~~ 10 ~~in-lb~~ ft-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68554

Comments: N/C

5.[35] Performed By: Brian Griego / B. Griego / 267139 10-21-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / CT / 240092 11/2/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 11-7-13

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68554

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/-5%.cw +/-6%.ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Melinda Stewart (Operator (print)) | Melinda Stewart (Signature) | 127268 (Z#) | 11-6-13 (Date)

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A (Operator (print)) | N/A (Signature) | N/A (Z#) | N/A (Date)

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 6855 rpk 1

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 403.8 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Melinda Stewart (Operator (print)) Melinda Stewart (Signature) 1277268 (Z #) 11-6-13 (Date)

7.1[4] Reviewed By: Clayton Miller (Supervisor or designee (print)) (Signature) 1240921 (Z #) 11/7/13 (Date)

10/31/13 jp

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 068615

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: TBOP
Model No.: Locpvcl. 5-2 spvc
Serial No.: L-10339
Manufacture Date: 6-13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036224/5 |
| Cal. Expiration Date: | 12-18-13 | 8-5-14 |
| Range in ft-lb: | 40-200 in-lb | 16-80 |
| Tolerance: | ±4% cw ±6% ccw | ±3% cw ±6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: GERALDO ESPINOZA (Operator (print)) (Signature) 1237729 (Z #) 10/31/13 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-317
Manufacture Date: 12-12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76.0 lbs

5.[34][E] Drum ID No.: 108615

Comments: N/C

5.[35] Performed By: GERALD ESPINOZA (Operator (print)) (Signature) Z# 1237201 Date 10/31/13

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) (Signature) Z# 1240021 Date 11/7/13

Working Copy
Date: 11-7-13

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68615

6.[9] Drum closure ring torque wrench information:

BG 11-06-13
M&TE No.: ~~032345~~ 038369
BG 11-06-13
Cal. Expiration Date: ~~8-05-14~~ 12-18-13
Range in ft-lb: 16-80
Tolerance: ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Brian Gallegos / Brian Gallegos / 267129 / 11-06-13
Operator (print) / Signature / Z # / Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A / N/A / N/A
Operator (print) / Signature / Z # / Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68615

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☒ SAT ☐ UNSAT

6.[28] Drum gross weight: 278.8 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Melinda Stewart / Melinda Stewart 1277265 11-6-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / CA 1240098 11/7/13
Supervisor or designee (print) Signature Z # Date

1a38 SP77

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S860093 Container Type: 55-GAL Gross Weight (lbs): 439

Inner Seal #: 020308 Filter Prefix: LAVC Filter Serial #: 06160

Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR

TWSR Comments: LEACHED SOLIDS MST 12 A0753

Total PE-Ci Activity: 2.69E+00 Equivalent Combustible PE-Ci: 1.01E+00 AM-241 PE-Ci: 2.18E-01

Total Fissile Gram Equivalents: 29.7 Total Surface Dose Rate (mrem/hr): 1

EPA Code(s): D007; D008; D009

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 6/12/2007 Comment: Liquids, Impenetrable Obj Liquid Location: 19", 25"

Certified RTR Comment: None

Prohibited Items: ☑ Sealed > 4 Liters ☒ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☐ VE ☑ PID ☐ Split ☑ Repack

Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey / Susan J. Ramsey / 100681 / 12/20/12
Production Control (Print) Signature Z Number Date

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown

Processing Determination: ☒ Accept ☐ Reject

WDP Engineering Comments: Nitrate Salts
Net Wt: 379#. Generator info shows 14 items of nitrate salts; weights range from 4-43#. No RTR BDR. Nitrate salt are typically packaged in plastic bags; undocumented liquids & or debris may also be present. RTR PS shows prohibited liquids & impenetrable object(s). No chemicals identified; nitrate salts carry waste codes for chromium lead & mercury. Nitrate salts require repack w/ admixture.

Performed By: Valerie Rhodes / Valerie Rhodes / 112609 / 1/18/13
WDP Engineering (Print) Signature Z Number Date

## TRU Remediation Operations

☒ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available

Other Specific Safety Concerns: Do not push or press on waste with hands. Use heavy rubber gloves during processing.

Processing Determination: ☒ Accept ☐ Reject

TRU Remediation Operations Comments: USE Proper PPE And Kitty Litter Ratio

Performed By: G Martinez / A Martinez / 149235 / 6/20/13
TRU Remediation Operations (Print) Signature Z Number Date

Jose Perez Jose Perez 221452 6/22/13

IHS Review during Analysis CSP, may contain Pb, Hg + Cr
No other concerns 1-29-13

## Noncertified TRU Waste Drum Item Information

DrumID: 020308

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12RR2W1 | | 2.130 | NITRATE SALTS | | 3.08 | 52 | 9/13 | G468 | |
| 2 | 12DS3W1 | | 3.700 | NITRATE SALTS | | 2.94 | 52 | 9/13 | G468 | |
| 3 | 12LR3E1 | | 4.500 | NITRATE SALTS | | 0.53 | 52 | 9/13 | G468 | |
| 4 | 12LR3W1 | | 16.380 | NITRATE SALTS | | 3.45 | 52 | 9/13 | G468 | |
| 5 | 12OX4W1 | | 20.100 | NITRATE SALTS | | 4.88 | 52 | 9/13 | G468 | |
| 6 | 11LR26W1 | | 3.540 | NITRATE SALTS | | 0.22 | 52 | 9/13 | G468 | |
| 7 | 12OX4E2 | | 9.310 | NITRATE SALTS | | 0.94 | 52 | 9/13 | G468 | |
| 8 | 11LR26W2 | | 10.300 | NITRATE SALTS | | 2.25 | 52 | 9/13 | G468 | |
| 9 | 11LR18E2 | | 5.570 | NITRATE SALTS | | 0.85 | 52 | 9/13 | G468 | |
| 10 | 11LR18W2 | | 11.670 | NITRATE SALTS | | 1.54 | 52 | 9/13 | G468 | |
| 11 | 12OX6W1 | | 6.970 | NITRATE SALTS | | 1.21 | 52 | 9/13 | G468 | |
| 12 | 12OX6E1 | | 16.830 | NITRATE SALTS | | 6.64 | 52 | 9/13 | G468 | |
| 13 | 12RR9W1 | | 3.430 | NITRATE SALTS | | 1.29 | 52 | 9/13 | G468 | |
| 14 | 12RR9E1 | | 4.240 | NITRATE SALTS | | 1.75 | 52 | 9/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 199.1

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 31.57 | 118.67 |
| Totals | 31.57 | 118.67 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 4/18/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S800093 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 190S | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT N/A | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 748.64 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Erik Loechell / 234183
CCP (Print) Z#

Reviewed By: Nathan Wakes / 238846
CCP (Print) Z#

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey / Susan L. Ramsey / 100681 / 5/20/13
Waste Handling Operator (print) Signature Z# Date

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130418c\
Data File : S860093.D
Acq On : 18 Apr 2013 3:31 pm (#1); 18 Apr 2013 3:30 pm (#2)
Operator : EL
Sample :
Misc : 55 GAL DRUM FROM FILTER-UN-19DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 15:40:15 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.060 | 96 | 8296501 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.639 | 117 | 6655340 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.900 | GC1 | 213536m | 748.64 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Thu Apr 18 15:40:27 2013 UNIT12

11-6-13 CONTINUED FROM PREVIOUS PAGE H SMITH

1450 STARTING OUTSIDE ROUNDS

1458 ITEM #63 OOS, INSIDE ROUNDS, OKAY TO PROCEED PER CSE DOCUMENTATION

1500 COMPLETED INSIDE ROUNDS

1513 OUTSIDE ROUNDS COMPLETED

1540 BAGGING ON - BAGGING OF DAUGHTER & CONTINUE TO PROCESS

1550 INSIDE AND OUTSIDE ROUNDS REVIEWED BY SDS

1552 BAG OFF 11/4/13 HS OFF COMPLETE

1633 BAGGING ON DAUGHTER, BAGGING ON S860093

1705 BAG OFF - BAG ON COMPLETE

11/6/13 RLG 1800 BEING RELIEVED BY OCO TERI COLEMAN H SMITH

NO FURTHER ENTRIES ON THIS PAGE H SMITH

11-6-13

1800 Assuming WCRR operations center - JC Duncan
1820 Pre-job being conducted by SOS.
1842 Pre-job concluded. 2 operators and myself briefing to new ~~RWP~~ JC 11-6-13 JWO# ES-WCRRF-2013-002.0
2015 Bagging off 1 daughter, bagging on another daughter.
2027 Bag off/on complete.
2131 Initiating a drum movement from 50-69 to a transportainer.
2149 Drum movement out of 50-69 complete.
2242 Operators denesting 2 drums.
2320 Denesting complete. Bagging off and bagging on S852895
2343 Bag on/off complete.
11-7-13 0002 Operators out for lunch.
0030 Beginning outside rounds.
~~0050 Item # JC 11-6-13~~
0100 Outside rounds complete.
0220 Beginning inside rounds.
0221 Late entry - at 0119, operators back from lunch (JC)
0238 Item #L3 is OOS, OKay to proceed per CSE documentation.
0239 Inside rounds complete.
0326 Both rounds reviewed by SOS.
0335 Bagging off 1 daughter, bagging on another daughter.
0352 Bag off/on complete.
0520 Bagging off 2 daughters.
0541 Bagging on S833409
0550 Bag off/on complete.
0556 Air quality personnel arrived to perform weekly stack monitoring
11-7-13 0603 Being relieved by CCO, Howard Smith, JCDuncan

No further entries this page

11-6-13 Day Shift

0610 Reviewed shift turnover checklist and examined the WCRR Scan position from Guardigno.

0619 DOE rad representative from IR-53 (DOE) entered SSES to perform assessment.

0622 Reviewed and approved dayshift work bill.

0647 Completed attending the project brief conducted by (Gilbert). The current SOS is Clarissa, Facility and equipment updates were provided noting the ROTO Engr and Vent. Lift are leaking oil. PCR's were submitted. Discussed shift orders in effect, there is one transfer out scheduled. Tools for decontamination was briefed on and ISI (general) steps were discussed.

0705 Conducted daily Facility POD update with APEAG SCM

0735 Turned the Scm over to Lou Mariani from Guardigno

0735 ASSUME SUM DUTIES.

0758 MODE CHANGE FROM OPERATIONAL/OPERATIONAL TO WARM/WARM FOR SITE/SUBS. STATION 1 (RT) AND STATION 3, 4, 5 AND 7 GLOVE CHANGE.

0755 WCRR MONTHLY VALVE ALIGNMENT COMPLETED (SR 4.2.4). SIGNED OFF COPY SENT BY OC TO CSE MGR.

1040 PASS ONSITE TO WORK ON ROTOGRIP.

1105 GLOVE CHANGES COMPLETE. ROTOGRIP MAINTENANCE UNDERWAY

1136 MAINTENANCE COMPLETE. FOUND NO LEAKS. RETURNED TO SERVICE.

1145 MODE CHANGE AT WCRR: WARM/WARM TO OPERATIONAL/OPERATIONAL FOR SITE/SUBS

1200 LUNCH TIME CALL IN.

1505 J. Vigil gets some sample leaded glass from TASS, gave to SOS to try out.

1[illegible] SAMPLE GLASS TRIED OUT. DIMENSIONS CURVE BUT CAN BE CUT TO FIT. WILL USE ES FOR THIS TASK.

1624 TURN SUM DUTIES OVER TO J GUADAGNOLI

1624 Assumed the SOM duties Guardigno

1633 Inside Operators report baggoff of 3.0 daughter and bagg on Event Sheet

(Continued on Next Page)

11-6-13 Day Shift (Cont.)

1637 Verified with OCC of caution tag removed from Rate Grp. It was removed by Maintenance

1648 Completed review of inside and outside rounds,

1704 TA 50-54 machine shop provided SS plates for the WCC small windows (lead replacement). The dimensions note rectangle. Consultation with Jr Physic will be required prior to use, also with Rad Engineering.

1706 Inside operations report Bigcon and Dayoff completed.

1805 Initiated shift turnover utilizing shift turnover checklist.

1810 Relieved by R. Axtell as WCRR SOM from Greenwall

No further Entries this Page

SAG

11/6/13 Night Shift

1810 Reviewed shift turnover checklist, approved and posted Night shift Operations watchbill, assumed WCRR SOM position.

1845 Pre job brief was conducted and completed by SOS. Safety topic by IH was use of rigging equipment here @ WCRR. Discussed status of lead window procurement, Roto Grip evaluation by mechanics (OK to use) and repairs required to return to service the VersaLift. Briefed workers on active shift orders.

2027 Completed bag off of 1 daughter - continuing to process.

2149 Operators completed movement of 4 drums from 50-69 to transportainers.

2326 Operators completed denesting 2 drums

2343 Completed all 11/6/13 bagoffs for parent #S860093 (2 daughters total). Bagged on S852895

0002 Operators breaking for lunch.

0119 Resuming operations

0352 Completed bagging off 1 daughter - continuing processing

0535 Reviewed Round sheets. No issues

0545 Reviewed compliance tracking schedule - Status board updated.

0544 Late Entry @ 0541 Operators in process of bagging off 2 more daughters to complete parent S852895 (3 daughters total). Bagging on drum # S833409. LRG

0606 Relieved by J. Gundagnola as WCRR SOM

No further entries this page LRG

7
11-6-13

PROJECT NAME _____ NOTEBOOK NO. _____

0600 Observing WCREFSOS position - Coelarde
0615 Performing pre job briefing - IH Brueben on TLOD
0644 Pre job and TLOD Briefing Concluded
0700 Operators entering 50-69 to processing 3822952.
0730 Noticed by Operators that RATS requesting glove changes on Station 1, 3, 4, 5, and 7
0745 Being relieved by SOS Gilbert Martinez - Coelarde.
0748 Assuming Position
0825 Starting shipment out to Mexia
1647 Starting Glove Changes on station 1, 3, 4, 5 and 7
0915 Shipment out Complete Late entries at 0803 Monthly Valve Alignment started 11-6-13
0955 Monthly Valve Alignment Complete
1103 Glove Changes Complete
1115 Maintenance Personal Entering 50-69 to work on Bale Grip
1129 Maintenance Personal told me Fixed Leak Equipment was put back into service
1145 Mode change Complete WCREF in Operations.
1146 Computers Begging to Process
1152 Starting Movement into 50-69
1221 Movement Complete
1357 Starting Movements out of 50-69
1419 Bagging off Daughter Bagging on Mother
1437 Movement out of 50-69 complete
1438 Bag off complete
1440 Starting Bounds
1540 Bag on left Daughter And Entering
1550 Inside and outside Bounds Performed
1557 Bag off Complete
1935 Bagging on left Bagging on 3861093
1205 Bag valve complete
1530 1515 Released by Clayton Miller

No further entries on this page

SIGNATURE _____ DATE _____ 20 ____
READ AND UNDERSTOOD _____ DATE _____ 20 ____

# WCRRF SOS Log Book

11/6/13

1816 Assuming SOS position. CA

1818 Starting Pre-Job, discussed turnover from day shift as well as ensure that all rigging equipment is certified and that personnel is trained.

1841 Pre-Job complete.

2015 Bagging off 1st daughter, bagging on a 2nd.

2027 Bag off/on complete.

2131 Starting movement out of 50-69.

2149 Movement out complete.

2242 Starting to denest 2 drums.

2320 Denesting complete. Bagging off 2nd daughter, bagging on 5852895.

2343 Bag off/on complete.

0326 Signed off on the rounds.

0335 Bagging off 1st daughter, bagging on a 2nd.

0392 Bag off/on complete.

0520 Bagging off 2nd and 3rd daughter, 5833409.

0550 Bag off/on complete.

0610 Turning over SOS position to Gilbert Martinez. CA 11/7/13

LLG

No Further Entries on this Page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0127 |
| Examination Date: | 11/13/2013 |
| Waste Container ID: | 68554 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0127 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 183.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 150.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 85 % |

# CCP Radiography Data Sheet



Waste Container ID: 68554

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C: Tape rolls

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 24.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 0.3 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 119.8 |
| Soils (S): | |
| Total WMP Weight: | 150.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68554

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Michael Simmons | | 11/13/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68554 | | Count Sequence Number: | 23852 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 11/15/2013 11:30:11 AM | | | | |
| Description 1: | 1LANDA1866 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6, Not Precision | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 150.0 kg | | Net: | 150.0 kg |
| Container: | Volume: | 208.0 l | | Full: | 85.0 % |
| Density: | | 0.850 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23852 | Batch Number: | 1LANDA1866 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68554 | Analysis Date: | 11/15/2013 |

| | | |
|---|---|---|
| Net Weight | 150000.0 g | |
| Pu mass | 1.91E+001 +- | 8.23E+000 g |
| TRU Alpha Activity | 4.08E+000 +- | 1.93E+000 Ci |
| TRU Activity Concentration | 2.72E+004 +- | 1.29E+004 nCi/g |
| Pu-239 Equivalent Activity | 4.12E+000 +- | 1.93E+000 Ci |
| Pu-239 FGE | 1.80E+001 +- | 8.21E+000 g |
| Decay heat | 1.33E-001 +- | 6.40E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.20E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.15E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.52E-006 |
| NP237 | 7.50E-002 | 5.29E-005 | 1.10E-005 | 2.50E-006 |
| PU238 | 1.75E-003 | 2.99E-002 | 1.42E-002 | 7.01E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.47E-005 |
| PU239 | 1.79E+001 | 1.11E+000 | 5.09E-001 | 2.61E-002 |
| PU240 | 1.15E+000 | 2.60E-001 | 1.25E-001 | 6.11E-003 |
| AM241 | 7.80E-001 | 2.68E+000 | 1.86E+000 | 1.05E-001 |
| PU241 | 2.19E-002 | 2.26E+000 | 1.08E+000 | 5.30E-002 |
| PU242 | 3.83E-003 | 1.51E-005 | 7.24E-006 | 0.00E+000 |
| AM243 | 8.93E-004 | 1.79E-004 | 3.75E-005 | 7.04E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/21/13

ITR: _____ Date: 11-22-13

## Automated Independent Technical Review

Count Sequence Number: 23852 Batch Number: 1LANDA1866
Counter ID: MCS HENC #1
Container ID: 68554
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/15/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 11-19-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68554**

BDR Number: **LA13FG12120**

Sampling Date: **11/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 238.03 | |
| 74-82-8 | Methane | 6.56 | U |
| 67-56-1 | Methanol | 10.82 | |
| 60-29-7 | Ethyl Ether | 0.12 | U |
| 75-35-4 | 1,1-Dichloroethylene | 0.20 | U |
| 67-64-1 | Acetone | 0.48 | |
| 75-34-3 | 1,1-Dichloroethane | 0.72 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.09 | U |
| 78-93-3 | Methyl ethyl ketone | 0.90 | U |
| 110-82-7 | Cyclohexane | 0.59 | U |
| 71-43-2 | Benzene | 0.17 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.56 | U |
| 71-36-3 | 1-Butanol | 0.38 | U |
| 108-10-1 | Methyl isobutyl ketone | 0.66 | U |
| 108-88-3 | Toluene | 2.15 | |
| 108-90-7 | Chlorobenzene | 0.67 | U |
| 100-41-4 | Ethylbenzene | 0.59 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.38 | U |
| 95-47-6 | o-Xylene | 0.36 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.65 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131122c\
Data File : 68554.D
Acq On : 22 Nov 2013 12:03 pm (#1); 22 Nov 2013 12:02 pm (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 22 12:12:08 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | | Dev(Min) |
|---|---|---|---|---|---|---|---|
| Internal Standards | | | | | | | |
| 3) Fluorobenzene | 4.060 | 96 | 5623214 | 207.75 | ppmv | | 0.00 |
| 15) Chlorobenzene-d5 | 6.639 | 117 | 4378161 | 178.75 | ppmv | | 0.00 |
| Target Compounds | | | | | | | Qvalue |
| 1) Hydrogen | 1.907 | GC1 | 67899m | 238.03 | ppmv | | |
| 4) Methanol | 0.824 | 31 | 3214 | 10.82 | ppmv | | 100 |
| 7) Acetone | 1.370 | 58 | 717 | 0.48 | ppmv | # | 48 |
| 17) Toluene | 5.577 | 92 | 38070 | 2.15 | ppmv | | 93 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0127 |
| Examination Date: | 11/13/2013 |
| Waste Container ID: | 68615 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0127 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 126.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 93.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68615

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM: Plastic bags, plastic sheeting, 90 mil liner lid

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 8.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 85.1 |
| Soils (S): | |
| Total WMP Weight: | 93.1 |

# CCP Radiography Data Sheet

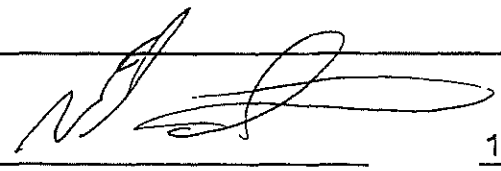


Waste Container ID: 68615

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Michael Simmons |  | 11/13/2013 |
|---|---|---|
| Print Name | Signature | Date |

5860093



# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68615 | Count Sequence Number: | 23864 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 11/19/2013 11:25:29 AM | | | | |
| Description 1: | 1LANDA1867 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 93.1 | kg | Net: | 93.1 kg |
| Container: | Volume: | 208.0 | l | Full: | 80.0 % |
| Density: | | 0.560 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23864 | Batch Number: | 1LANDA1867 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68615 | Analysis Date: | 11/19/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 93100.0 g | | |
| Pu mass | 8.03E+000 | +- 1.23E+000 | g |
| TRU Alpha Activity | 2.48E+000 | +- 1.02E+000 | Ci |
| TRU Activity Concentration | 2.66E+004 | +- 1.09E+004 | nCi/g |
| Pu-239 Equivalent Activity | 2.50E+000 | +- 1.02E+000 | Ci |
| Pu-239 FGE | 9.20E+000 | +- 1.27E+000 | g |
| Decay heat | 8.12E-002 | +- 3.38E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.27E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.86E-003 |
| U234 | 3.55E-002 | 2.21E-004 | 4.62E-005 | 0.00E+000 |
| U235 | 2.53E+000 | 5.47E-006 | 1.15E-006 | 1.94E-006 |
| NP237 | 4.64E-002 | 3.27E-005 | 5.34E-006 | 1.76E-006 |
| PU238 | 7.33E-004 | 1.25E-002 | 2.59E-003 | 9.00E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.05E-005 |
| PU239 | 7.53E+000 | 4.67E-001 | 7.57E-002 | 3.35E-002 |
| PU240 | 4.81E-001 | 1.09E-001 | 2.35E-002 | 7.84E-003 |
| AM241 | 5.51E-001 | 1.89E+000 | 1.01E+000 | 4.26E-002 |
| PU241 | 9.19E-003 | 9.47E-001 | 2.04E-001 | 6.80E-002 |
| PU242 | 1.61E-003 | 6.35E-006 | 1.37E-006 | 0.00E+000 |
| AM243 | 7.71E-004 | 1.54E-004 | 2.55E-005 | 5.23E-006 |

Errors quoted at 1.000 sigma

Operator: Marla Egan Date: 11-22-13

ITR: [signature] Date: 11-25-13

## Automated Independent Technical Review

Count Sequence Number: 23864 Batch Number: 1LANDA1867
Counter ID: MCS HENC #1
Container ID: 68615
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/19/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 11-20-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68615**

BDR Number: **LA13FG2119**

Sampling Date: **11/22/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 158.93 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

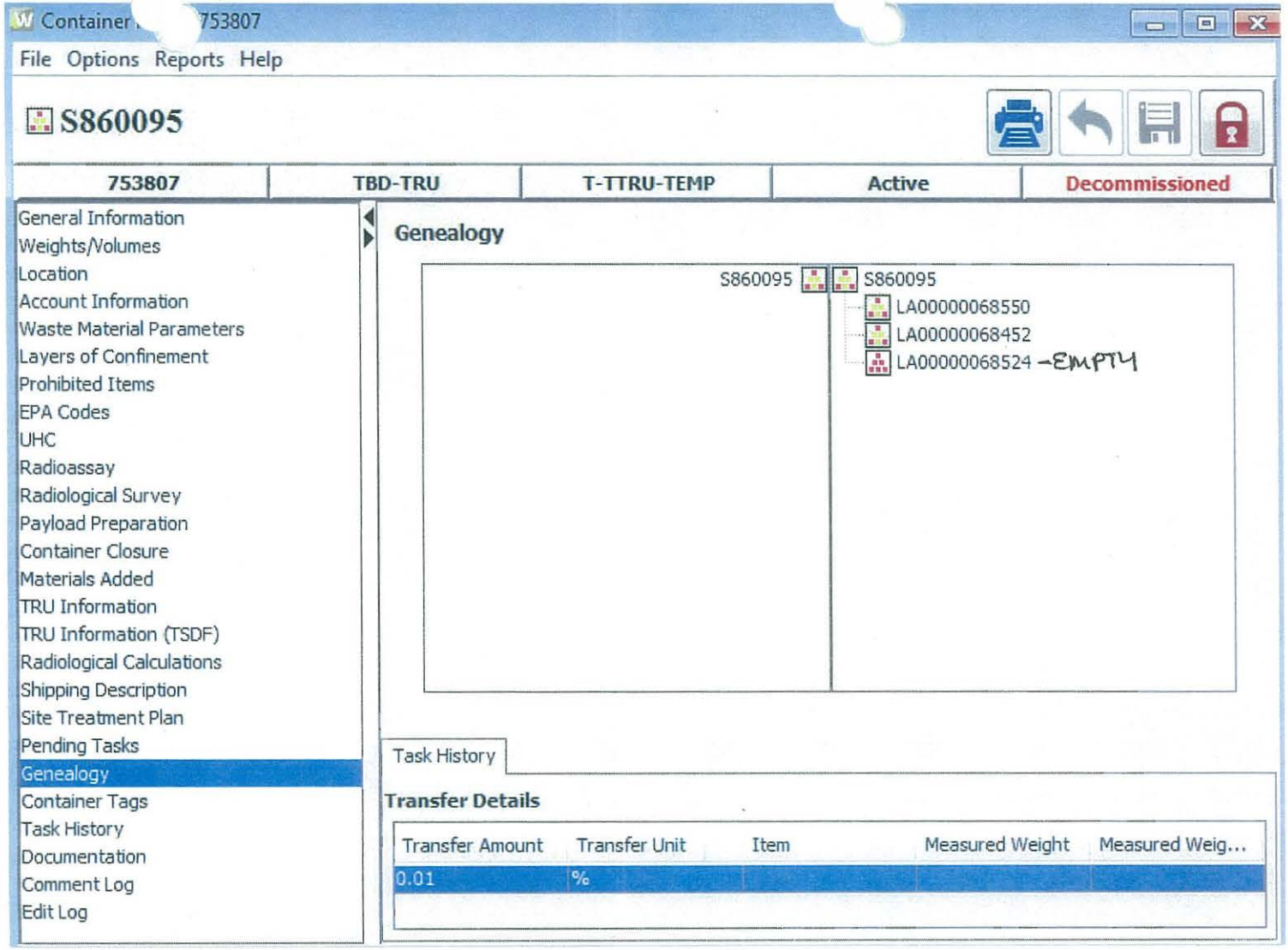
Data Path : C:\msdchem\1\DATA\131122c\
Data File : 68615.D
Acq On : 22 Nov 2013 1:02 pm (#1); 22-Nov-13, 13:01:32 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 22 13:10:13 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.591 | 96 | 4392399 | 205.75 | ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.891 | 117 | 3487909 | 177.50 | ppmv | 0.03 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.621 | GC1 | 1195m | 158.93 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S860095


Container 753807
File Options Reports Help
S860095
753807
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S860095
S860095
LA00000068550
LA00000068452
LA00000068524 -EMPTY
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
0.01
%

Working Copy
Date: 10-22-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S8V0095

6.2[4] Date Processed: 10-22-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: GERALD ESPINOZA / [signature] / 277720 / 10/22/13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S 8100095

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 382.4 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): Ø lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 382.4 lb

6.2[7] **($)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced.

| N | / | A | / |
|---|---|---|---|
| Initials | | Z# | Date |

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

| — | N/A | / | / |
|---|---|---|---|
| EWMO-FOD (print) | Signature | Z # | Date |

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 58600095

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68550 | 68452 | | |
| 10.1[4] | Daughter Drum Filter No. | LM358 | LM272 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6788 | L-6786 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | 1 GAL | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 3 GAL | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | SEE COMMENTS | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100 % | 75 % | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | PLASTIC HEX ARMORS | PLASTIC HEX ARMORS | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S8600095

Comments: NITRATE SALTS, PLASTIC, Kitty litter, leach, liquid

11.1[1] Performed By: GERALD ESPINOZA / [signature] / 237720 / 10/22/18
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Martin / [signature] / 14935 / 10-23-18 1000
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 10-4-13 JL

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

| | |
|---|---|
| Purchase Order No.: | 501563 |
| Lot No.: | 0238366-1 |
| Manufacture Date: | 13 |

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | ± 4%cw ± 6%ccw | ± 3%cw ± 6%ccw |

Overpack filtered vent information:

| | |
|---|---|
| Manufacturer: | NUCFIL |
| Model No.: | 0/3 |
| Serial No.: | JL-1072 |
| Manufacture Date: | 10-11 |

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Brandon Chavez / [signature] [illegible] 10-4-13
Waste Handling Technician (print) Signature Z# Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / [signature] [illegible] 10-4-13
Waste Handling Technician (print) Signature Z# Date

8.1[6] Reviewed By: Gilbert Martinez / [signature] 149251 10-23-13
Supervisor or designee (print) Signature Z# Date

Working Copy
Date: 102213 JK

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68524

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 037418
- Cal. Expiration Date: 3-6-14
- Range in ft-lb: 10-80
- Tolerance: ± 3% OR ± 6% CW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: GERALD ESPINOZA / [signature] / Z# 237720 / 10/22/13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: D190605
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 165.5 lb

Comments: N/A

8.1[1] Performed By: GERALD ESPINOZA / [signature] / Z# 237720 / 10/22/13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez / [signature] / Z# 146735 / 10-23-13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Date: 9-18-13

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68452

5.[3] Drum information:
- Purchase Order No.: 501578
- Lot No.: 0240999
- Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 6CPVC1.5 25PVC
- Serial No.: 46787
- Manufacture Date: 1/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | ±4%cw ±6%ccw | ±3%cw ±6%ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☒ YES ☐ NO

Performed By: JOE QUINTANA (Operator (print)) Joe Q (Signature) 239981 (Z #) 9/18/13 (Date)

5.[23] Filtered vent information:
- Manufacturer: NUCFIL
- Model No.: 01905
- Serial No.: LM 272
- Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76.0 lbs

5.[34][E] Drum ID No.: 68452

Comments: N/C

5.[35] Performed By: Joe Quintana (Operator (print)) Joe Q (Signature) 279987 (Z #) 9/18/13 (Date)

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) [signature] (Signature) 149351 (Z #) 10-23-13 (Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 108452

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-6-14
Range in ft-lb: 10-80
Tolerance: ±3% CW ±6° CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: GERALD ESPINOZA / [signature] - 1237120 / 10/22/13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: GERALD ESPINOZA / [signature] - 1237120 10/22/13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68452

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 319.8 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: GERALD ESPINOZA / [signature] / 123T720 / 10/22/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] / 146235 / 10-23-13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-21-13 cw

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68550

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240999
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: DOP
Model No.: BC 10/21/13 ~~019065~~ 6CPVC 1.5-2PVC
Serial No.: L-6789
Manufacture Date: 1/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12/18/13 | 12/18/13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | +/- 4% cw +/- 6% ccw | +/- 3% cw +/- 6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: MICHAEL MONTOYA / Brian Cordova / Li Ng / [signature] 191352 10/21/13 / 1287542 10/21/13
Operator (print) Signature Z# Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS BC 10/21/13
Serial No.: LM-385 358
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68550

Comments: N/C

5.[35] Performed By: MICHAEL MONTOYA / Brian Cordova / [signature] / 191352 / 10/21/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] / 149235 / 10-23-13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68550

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-6-14
Range in ft-lb: 10-80
Tolerance: ±3% cw ±6% ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: GERALD ESPINOZA / [signature] / 1237720 / 10/22/13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: GERALD ESPINOZA / [signature] / 1237720 / 10/22/13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 68550

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 331.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: NC

6.[32] Performed By: GERALD ESPINOZA (Operator (print)) (Signature) 1237720 (Z #) 10/22/13 (Date)

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) (Signature) 1492351 (Z #) 10-23-13 (Date)

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

(95-4 SP10)

## Production Control

Container ID: S860095 Container Type: 55-GAL Gross Weight (lbs): 396
Inner Seal #: 021431 Filter Prefix: LAVC Filter Serial #: 00369
WTC Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 A0754
Total PE-Ci Activity: 3.71E+00 Equivalent Combustible PE-Ci: 1.39E+00 AM-241 PE-Ci: 3.01E-01
Total Fissile Gram Equivalents: 41.0 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): D007; D008; D009
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 4/30/2007 Comment: Liquids, Impenetrable Obj, Liner Not Punctured Liquid Location: 25
Certified RTR Comment: None
Prohibited Items: ☑ Sealed > 4 Liters ☑ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE ☑ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) / Susan B. Ramsey (Signature) / 100681 (Z Number) / 12/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts
Net Wt. 336# Generator info shows 11 items of nitrate salts; weights range from 12-35#, No RTR BDR. Nitrate salts are typically packaged in plastic bags; undocumented liquids &/or other debris may be present. RTR PS shows prohibited liquids & impenetrable item(s) & unpunctured liner. No chemicals identified; applicable waste codes are for Chromium, lead & mercury. Nitrate salts require repack with admixture.

Performed By: Valerie Rhodes (WDP Engineering (Print)) / Valerie Rhodes (Signature) / 112609 (Z Number) / 1/17/13 (Date)

## TRU Remediation Operations

☒ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use heavy wall gloves during processing.
Processing Determination: ☒ Accept ☐ Reject
TRU Remediation Operations Comments: USE Proper PPE And Kitty Litter Ratio

Performed By: G Mh (TRU Remediation Operations (Print)) / JM Mh (Signature) / 149285 (Z Number) / 1/20/13 (Date)
Jose Jerez / Jose Jerez / 221452 / 1/22/13

IHS Review - Joann Sandoval ESP may contain Pb, Hg + Cr
No other concerns 1-29-13

## Noncertified TRU Waste Drum Item Information

DrumID: 021431

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11LR19W1 | | 10.190 | NITRATE SALTS | | 2.66 | 52 | 9/13 | G468 | |
| 2 | 11LR19E1 | | 7.220 | NITRATE SALTS | | 0.81 | 52 | 9/13 | G468 | |
| 3 | 110S21W1 | | 10.330 | NITRATE SALTS | | 4.15 | 52 | 9/13 | G468 | |
| 4 | 110S21E1 | | 11.290 | NITRATE SALTS | | 2.8 | 52 | 9/13 | G468 | |
| 5 | 110X21W1 | | 5.760 | NITRATE SALTS | | 0.63 | 52 | 9/13 | G468 | |
| 6 | 110X22W1 | | 7.230 | NITRATE SALTS | | 6.09 | 52 | 9/13 | G468 | |
| 7 | 110X22E1 | | 7.490 | NITRATE SALTS | | 9.51 | 52 | 9/13 | G468 | |
| 8 | 11LR22W1 | | 6.280 | NITRATE SALTS | | 0.84 | 52 | 9/13 | G468 | |
| 9 | 11LR22E1 | | 7.370 | NITRATE SALTS | | 1.95 | 52 | 9/13 | G468 | |
| 10 | 110X26W1 | | 15.820 | NITRATE SALTS | | 6.26 | 52 | 9/13 | G468 | |
| 11 | 110X26E1 | | 11.450 | NITRATE SALTS | | 7.85 | 52 | 9/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 179.5

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 43.55 | 100.43 |
| Totals | 43.55 | 100.43 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 4/18/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | SS600095 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 190S | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 1549.10 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Erik Loechell / 234183
CCP (Print) Z#

Reviewed By: Nathan Wales / 238866
CCP (Print) Z#

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey / [signature] / 100681 / 5/20/13
Waste Handling Operator (print) Signature Z# Date

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130418c\
Data File : S860095.D
Acq On : 18 Apr 2013 12:40 pm
Operator : EL
Sample :
Misc : 55 GAL DRUM FROM FILTER-UN-19DS (Sig #1): (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 12:49:18 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.063 | 96 | 9236134 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.639 | 117 | 7378928 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.903 | GC1 | 441852 | 1549.10 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Thu Apr 18 12:49:32 2013 UNIT12

10-22-13

0600 Assuming WCRR operations center. JC Oleman

0615 Pre-job being conducted by SOS. RCT reviewing everyone on the processing monthly brief.

0642 SCM's re-briefing on shift orders WCRR-SH-13-003 and WCRR-SH-13-005.

0708 Pre-job concluded.

0712 Beginning outside rounds.

0720 Outside rounds complete.

0802 Beginning inside rounds.

0813 Shutting down ventilation to begin the ~~annual~~ Quarterly channel function ~~calibration~~ surveillance. sc 10-22-13 jc 10-22-13

0815 Ventilation is down.

0816 Acknowledged the mixer alarm.

0817 Beginning the ~~annual~~ Quarterly channel ~~calibration~~ function test. sc 10-22-13 jc 10-22-13

0818 Item #63 is OOS. Okay to proceed with rounds per CSE documentation.

0830 Inside rounds complete.

1000 Both rounds reviewed by SOS.

1022 The quarterly channel function test is complete.

1075 Restarting ventilation.

1029 Ventilation restarted. All readings normal.

1129 Beginning monthly UPS test, WO# 4467551-01

1219 The monthly UPS test is complete.

1248 Late entry at 1101, the channel function test SR 4.3.17 and 4.3.2.6 were due on 10-14-13. The facility was in Cold standby mode and was in stand down from 10-6-13 until 10-21-13 based upon DOE funding. The surveillances were completed at 1022 and the equipment is operable. dc

1254 Awaiting signature from the CSE on the monthly UPS test procedure before we ~~go into~~ jc 10-22-13 go into operations mode.

1300 Mode changed to operations in WCRRF yard and 50-69.

1305 Initiating a drum movement of 3 drums into 50-69.

1328 Drum movement completed.

Continued on next page. JC Oleman

10-22-13 Continued from previous page - YColeman

1344 Bagging on S8L0195.

n. 1401 Bag on complete.

1426 Beginning outside rounds.

1434 Beginning inside rounds.

1445 Item #63 is OOS, okay to proceed per CSE documentation.

1450 Inside rounds complete. Outside rounds complete.

1512 Both rounds reviewed by SOS.

1538 Bagging off 1 daughter, 1 POC, bagging on S8L0095

1612 Bag on/off complete. on SC 10-22-13

ic) 1702 Bagging off 1 daughter, bagging off another daughter.

1718 Bag off/on complete.

1740 Bagging off last drum of the day.

1759 Bag off complete.

st. 1811 Mode changed to warm in WCRF yard and SO69.

22-13 1830 End of day. CCO position secured. YColeman

No further entries this page

10-22-13 DAYSHIFT

0600 Obtained shift turnover checklist and assumed the WCRR SOM position John Guadagnuli

0705 Completed attending the pre-job brief conducted by the SOS (Darrell). RWP was reviewed by the RCT lead. Shift Orders - WCRR-SH-13-003-R2, Manual Drum Movements and WCRR-SH-13-005-R0 Precautions to Prevent Bric, Tears were reviewed and operators signed off. There are no transfers scheduled for today - the channel function test will be conducted, and if crafts are available, the UPS monthly will be conducted. Roles and Responsibilities were assigned. The Safety topic was Freeze Protection awareness. Team work was discussed to ensure both crews work together as a team

0706 Conducted daily AREA G/SOM - Plan of the Day phone call.

0808 Completed merging Channel Function Test - EP-WCRR-VS-DOP-0313 and the monthly UPS test.

0815 Inside Operations shutdown ventilation pre procedure for the Quarterly Channel Function Test.

0901 Crafts arrive to perform the monthly UPS. Escort is assigned and RCT assigned to provide RWP brief.

1015 Met with WMC personnel and discussed ILLW to be transfered to AREA 2. The containers to be transfered are to be walked down.

1022 Inside operations report completion of the Channel Function Tests being performed satisfactory -

1024 The ventilation in SP/69 was restricted satisfactory.

1030 The crafts are waiting to obtain a safety watch prior to initiating work on the UPS - Notification was made to the CAM. Currently waiting for the CSE to sign off on DOP-0313.

1100 Completed sign off of Channel function Test. Noted Satisfactory for SR-4.3.1.7 and SR 4.3.2.6 Current status of Safety is in Cold.

1120 Completed sign off of WO# 467551-01 for (M) UPS. Safety watch was provided, work was initated.

1125 Late entry for 1101 hours: Channel Function test SR 4.3.1.7 and 4.3.2.6 were due on 10-14-13. The facility was in Cold Standby Mode, and was in Stand down from 10-8-13 till 10-21-13, based upon DOE Funding As noted at 1100 hrs the SR 4.3.1.7 and SR 4.3.2.6 were conducted satisfactory and equipment is noted Operable

(Continued on Next Page)

10-22-13 Dayshift (Cont).

1230 Per the OM, he obtained approval from the FOD to go operational

1253 CSE completed the sign off of work package WO# 00467551-01 - 50/60 (IN) OPS 001 - all was noted satisfactory.

1300 Mode change: WCRR YARD and 50/69 Facility transitioned from LWARM/LCOLD to Operations/Operations.

1305 Shift Orders - WCRR-SH-13-003 R2, MANUAL DRUM MOVEMENTS and WCRR-SH-13-007-R0 - Precautions to Prevent BAG Tears were extended through 10-29-13

1343 Upon completion of re-inventory and prepping the parent for bag on, Parent drum S861975 was identified to be bagged on - Operators initiated bag on.

1400 Inside operations report that bag on was completed.

1538 Operations report bagging off 1 daughter and 1 POC and bagging on Parent S860095

1610 Operations report bag off and bag on completed

1718 Operations completed bag off of one daughter and bag on of another and continue to process. Approximately 20% of the run remains to process, and operations will work to completion.

1740 Inside operations report bagging off daughter and parent empty S860095

1759 Bag offs were noted complete and the area was placed in a safe configuration. No TRU Drums left bagged on.

1811 Mode Change: WCRR yard and 50/69 Facility transition from Operations/Operations to LWARM/LWARM.
The on-call watch bill was instituted.

1818 Secured the 50M position for Headquarters

No further Entries this page

10/22/13 WERF SOS Log Book

0600 Assuming SOS Position [signature]

0615 Conducted Shift briefing. Reviewed RWP 2012-0015 Reviewed Shift Orders WERR-SH-13-005 Rev 0 and WERR-SH-13-003 R2, discussed Plan of the day Channel function test, Processing parents, Forklift operations Discussed slow Start after being offsite for two weeks. Discussed Wearing proper PPE and following procedures Housekeeping.

0700 Pre job complete

0735 Outside Rounds completed and signed off

0813 Ventilation shutdown to begin Channel function test

0817 Quarterly Channel function test started.

1000 Inside Rounds completed and signed. Reviewed Pre operational check for the daily drum lift inspection

1022 Quarterly channel function test completed and signed

1029 Ventilation returned to normal all readings set.

1129 Monthly UPS check started

1219 Monthly UPS check Completed Awaiting Signatures

1300 Building 5069 is in operations mode

1305 ~~Monitoring~~ Starting movement of drums into 5069 DZB 10-22-13

1325 Movement of drums completed into 5069

1344 Bag on at drum # S861775

1401 Bag on complete

1515 Inside and outside rounds completed and signed off

1558 Bag off / daughter / PCC Bagging on drum # S860495

1612 Bag on / off complete

1702 Bag off / daughter, bag on / daughter

1718 Bag off / on complete

1740 Bagging off drum.

1753 Bag off complete

1811 Mode change to warm in the AHF and Warm in 5069.

1830 Securing SOS position for the day

No further Entries

DZB 10 22 13

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| ☐ RTR Examination ☐ RTR Replicate Scan ☒ RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0119 |
| Examination Date: | 10/28/2013 |
| Waste Container ID: | 68452 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0119 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | ☒ No ☐ Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 145.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 111.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: ☒ No ☐ Yes Lid: ☒ No ☐ Yes<br>Type: ☐ 30-mil ☐ 90-mil ☐ 110-mil ☐ 125-mil<br>Vented: ☐ No ☐ Yes ☒ N/A<br>Punctured: ☒ No ☐ Yes<br>Mechanical Vent: ☒ No ☐ Yes<br>Fiberboard Liner: ☐ No ☒ Yes<br>Lead Lined: ☒ No ☐ Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 75 % |

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)



Waste Container ID: 68452

## Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C: Leather gloves

R:

XPM: Plastic bags

OR:

IN: Homogeneous solids

S:

## Section 4: Packaging Material and Waste Material Parameters

| **Packaging Material:** | **Estimated Weight (kg)** |
|---|---|
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 3.0 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 96.6 |
| Soils (S): | |
| Total WMP Weight: | 111.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68452

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: This Independent Observation agrees with the Original Scan. | |

RTR Operator:

| Eric Lyles | | 10/28/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68452 | Count Sequence Number: | 23757 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/30/2013 2:10:30 PM | | | | |
| Description 1: | 1LANDA1856 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 112.0 | kg | Net: | 112.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 70.0 % |
| Density: | | 0.770 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23757 | Batch Number: | 1LANDA1856 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68452 | Analysis Date: | 10/30/2013 |

| | | |
|---|---|---|
| Net Weight | 112000.0 g | |
| Pu mass | 1.04E+001 +- | 2.18E+000 g |
| TRU Alpha Activity | 1.62E+000 +- | 2.23E-001 Ci |
| TRU Activity Concentration | 1.45E+004 +- | 1.99E+003 nCi/g |
| Pu-239 Equivalent Activity | 1.65E+000 +- | 2.23E-001 Ci |
| Pu-239 FGE | 9.82E+000 +- | 2.17E+000 g |
| Decay heat | 5.24E-002 +- | 7.24E-003 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 3.42E-009 | 4.72E-007 | 2.81E-007 | 0.00E+000 |
| CS137 | 5.43E-009 | 4.72E-007 | 2.81E-007 | 3.53E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.43E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 9.87E-007 |
| NP237 | 2.86E-002 | 2.02E-005 | 3.98E-006 | 1.53E-006 |
| PU238 | 9.52E-004 | 1.63E-002 | 4.17E-003 | 7.28E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 9.98E-006 |
| PU239 | 9.78E+000 | 6.06E-001 | 1.35E-001 | 2.71E-002 |
| PU240 | 6.25E-001 | 1.42E-001 | 3.73E-002 | 6.35E-003 |
| AM241 | 2.51E-001 | 8.60E-001 | 1.74E-001 | 3.47E-002 |
| PU241 | 1.20E-002 | 1.23E+000 | 3.24E-001 | 5.51E-002 |
| PU242 | 2.09E-003 | 8.24E-006 | 2.17E-006 | 0.00E+000 |
| AM243 | 6.63E-004 | 1.33E-004 | 2.63E-005 | 4.65E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 11-4-13

## Automated Independent Technical Review

Count Sequence Number: 23757 Batch Number: 1LANDA1856
Counter ID: MCS HENC #1
Container ID: 68452
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/30/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sherri Chamberlain Date: 10-31-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68452**

BDR Number: **LA13FG2112**

Sampling Date: **11/4/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131104c\
Data File : 68452.D
Acq On : 4 Nov 2013 10:48 am (#1); 04-Nov-13, 10:47:50 (#2)
Operator : EL
Sample :
Misc : 55 Gallon Drum Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 04 10:56:43 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.542 | 96 | 4781559 | 205.75 | ppmv | 0.02 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 3731408 | 177.50 | ppmv | -0.01 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

5860095

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0119 |
| Examination Date: | 10/28/2013 |
| Waste Container ID: | 68550 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0119 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 150.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 117.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 68550

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags, plastic lid |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 3.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 108.1 |
| Soils (S): | |
| Total WMP Weight: | 117.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68550

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Benito Maestas |  | 10/28/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68550 | Count Sequence Number: | 23743 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 10/29/2013 12:55:17 PM | | |
| Description 1: | 1LANDA1855 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 117.0 kg | Net: | 117.0 kg |
| Container: | Volume: 208.0 l | Full: | 80.0 % |
| Density: | 0.700 kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23743 | Batch Number: | 1LANDA1855 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68550 | Analysis Date: | 10/29/2013 |

| | | |
|---|---|---|
| Net Weight | 117000.0 g | |
| Pu mass | 5.82E+001 +- | 1.04E+001 g |
| TRU Alpha Activity | 8.24E+000 +- | 2.24E+000 Ci |
| TRU Activity Concentration | 7.04E+004 +- | 1.92E+004 nCi/g |
| Pu-239 Equivalent Activity | 8.36E+000 +- | 2.24E+000 Ci |
| Pu-239 FGE | 5.48E+001 +- | 9.72E+000 g |
| Decay heat | 2.65E-001 +- | 7.42E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.54E-001 | 1.09E-004 | 2.02E-005 | 3.91E-006 |
| PU238 | 5.31E-003 | 9.09E-002 | 1.62E-002 | 3.46E-005 |
| PU239 | 5.46E+001 | 3.38E+000 | 6.02E-001 | 1.29E-003 |
| PU240 | 3.49E+000 | 7.92E-001 | 1.41E-001 | 3.02E-004 |
| AM241 | 1.16E+000 | 3.97E+000 | 2.16E+000 | 9.64E-002 |
| PU241 | 6.68E-002 | 6.88E+000 | 1.22E+000 | 2.62E-003 |
| PU242 | 1.16E-002 | 4.60E-005 | 8.19E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.49E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 8.15E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.40E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.61E-005 |
| AM243 | 1.59E-003 | 3.19E-004 | 5.98E-005 | 1.14E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 10-31-13

## Automated Independent Technical Review

Count Sequence Number: 23743 Batch Number: 1LANDA1855
Counter ID: MCS HENC #1
Container ID: 68550
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/29/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 10-30-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68550**

BDR Number: **LA13FG2112**

Sampling Date: **11/4/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 212.12 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

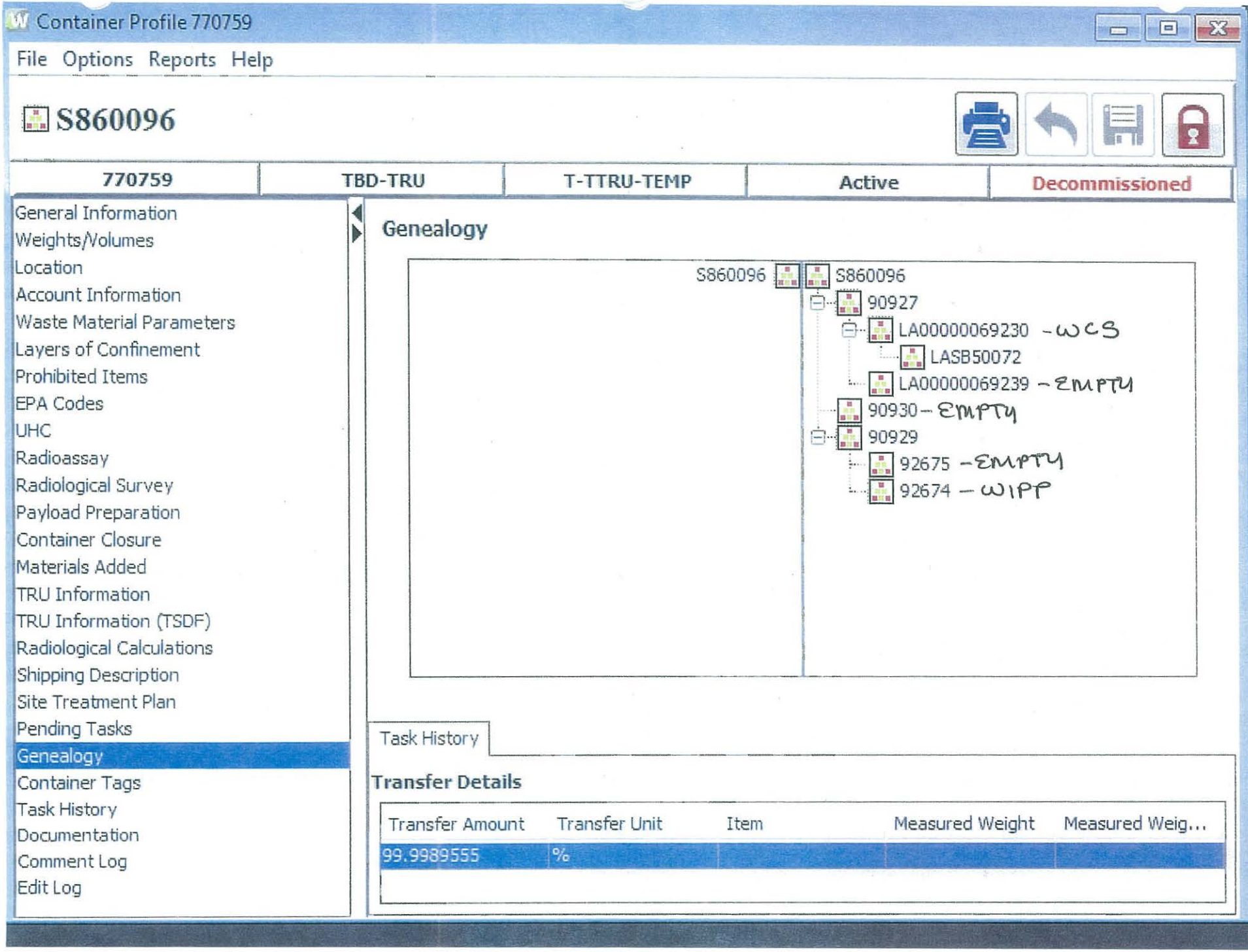
Data Path : C:\msdchem\1\DATA\131104c\
Data File : 68550.D
Acq On : 4 Nov 2013 11:11 am (#1); 04-Nov-13, 11:10:39 (#2)
Operator : EL
Sample :
Misc : 55 Gallon Drum Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 04 11:19:19 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.552 | 96 | 4792935 | 205.75 | ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.858 | 117 | 3728265 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.620 | GC1 | 1595m | 212.12 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S860096


Container Profile 770759
File Options Reports Help
S860096
770759
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S860096
S860096
90927
LA00000069230 -WCS
LASB50072
LA00000069239 -EMPTY
90930 - EMPTY
90929
92675 -EMPTY
92674 - WIPP
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
99.9989555
%

Working Copy
Date: 2-14-12 jr

**ATTACHMENT 1**
Page 1 of 3

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: S8600961

6.2[4] Date Processed: 2-14-12

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☑ > 190 mrem/hr ☐ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: NONE

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATIONS or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY

4.3[4][B] Platform Scale: Equipment No.: GI90665
Cal. Due Date: 9-3-12

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7][A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb: ☑ YES ☐ NO

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT

Performed By: Michael Romero Michael Romero B2723 2-14-12
Waste Handling Tech (print) Signature Z # Date

5.[16] Prepared Parent Drum Weight (lb): 415.6 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

**ATTACHMENT 1**
Page 2 of 3

4.1[6][B]: Parent Waste Container No.: S8600946

6.2[5][B]/6.2[6]: Total Parent Drum Weight (lb) 419.6 lb

6.2[7]: **($)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 90927 | | | |
| 10.1[4] | Daughter Drum Filter No. | CL-1365 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | WO-1580 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 415090 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | NUCFIL | NUCFIL | | |
| | Model No. | 036 DA | 036 DA | | |
| | Serial No. | LL-115 | LL-225 | | |
| | Date of Manufacture | 12/11 | 12/11 | | |
| 10.2[5] | POC ID No | 90929 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | Salts plastic | salts plastics | N | A |
| 10.2[7][D]/10.2[8][D] | Bag-out Bag Filter No. | N/A | N/A | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | MR 182723 | MR 182723 | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 378.8 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 300 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead shielding | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 2 Gallons | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | N | A |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See Comments | | | |
| 10.3[13]/10.4[12]/10.5[5] | Daughter Drum % Full (%) | 100 % | | | |
| 10.5[4] | Description Waste Added During Processing | plastic | | | |

**ATTACHMENT 1**
Page 3 of 3

4.1[6][B] Parent Waste Container No.: S860096

Comments: plastic Lead Shielding, Salts, Liquids, in bags
possible, acid Liquids

11.1[1] Performed By: Michael Romero / Michael Romero / 187723 / 2-14-12
Waste Handling Tech (print) Signature Z# Date

11.1[7] Reviewed By: Anthony Vigil / [signature] / 184764 / 2-15-12
SOS/SOM (print) Signature Z# Date/Time

## Attachment 1. Checklist for Overpacking Drums Into an 85–Gal Overpack

**85-Gallon Overpack ID Number** 90930

| **RECORD** Drum Filter information: NUCF:1-013 | |
|---|---|
| Filter ID Number: | GK-371 |
| Date of Manufacture: | 7/10 |

| **TORQUE WRENCH INFORMATION** | | | |
|---|---|---|---|
| **Filter Torque Wrench** | | **Drum Lid Ring Bolt** | |
| M&TE ID# | | M&TE ID# | 038373 |
| Cal Expiration Date | N/A | Cal Expiration Date | 5-30-12 |
| | | | 13% cw |
| Tolerance | | Tolerance | ±6% ccw |
| Torque wrench is within acceptable range as displayed on Calibration Certificate | ☐ Yes ☐ No ☐ N/A | Torque wrench is within acceptable range as displayed on Calibration Certificate | ☑ Yes ☐ No |
| | | **Bung Torque Wrench** | |
| | | M&TE ID# N/A | |
| | | Cal Expiration Date | |
| | | Tolerance | |
| | | Torque wrench is within acceptable range as displayed on Calibration Certificate | ☐ Yes ☐ No ☐ N/A |

Previously used 85-gallon container inspected (as applicable) ☑ SAT ☐ UNSAT

Filter vent torque value: (new container only) _____ in-lb ☑ N/A

Drum lid 2-inch bung torque value: (If applicable) _____ ft-lb ☑ N/A

Drum lid ring-bolt torque value: 60 ft-lb

Drum lid ring threaded end touching jam nut: ☐ YES ☑ NO

Drum lid ring ends touching: ☐ YES ☑ NO

| Technician Name (print) | Signature | Initials | Z# | Date |
|---|---|---|---|---|
| Steven Mondragón | Steven Mondragón | SM | 104741 | 2-14-12 |
| Michael Romero | Michael Romero | MR | 182723 | 2-14-12 |

Working Copy
Date: 2-2-12

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

**Drum ID#:** 90927

**1. Drum/Lid Assembly**
- ☑ Remove and discard ¾" bung from lid
- ☑ Remove Lid
- ☑ Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  NOTE: Reject damaged drum/lid assembly
- ☑ Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:
- Purchase Request #: 415090
- Lot #: 0220644
- Date of Manufacture: 2011

**2. Drum Liner Bag/Filter Assembly:**
- ☑ Place yellow vinyl tape, with smear centered on tape, over filter
- ☑ Fill bag with air from compressed air source
- ☑ Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  NOTE: Reject or repair damaged, cut, or leaking bags
- ☑ Stretch bag's bungee cord
- ☑ Inspect bungee cord
  NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:
- Manufacturer: BOP
- Model #: 3CPVC-1.5 25PVC
- Serial #: WP-1580
- Date of Manufacture: 6/11

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**
- ☑ Inspect cardboard liner/plastic liner (circle type of liner used)
  NOTE: Reject any damaged liners
- ☑ Place cardboard/plastic liner into drum liner bag/filter assembly
- ☑ Line up filter with drum seam
- ☑ Place liner/bag/filter assembly into drum
- ☑ Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**
- ☐ Place lid and ring onto drum
- ☐ Tighten ring sufficiently to simply hold lid in place
- ☐ Torque 2" bung plug
- ☐ Apply sealant to filter threads, screw in ¾" bung hole, and torque
- ☐ Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:
- Manufacturer: NUCFIL
- Model #: 019D5
- Serial #: CL-1365
- Date of Manufacture: 3/11

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 040695 | M&TE ID #: | 040691 |
| Cal Expiration Date: | 9/12/12 | Cal Expiration Date: | 4/12/12 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 14-80 |
| Tolerance: | +/-3% CCW +/-6% CW | Tolerance: | +/-3% CW +/-6% CCW |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
☑ Yes ☐ No
Print Name: L M Montaño Signature: L M Montaño Z#: 085042

**5. Weigh Drum Assembly**
RECORD weight information
- Tare wtght (lbs) 75.8
- File ID #: 019065
- ☑ Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**
- ☑ Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- ☑ Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: L M Montaño Operator Sign: L M Montaño Z#: 085042 Date: 2/2/12
Verifier Print: Michael Romero Verifier Sign: Michael Romero Z#: 182723 Date: 2-14-12

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 90927

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE: Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E #: 038373

Cal expiration date: 5-30-12

Range/ Value (ft-lbs): 20-80

--- Tolerance ±3% CW ±6% CCW

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs.): 385.4

✓ Scale ID#: 019065

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: Dan Pacheco Date: 02-14-12

Verifier Print/Sign: Michael Romero Date: 2-14-12

WDB TRU Waste Container Management Operations

UET

Document No: EP-DIV-AP-0107
Attachment: 1
Revision: 1
Effective Date: 12/22/2009

## ATTACHMENT 1

## WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

### Production Control

Container ID: S860096 Container Type: 85-GAL Gross Weight (lbs): 423
Inner Seal #: 021427 Filter Prefix: LAVC Filter Serial #: 00729; 02470
AK Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS NITRATE SALTS MST 12 A0752
Total PE-Ci Activity: 3.02E+00 Equivalent Combustible PE-Ci: 1.13E+00 AM-241 PE-Ci: 2.45E-01
Total Fissile Gram Equivalents: 33.4 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 1/17/2007 Comment: Impenetrable Obj, Liner Not Punctured,
Certified RTR Comment: None

Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ VE ☐ PID ☐ Split ☐ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments:

Performed By: R. W. Jones / R. W. Jones / 117434 / 10.28.10
Production Control (Print) Signature Z Number Date

### WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☑ No ☐ Unknown
Processing Determination: ☑ Accept ☐ Reject
WDP Engineering Comments: RTR pre-screen indicates impenetrable object and liner not punctured. Solid waste record indicates leached solids in form of nitrate salts. 16 items, heaviest item is 18 Kg (40 lbs); net weight is 114 Kg (251 lbs). May require RWP for >100 and <1,000 mrem/hr @ 30-cm.

Performed By: Michael Garcia / Michael P Garcia / 099143 / 11/6/10
WDP Engineering (Print) Signature Z Number Date

### TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns:

Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments:

Performed By: C. V. Lande / C. V. Lande / 234079 / 10/26/10
TRU Remediation Operations (Print) Signature Z Number Date

## Noncertified TRU Waste Drum Item Information

DrumID: 021427

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 110X4W1 | | 17.600 | NITRATE SALTS | | 8.76 | 52 | 9/13 | G468 | |
| 2 | 11LR7W1 | | 7.590 | NITRATE SALTS | | 1.48 | 52 | 9/13 | G468 | |
| 3 | 110X4E1 | | 2.450 | NITRATE SALTS | | 0.42 | 52 | 9/13 | G468 | |
| 4 | 11RR14W1 | | 3.800 | NITRATE SALTS | | 2.12 | 52 | 9/13 | G468 | |
| 5 | 11RR14E1 | | 2.650 | NITRATE SALTS | | 0.66 | 52 | 9/13 | G468 | |
| 6 | 11LR13W1 | | 4.810 | NITRATE SALTS | | 0.48 | 52 | 9/13 | G468 | |
| 7 | 11LR13E1 | | 5.450 | NITRATE SALTS | | 0.66 | 52 | 9/13 | G468 | |
| 8 | 110X15W1 | | 9.790 | NITRATE SALTS | | 1.62 | 52 | 9/13 | G468 | |
| 9 | 110X15E1 | | 9.160 | NITRATE SALTS | | 1.26 | 52 | 9/13 | G468 | |
| 10 | 11LR14W1 | | 4.820 | NITRATE SALTS | | 1.35 | 52 | 9/13 | G468 | |
| 11 | 11LR14E1 | | 14.720 | NITRATE SALTS | | 4.32 | 52 | 1/13 | G468 | |
| 12 | 11LR18E1 | | 4.830 | NITRATE SALTS | | 0.8 | 52 | 1/13 | G468 | |
| 13 | 11LR18W1 | | 2.460 | NITRATE SALTS | | 0.06 | 52 | 1/13 | G468 | |
| 14 | 11DS19E1 | | 5.070 | NITRATE SALTS | | 2.9 | 52 | 1/13 | G468 | |
| 15 | 11DS19W1 | | 4.800 | NITRATE SALTS | | 2.53 | 52 | 1/13 | G468 | |
| 16 | 110X21E1 | | 13.600 | NITRATE SALTS | | 6.01 | 52 | 1/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 191.8

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 35.43 | 113.60 |
| Totals | 35.43 | 113.60 |

ATTACHMENT 1
Page 1 of 2

## HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 10.27.10

7.[7] Certified CCP Technician:

| CCP (Print) | Signature | Z # | Date |
|---|---|---|---|
| Sara Aragon | Sara Aragon | 1237975 | 10-28-10 |
| / | / | / | / |

| Container No. (7.[1]): | S853068 | S853838 | S860096 |
|---|---|---|---|
| Container Type (SWB, 110/85/55-gal) (7.[1]): | 55gal | 55gal | 55gal |
| Current Filter Vent No. (7.[1]): | 72 | 72 | 72 |
| New Filter Vent No.: (7.[8][A]): | 72 | 72 | 72 |
| WIPP-Approved Filter Vent (7.[8][B]): | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT |
| VOC | Value (ppm) (7.[10]) | | |
| Benzene | | | |
| Chlorobenzene | | | |
| Cyclohexane | | | |
| 1,1-Dichloroethane | | | |
| 1,2-Dichloroethane | | | |
| 1,1-Dichloroethylene | | | |
| cis-1,2-Dichloroethylene | | | |
| Ethyl benzene | | | |
| Ethyl ether | | | |
| Toluene | | | |
| 1,2,4-Trimethylbenzene | | | |
| 1,3,5-Trimethylbenzene | | | |
| m- and p-Xylene | | | |
| o-Xylene | | | |
| Acetone | | | |
| 1-Butanol | | | |
| Methanol | | | |
| Methyl ethyl ketone | | | |
| Methyl isobutyl ketone | | | |
| | | | |
| Total CCP VOC value (ppm) (7.[11]): | Ø | Ø | Ø |

**ATTACHMENT 1**
Page 2 of 2

**NOTE** *Filtered vent data may be captured on a support organization data sheet.*

| | | | | |
|---|---|---|---|---|
| | Container Number (7.[1]): | S853068 | S853838 | S860096 |
| | Hydrogen Reading (ppm) (7.[10]): | Ø ppm | Ø ppm | Ø ppm |
| | Methane Reading (ppm) (7.[10]): | Ø ppm | Ø ppm | Ø ppm |
| | Total VOC Reading (ppm) (7.[11]): | Ø ppm | Ø ppm | Ø ppm |
| | Filter Type (7.[9][F][c]/7.[9][G][a]): | 72 | 72 | 72 |
| | WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]): | SAT | SAT | SAT |
| | Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| | Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| | Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]): | N/A | N/A | N/A |
| **VERIFY** Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b]) | | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A | ☐ YES ☐ NO ☑ N/A |
| | Filter Torque Value (7.[9][F][a]/7.[9][G][d]) * | N/A | N/A | N/A |

* No torque value required for 072 or 073 filters – Record N/A as applicable

Comments:
All 55 gallon drums were sampled from inside an 85 gallon overpack

11.1[1] Performed By: Alicia Herrera (Signature) 198450 10.28.10
Waste Handling Operator (print) Signature Z # Date

11.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

11.1[7][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT
- Hydrogen – less than or equal to 32,000 ppm
- VOC – less than or equal to 7,000 ppm

11.1[7][B]/ 11.1[8] Reviewed By: Kenny Romero (Signature) 111766 11.4.10
Waste Handling Supervisor (print) Signature Z # Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101027C\
Data File : S860096.D
Acq On : 27 Oct 2010 4:17 pm (#1); 27 Oct 2010 4:16 pm (#2)
Operator : EL
Sample :
SubName : Unit 8
Misc : 55 GALLON DRUM FROM 85 GALLON OVERPACKED (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 27 16:24:47 2010
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.243 | 96 | 5883075 | 209.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.930 | 117 | 4876990 | 184.00 | ppm | 0.00 |

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Wed Oct 27 16:24:54 2010

0600 Assuming WCRR operations center - Coleman
0615 Beginning outside rounds.
0625 Pre-job being held on glove changes to be performed on stations 2(L) 4(L) 6(R) 8(R).
0640 Outside rounds complete. We will not be able to perform inside rounds until glove changes are complete.
0737 Beginning glove changes).
0754 All glove changes complete (Stations 2, 4, 6, 8).
0842 Beginning inside rounds.
0851 Permission granted to lower the vehicle access gates to begin to load transfer vehicle for shipment to Area G.
0900 Item #10 on the rounds is 005. Per CSE we are Okay to proceed.
0925 Vehicle access gates have been restored. Transfer vehicle loaded. Transportainer secured. TSD logbook updated. Both JC 2-14-12 rounds complete and reviewed by SOS.
0928 Mode change complete. We are now in operations.
1014 Bagging off drum # 5863708 and 1 PCC, bagging on # 5862411.
1027 Caddy bag on complete. Beginning to de-nest 5 drums.
1055 De-nesting complete. Beginning to process.
1123 Permission granted to lower vehicle access gates to begin receipt of drums from Area G.
1150 Bagging off 5862411, bagging on 5860096.
1158 Shipment from Area G has been accepted. Vehicle access gates have been restored.
1200 Notified by Inventory control that on his printout of the database (QA) it states to verify that the interior ~~limit~~ JC 2-14-12 limit of 889 PE-Ci has not been exceeded by planned transfer. It should read 800 PE-Ci. SOM notified, who then notified OM and the owner of the spreadsheet.
1219 Notified by operators inside that they noticed the lead lined window on station #2 was broken and needs to be replaced.
1344 Initiating a drum movement from transportainer to SD69.
1348 Drum movement complete.
1351 Operator 20 notified operations center of a High High pressure alarm on the WCG. Entered EPIC RR RMA ARP 0411. SOM notified.
1354 Entering LCO's 3.0.1 (General) and 3.3.1 and 3.3.2
1358 OM notified
1410 FOS notified by SOM.
1412 DOE notified. Mixer alarm acknowledged.
1422 Ventilation shut down.
1428 Ventilation restarted. All readings normal.
1446 Per JC 2-14-12 Further investigation identified operators

Continued on next page. Coleman

SIGNATURE _____ DATE _____ 20 _____
READ AND UNDERSTOOD DATE 20

PROJECT NAME NOTEBOOK NO.

2-14-12

Continued from previous page - Coleman introduced the glovebox window into the glovebox introductory part and cowed the High High alarm to to be activated

1517 Initiating a drum movement from 5069 to a transportainer
1533 Rate entry at 1428 all operational limits were met. Expected LCO's. (JC)
1547 Beginning outside rounds.
1555 Drum movement out of facility complete.
1602 Beginning inside rounds.
1623 Item #60 on the rounds is OOS. Per CSE, we are okay to proceed.
1631 Inside rounds complete.
1632 Bagging off 5860096 and 1 POC. Bagging on 5863696.
1650 Bag off complete. Did not bag on 5863696.
1700 Rounds retrieved by SOS.
1705 Mode change complete. We are now in Warm standby.
End of day. Operations secure. JColeman

JC 2-14-12

No further entries this page

SIGNATURE DATE 20
READ AND UNDERSTOOD DATE 20

0000 Reviewed previous shift turnover and assumed the WKRR SOM. Jacqueline Caldwell
0040 Listened in on morning call in. WKRR is currently investigating contamination on glove box gloves. Operators will be going upside to change out gloves on stations #2 and #4 left glove and stations #1 and #3 right glove. The facility is currently in WARM standby.
0131 Reported by Operation Center that glovebox gloves are being to be changed out.
0154 Rebooted by Operation Center that glovebox maintenance is complete. Tool box toolbox briefing will be conducted with all operators done out from process area.
0835 Pre-job briefing conducted to discuss contamination on double bag glove that occured on 2-13-12. The following information was obtained Station #2 #4 Left gloves contained 1500 dpm thumb and on Station #2, Station #4 contained 5,000 dpm on the Cuff. Station #1 & right glove contained contamination on Cuff and Station #3 Right hand contained 1500 dpm hand area swipes and smears were taken prior to operations on 2.13.12 and NDH would will inputted. Perimeter areas of concern for NDH would will disrupted. Working THD for Cuff area Activities that will be taken are as follows: Hand out stickers on a more routine basis and RCTs perform a more thorough inspection.
0928 Move change complete. WKRR YARD and 30-09 from WARM mode to OPERATIONS.
1000 Walk down of WKRR foot print with AIRTE operations. machine shop operators want to move a large piece of equipment but of their building 2054. They will schedule a time and date on when they will move equipment ensuring they aren't crossed WKRR footprint.
1025 Notified by Shift Operations Supervisor that transport vehicle is positioned to take away from fence access gates. Operations did not bring down while scanners are being P+T transportation personnel to come re-position vehicle and to WKRR accepting shipment.
1050 P+T transportation came by and move transport vehicle truck is positioned correctly. Operation will resume with loading and accepting shipment.
1055 SOM reviewing maintenance schedule for upcoming weekend noticed that UPS and concrete floor modification are both scheduled to work on 2.17.12. SOM called back Vault to get with maintenance supervisor to ensure

SIGNATURE _____ DATE _____ 20__
READ AND UNDERSTOOD _____ DATE _____ 20__



the ventilation is not going to be shut down during UPS maintenance. If UPS is going to work and ventilation needs to come down, the concrete floors will not be able to be worked.
1125 Vault called back to SOM and inputed with maintenance supervision that ventilation will not be shut down during preventive maintenance.
1300 Notified by Inventory control that on my printout of the database (QM) Lt status to verify that the interior limit of 389 PFC has not been exceeded by planned transfer. It should read 800 PFC. SOM notified QM supervisor and CSE. All agreed to proceed as written until a change is made to spread sheet. Procedure hasn't been violated. Procedure has correct values.
1320 Notified by operation center that they noticed that the unpainted lead lined window on station #2 is cracked and need to be re-plated.
1351 Notified by Operation center that a high-high pressure alarm on the WKRR was reported. ARP-0411 has been entered.
1354 Operation Center entered LCOs 3.0.1 general 3.3.1 and 3.3.2 per SOM.
1358 QM notified by SOM.
1410 EOD notified by SOM.
1412 DOE notified by SOM.
1423 Ventilation was shut down per procedure. Probable cause of alarm was that the lead lined window was introduced through introductory port causing alarm to activate.
1428 Ventilation restored. All readings are normal. All operational limits were met, and LCOs were exited.
1520 DOE tour with Alan Cox. Entry up to 5% off pad.
1700 Mode change complete. WKRR, YARD and 30-09 from OPERATIONS to WARM mode.
1730 Securing the work SOM position

no further entries

SIGNATURE _____ DATE 2-14 20 12
READ AND UNDERSTOOD _____ DATE _____ 20__

250 PROJECT NAME WCRR SOS LOG-BOOK NOTEBOOK NO.

2-14-12

0615 Reviewed SOS Turnover Assuming SOS Position
0616 Pre-Job on Changing gloves
0630 Pre-Job on Changing gloves Concluded
0645 Starting Pre-Job on Processing Drums & Shipments.
0705 Pre-Job Concluded
0708 Outside Rounds Reviewed
0832 Starting Post Job on Glove Changes
0900 Post Job concluded
0925 Reviewed Rounds
0928 Mode CHANGE COMPLETE From Warm to operation in Yard & Building
1030 Notified LANCE To come back to 50-69 & back up the truck more toward the vehicle barrier.
1031 LATE ENTRY AT 1015 Operators brought it to my attention that the transport truck was not backed up far enough to the vehicle barriers.
1218 Notified By Operators that lead window inside glove box was cracked
1351 Operator inside notified of a high high pressure alarm on the WC6. Entered EP-WCRR-RM-ARP-0411
1354 Entering LCO's 3.0.1 & 3.3.1, 3.3.2
1358 On Notified
1410 FOD Notified
1412 DOE Notified
1422 Ventilation shut down
1428 Restarted ventilation
1700 Mode change complete Also reviewed Rounds
1705 End of DAY Securing WCRR SOS position.

Further Entries on this page

N/A

SIGNATURE _____ DATE _____
READ AND UNDERSTOOD _____ DATE _____

Working Copy
Date: 1-23-13a

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 9092-9

6.2[4] Date Processed: 1-23-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 7-31-13

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established:
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Brian Gallegos Brian Gallegos 267129 1-23-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: 90929 | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 388.4 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 0 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 388.4 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[28] | Approval to leave a parent drum attached to the WCG overnight: | |

N/A

FWMO-FOD (print) | Signature | Z # | Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 90987

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 92074 | | | |
| 10.1[4] | Daughter Drum Filter No. | SL-1238 | M | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6065 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 50011 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | A | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | N | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[8] | Daughter Drum % Full (%) | 85% | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | BAG OUT STUBS | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90929

Comments: ROOM TRASH, POC LIDS, PLASTICS, CARDBOARD, SALTS, KITTY LITTER

11.1[1] Performed By: BRIAN GALLEGOS Brian Gallegos 267129 1-23-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: G Mh [signature] 149255 1.24.13 0515
SOS or designee (print) Signature Z # Date Time

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413659
Lot No.: 208949
Manufacture Date: 2010

5.[8] Overpack filtered vent information:

Manufacturer: NoEFil
Model No.: 013
Serial No.: IL-47
Manufacture Date: 9/11

Overpack filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 040694 | 038369 |
| Cal. Expiration Date: | 9-26-13 | 12-18-13 |
| Tolerance: | +/-4% cw +/-6% ccw | +/-3% cw +/-6% ccw |

Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: James Sandoval [signature] 11662 1-22-13
Waste Handling Technician (print) Signature Z # Date

5.[12] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[15] 2 in. bung plug torque value: 30 ft-lb

Comments: N/A

8.1[1] Performed By: James Sandoval [signature] 11662 1-22-13
Waste Handling Technician (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: G Martinez [signature] 149778 1-24-13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92675

7.[25] Overpack drum closure ring torque wrench information:
- M&TE No.: 938367
- Cal. Expiration Date: 3-14-13
- Range in ft-lb: 40-80
- Tolerance: ±3% as ±6% can

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brian Gallegos [signature] 126729 1-23-13
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 7-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 323.4 lb

Comments: N/C

8.1[1] Performed By: Brian Gallegos [signature] 126729 1-23-13
Waste Handling Technician (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).
☑ No deficiencies

8.1[7] Reviewed By: G. Martinez [signature] 149235 1-24-13
Supervisor or designee (print) Signature Z # Date

## Attachment 1. Checklist for the preparation of a new 55-Gallon Drum Assembly

Drum ID#: 92674

**1. Drum/Lid Assembly**

- ☑ Remove and discard ¾" bung from lid
- ☑ Remove Lid
- ☑ Inspect drum, lid, and gasket, ring bolt and nut, chines, and paint
  - NOTE: Reject damaged drum/lid assembly
- ☑ Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 50011
Lot #: 0233370
Date of Manufacture: 2012

**2. Drum Liner Bag/Filter Assembly:**

- ☑ Place yellow vinyl tape, with smear centered on tape, over filter
- ☑ Fill bag with air from compressed air source
- ☑ Inspect bag for damage, cuts, or leaks by looking, listening, and feeling
  - NOTE: Reject or repair damaged, cut, or leaking bags
- ☑ Stretch bag's bungee cord
- ☑ Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 6 CPVA-1/G2-SFTC
Serial #: BC 6-1252 L-10065
Date of Manufacture: 7-12

**3. Cardboard Liner/Plastic Liner Drum Liner Bag/Filter Assembly:**

- ☑ Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- ☑ Place cardboard/plastic liner into drum liner bag/filter assembly
- ☑ Line up filter with drum seam
- ☑ Place liner/bag/filter assembly into drum
- ☑ Roll excess liner bag into cardboard liner/plastic liner

**4. Install Lid/Drum Filter**

- ☑ Place lid and ring onto drum
- ☑ Tighten ring sufficiently to simply hold lid in place
- ☑ Torque 2" bung plug
- ☑ Apply sealant to filter threads, screw in ¾" bung hole, and torque
- ☑ Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: Nucfil
Model #: 019 DS
Serial #: 12-1238
Date of Manufacture: 10-11

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 040694 | M&TE ID #: | 035367 |
| Cal Expiration Date: | 9/26/13 | Cal Expiration Date: | 3/18/13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 18-80 |
| Tolerance: | ±9% cw/±6% ccw | Tolerance: | ±3% cw/±6% ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

☑ Yes ☐ No

Print Name: Meghan M. Hicks Signature: [signature] ZI#: 240092

**5. Weigh Drum Assembly**

RECORD weight information

Tare wtight (lbs): 74.2
File ID #: 090105

☑ Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- ☑ Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- ☑ Place 1 barcode drum ID label in the center of the drum lid

RECORD drum ID# at the top of Attachments 1 and 2

Operator Print: Brandon Gracz Operator Sign: [signature] ZI#: 204742 Date: 1-9-13

Verifier Print: Brian Gallegos Verifier Sign: [signature] ZI#: 24712-9 Date: 1-23-13

## Attachment 2. Checklist for the Closing of a 55-Gallon Drum Assembly

DRUM ID#: 92674

**1. LID INSTALLATION**

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

✓ Install ring with bolt positioned downward and directly over drum seam.

✓ Engage bolt and nut and torque per manufactures instructions.

NOTE: Seal the ring while tightening using a rubber hammer or dead-blow mallet or a drum lid press.

✓ Tighten jam nut.

Record torque wrench information:

MT&E #: 938347

Cal expiration date: 1-16-13

Range/ Value (ft-lbs): 10-80

Tolerance ±3% cw ± 6% ccw

**2. DRUM LABELING**

NOTE: Do not cover the drum seam with any labels.

✓ Place two barcode drum ID labels ~6" from the bottom of the drum ~120° from previously placed ID label.

✓ Place one barcode drum ID label to the right of drum seam between the top two rolling hoops.

✓ Place one yellow radioactive waste label between the top two rolling hoops

✓ Place one yellow radioactive waste label in the center of the drum lid.

RCRA Label:

N/A ✓ Place one blue NON-RCRA Regulated Waste label between the top two rolling hoops.

OR

✓ Place one yellow HAZARDOUS Waste label between the top two rolling hoops left of the drum seam. (Ensure EPA waste number and accumulation start date are documented.)

NOTE: Check only one of the above two boxes.

**3. WEIGH DRUM ASSEMBLY**

Record weight information:

Gross Weight(lbs): 231.4

Scale ID#: 019005

✓ Using a permanent marker, write the gross weight on the drum lid.

**4. FINALIZE DOCUMENTATION**

✓ Have RCT monitor drum prior to moving to storage area.

✓ Place attachment 1 and 2 and HMPT Tag into a protective sleeve.

✓ Complete TWSR.

Operator Print/Sign: B. Bailey Date: 1-23-13

Verifier Print/Sign: [signature] Date: 1-23-13

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: 90929 Container Type: POC Gross Weight (lbs): 379
Container Seal #: None Filter Prefix: None Filter Serial #: EL-309; EL-61
RTR Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: PARENT #S860096 WTS-12STD-859
Total PE-Ci Activity: 1.51E+00 Equivalent Combustible PE-Ci: 5.66E-01 AM-241 PE-Ci: 1.23E-01
Total Fissile Gram Equivalents: 16.7 Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): D008 D007, D009 ~~D008~~ 10/2/12
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: None Comment: None
Certified RTR Comment: None
Prohibited Items: ■ Sealed > 4 Liters ■ Liquid ■ Pressurized Container ■ Impenetrable Item ■ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE ☐ PID ☐ Split ☐ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: TBD Production Control Comments: Need to add EPA Codes D007 & D009 for Nitrate salts mixed with Waste Lock 770® from previous repack campaign. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) Signature: Susan Ramsey 106681 (Z Number) Date: 9/10/12

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts – POC
Net Wt: 69 lb Parent drum (SEDS attached) was part of WCRR nitrate salt repack campaign using Waste Lock 770®. This resulting daughter POC is being repacked to adjust the admixture/nitrate salt ratio. Nitrate salts carry waste codes for ~~chromium~~, lead and mercury. No chemicals present. May require RWP for > 100 + < 1000 mrem/hr

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes 112609 (Z Number) Date: 10/2/12

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Use Hexarmax gloves when processing waste in the glovebox. Do not push or press on waste.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Ensure kitty litter is logged on with waste drum. Ensure proper ratio of kitty litter to waste is added

Performed By: Jose Jerez (TRU Remediation Operations (Print)) Signature: Jose Jerez 122452 (Z Number) Date: 10-4-12

LK Z# 249750 10/9/12

HS Review: RB 206362 10.3.12

## Noncertified TRU Waste Drum Item Information

DrumID: 021427

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Mass Code | SNM (g) | NT | Auth (Pu/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11OX4W1 | | 17.600 | NITRATE SALTS | | 8.76 | 52 | 9/13 | G468 | |
| 2 | 11LR7W1 | | 7.590 | NITRATE SALTS | | 1.46 | 52 | 9/13 | G468 | |
| 3 | 11OX4E1 | | 2.450 | NITRATE SALTS | | 0.42 | 52 | 9/13 | G468 | |
| 4 | 11RR14W1 | | 3.880 | NITRATE SALTS | | 2.12 | 52 | 9/13 | G468 | |
| 5 | 11RR14E1 | | 2.650 | NITRATE SALTS | | 0.66 | 52 | 9/13 | G468 | |
| 6 | 11LR13W1 | | 4.810 | NITRATE SALTS | | 0.48 | 52 | 9/13 | G468 | |
| 7 | 11LR13E1 | | 5.450 | NITRATE SALTS | | 0.68 | 52 | 9/13 | G468 | |
| 8 | 11OX15W1 | | 9.790 | NITRATE SALTS | | 1.62 | 52 | 9/13 | G468 | |
| 9 | 11OX15E1 | | 9.160 | NITRATE SALTS | | 1.26 | 52 | 9/13 | G468 | |
| 10 | 11LR14W1 | | 4.820 | NITRATE SALTS | | 1.35 | 52 | 9/13 | G468 | |
| 11 | 11LR14E1 | | 14.720 | NITRATE SALTS | | 4.32 | 52 | 1/13 | G468 | |
| 12 | 11LR18E1 | | 4.830 | NITRATE SALTS | | 0.8 | 52 | 1/13 | G468 | |
| 13 | 11LR18W1 | | 2.460 | NITRATE SALTS | | 0.06 | 52 | 1/13 | G468 | |
| 14 | 11DS19E1 | | 9.070 | NITRATE SALTS | | 2.9 | 52 | 1/13 | G468 | |
| 15 | 11DS19W1 | | 4.800 | NITRATE SALTS | | 2.53 | 52 | 1/13 | G468 | |
| 16 | 11OX21E1 | | 13.600 | NITRATE SALTS | | 6.01 | 52 | 1/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 191.8

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 35.41 | 111.60 |
| Totals | 35.41 | 111.60 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 9/28/12

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 90979 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | PCC | | | | | |
| Filtered Vent Type (5.[1]) | 1905 | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 11774 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: SARA ARAGON (CCP (Print)), 237975 (Z #)

Reviewed By: NATHAN WALES (CCP (Print)), 238866 (Z #)

Comments: None

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: SUSAN S. RAMSEY (Waste Handling Operator (print)), Susan S. Ramsey (Signature), 100681 (Z #), 10/2/12 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120928C\
Data File : 90929.D
Acq On : 28 Sep 2012 11:52 am
Operator : SA
Sample :
InstName : Unit 8
Misc : LFL POC THROUGH FILTER-19DS FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 28 12:00:20 2012
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.259 | 96 | 2511752 | 206.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.936 | 117 | 2216889 | 179.50 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 4) Methanol | 0.788 | 31 | 27871 | 117.74 | ppm | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Vocgas.m Fri Sep 28 12:00:33 2012

1-23-13

0600 Assuming WCRRF operations center - CVelarde
0615 Pre job briefing being conducted by SOS.
0616 Starting outside rounds.
0620 Starting inside rounds.
0638 Item #1 is OOS, POD in place, OK to continue
0641 Completed outside rounds.
0710 Inside and outside rounds signed off by SOS.
0825 Permission granted to lower vehicle access gates to start loading ~~vehicle access gates~~ CV 1-23-13 transport vehicle.
0904 Vehicle access gates have been restored. Movement ~~complete~~ CV 1/23/13 complete to transport vehicle.
1000 Mode change performed TASD-09 and WCRRF yard now in operations.
1005 Inventory control having problems with labels. Continuing to help
1027 Permission granted to lower vehicle access gates to begin off loading of transport vehicle.
1125 ASSUMING OPERATIONS CENTER DUTIES UNDER THE OJT INSTRUCTION OF CLARISSA VELARDE OCO OSE - B. Fordham
1126 BAGGING ON DRUM # 90886
1136 BAG on of # 90886 complete
1137 PPE CHECK INSIDE FACILITY IS complete
1158 RCT'S HAVE PAUSED WORK INSIDE THE FACILY, OPERATORS HAVE INFORMED THE SOS THAT DRUM # 90886 HAS POTENTIAL CRYSTALIZATION, ES IH WILL MAKE A DETERMINATION TO CONTINUE WORK.
1205 WORK HAS COMENCED PER IH EVALUATION
1215 OPERATORS ARE BAGGING OFF 1 DAUGHTER AND 1 POC, AND BAGGING ON DRUM # 90929.
1255 BAG ON Complete
1300 OPERATORS' COMING OUT OF FACILITY FOR LUNCH
1302 ENGINEER ENTERING FACILITY TO SCOPE WORK FOR DRUM LIFT
1305 TURNING OVER OPERATIONS CENTER TO CLARISSA VELARDE.
1306 ~~B Velarde~~ 1-23-13 Shift turnover never performed B Fordham was under instruction OCO position still required under CVelarde.

Continued on CV 1-23-13 on ~~DAC~~ CV 1-23-13 next page - CVelarde

1-2313 Continued from previous page (Redacted)
1330 Vehicle access gates have been restored, transport vehicle has been unloaded, movement is complete
1401 Operations continuing with operations. PPE check is out
1500 bagging off 90929, bagging on 90969
1507 Starting movement into ST-69
1514 movement into ST-69 is complete
1520 bagon, bag off complete.
1524 Starting inside rounds
1528 PPE check is out
1538 Item (1 005, POD in place, OK to continue with rounds
1551 Starting outside rounds
1555 Completed inside rounds., PPE check is out.
1605 Outside rounds complete
1609 bagging off 90969, bagging on 90957
1611 Inside and outside rounds Completed off by [redacted]
1625 bagon, bag off complete. PPE check is out
1704 bagging off 90957
1733 bag off is complete.
1740 Starting movement out of ST-69
1744 Mode change personnel Test call and is sent good copy to this station standing by.
1756 Completed movement out of ST-69
1313 1852 end of day in PPE Operations center. Others (Redacted)

(continued on next page)

1/23/13

0600 Assumed the WCRR SOM position and signed the plenum shift turnover. (Initials & Name)
0615 Attended the pre-op briefing conducted by SOS Som discussed importance of SOS being aware of not allowing employees to execute work/ops/etc conduct of operations.
0645 SOM attending mandatory all hands meeting at the NSSB auditorium.
0959 SOM arrived back from meeting
1000 Mode change complete. WCRR YARD / 50 cg from WARM/WARM to OPERATIONS/OPERATIONS
1002 Said in with TASA-SOM. Status to JICC and DVS was discussed as well.
1100 Shift walk by SOS that inventory control is causing problems printing shorty labels. A request to WCATS will be submitted
1158 Notified by OCC that RP-1 paused work inside due to a patient drum containing crystal like substance. Energy Solutions left en route to investigate.
1305 Energy Solutions SM deemed crystal like substance to be frozen salts. Drum had been re-mediated at WCRR before hard to scan SP #72. SM deemed drum safe to work. Operations resumed.
1255 CSE S. West going into 50 cg to board drum lift
1745 Operations proceeded 4 patients resulting in 4 daughters and 1 POC.
1755 Mode change complete. WCRR YARD / 50 cg from OPERATIONS/OPERATIONS to WARM/WARM.
1830 Securing the WCRR SOM position. (Initials & Name)

No further entries this page

(Initials & Name) 1/23 13

1-23-13 WCKK SOS Log Book

0720 Assuming SOS Position GM M.F

0615 Conducted Shift Brief EP-WCKK-RM-NOP-0202, 03 And EP-DIV-DOP-20086, 21. Also talked About Fatigue.

0645 Concluded Shift Brief Attendees Attending HH Hand Washing

0710 Reviewed Inside And outside Rounds

0955 Personal back from HH Hand Meeting

1000 Mode Change Complete WCKRF In Operations.

1005 Inventory Control notified that they are beginning Issues with Label maker (Shortins) Contacted waste Mgt on Issue

1126 bagging on first drum of day labels will be printed to TA 46 Drum # 90886 PPE check sat.

1-23-13 1137 PPE Check

1158 RCT have paused work In Facility Drum 90886 has Potential Chrystalization ES TA making Determination

1205 OK to Proceed Per TA

1225 bagging off and bagging on 90925

1300 Operators breaking for lunch

1400 Operators entering facility From lunch

1500 Bagging off and bagging on 1-23-13 ~~90966~~ 90965

1528 PPE Check

1604 Bagging on and bagging off. Bagged on 90957

1606 Inside And outside Rounds Reviewed ~~90957~~ GM 1.23.13

1704 Bagging off last drum of day.

1755 Mode Change Complete WCKRF In warm

1.23.13 1830 end of shift Securing SOS Position Log off

RLG

No further entries on this Page

S8600096

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0041 |
| Examination Date: | 3/9/2013 |
| Waste Container ID: | 92674 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0041 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 105.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 71.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 60 % |

# CCP Radiography Data Sheet



Waste Container ID: 92674

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | Metal hardware, pipe component lid |
| AM: | |
| OM: | |
| OI: | |
| C: | Fiberboard liner sleeve, fiberboard |
| R: | |
| XPM: | 90 mil plastic liner lid, plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP):Plastic Liner Bag | 2.0 |
| Other: Fiberboard Liner (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 18.0 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 8.0 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 39.6 |
| Soils (S): | |
| Total WMP Weight: | 71.6 |

# CCP Radiography Data Sheet



Waste Container ID: 92674

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Michael Simmons | | 3/9/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 92674 | Count Sequence Number: | 22298 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 3/15/2013 3:54:57 PM | | | | |
| Description 1: | 1LANDA1732 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6, Not Precision | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 71.6 | kg | Net: | 71.6 kg |
| Container: | Volume: | 208.0 | l | Full: | 60.0 % |
| Density: | | 0.570 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 22298 | Batch Number: | 1LANDA1732 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 92674 | Analysis Date: | 3/15/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 71600.0 g | | |
| Pu mass | 1.01E+001 | +- 1.56E+000 | g |
| TRU Alpha Activity | 1.98E+000 | +- 6.68E-001 | Ci |
| TRU Activity Concentration | 2.77E+004 | +- 9.32E+003 | nCi/g |
| Pu-239 Equivalent Activity | 2.01E+000 | +- 6.68E-001 | Ci |
| Pu-239 FGE | 9.54E+000 | +- 1.46E+000 | g |
| Decay heat | 6.45E-002 | +- 2.23E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 4.22E-002 | 3.02E-005 | 4.97E-006 | 1.61E-006 |
| PU238 | 9.29E-004 | 1.61E-002 | 2.48E-003 | 3.38E-005 |
| PU239 | 9.49E+000 | 5.97E-001 | 9.21E-002 | 1.26E-003 |
| PU240 | 6.07E-001 | 1.39E-001 | 2.15E-002 | 2.93E-004 |
| AM241 | 3.54E-001 | 1.23E+000 | 6.61E-001 | 3.99E-002 |
| PU241 | 1.20E-002 | 1.24E+000 | 1.92E-001 | 2.62E-003 |
| PU242 | 2.02E-003 | 8.03E-006 | 1.24E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.64E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.44E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.03E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 8.46E-006 |
| AM243 | 5.95E-004 | 1.20E-004 | 2.01E-005 | 4.72E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 3.18.13

ITR: _____ Date: 3/18/13

## Automated Independent Technical Review

Count Sequence Number: 22298 Batch Number: 1LANDA1732
Counter ID: MCS HENC #1
Container ID: 92674
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/15/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 3-18-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **92674**

BDR Number: **LA13FG2032**

Sampling Date: **3/28/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 47.89 | |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130328c\
Data File : 92674.D
Acq On : 28 Mar 2013 10:53 am (#1); 28-Mar-13, 10:53:00 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 28 12:23:25 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.565 | 96 | 5039750 | 201.25 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.900 | 117 | 4087044 | 177.00 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 4) Methanol | 0.831 | 31 | 24379m | 47.89 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

**ATTACHMENT 1**
Page 1 of 4

Working Copy
Date: 1-17-14

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 90927

6.2[4] Date Processed: 1/17/14

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☐ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☑ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009,

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10/14/14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
JA 1-17-14 ☑ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: JOE QUINTANA, Joe Z 439987, 1/17/14
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: 90927 | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 388.6 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 22.0 lb |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 410.6 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[17][D] | Drum lift hinge pin retaining clip replaced. | N/A / / Initials Z# Date |

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

JOHN GUADAGNOLI / John Guadagnoli / 125695 1-17-14
EWMO-FOD (print) per Telecon with Lou Talbert Log Entry made / Signature / Z # / Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 90927

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 69230 | | | |
| 10.1[4] | Daughter Drum Filter No. | JL 813 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L 12768 | | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501892 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☒ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☒ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | A | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | N | | |
| 10.3[5][A] | Free Liquid Volume/Units | | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See comments | | A | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | N | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty Litter | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90927

Comments: LEAD, PLASTICS, SALTS, KITTY LITTER
Hex Armor gloves. permission from OM to leave drum bagged on overnight.

11.1[1] Performed By: Joe Quintana, Joe Q 239787, 1/16/14
Waste Handling Tech (print) Signature Z# Date

11.1[8] Reviewed By: Clayton Mullis, CM 240092, 1/19/14 0816
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 1-16-14@

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

| | |
|---|---|
| Purchase Order No.: | 501893 |
| Lot No.: | 0244438 |
| Manufacture Date: | 13 |

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 10310 | 036245 |
| Cal. Expiration Date: | 11/12/14 | 8/5/14 |
| Tolerance: | +/- 4% CW and +/- 6% CCW | +/- 3% CW and +/- 6% CCW |

Overpack filtered vent information:

| | |
|---|---|
| Manufacturer: | NucFIL |
| Model No.: | 013 |
| Serial No.: | HL 860 |
| Manufacture Date: | 8/11 |

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Brandon Chavez / [signature] 1204782 1-16-14
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: n/c

8.1[1] Performed By: Brandon Chavez / [signature] 1204782 1-16-14
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / CM 1240082 1/19/14
Supervisor or designee (print) Signature Z # Date

1-18-14 jc

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 69239

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: C38370
- Cal. Expiration Date: 8/2/14
- Range in ft-lb: 16-80
- Tolerance: +/- 3%. CW, +/- 6%. CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: JOE QUINTANA / Joe Q Z39987 1/18/14
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10/14/14

7.[34][D] 85-gal overpack drum gross weight (lb): 224.2 lb

Comments: N/C

8.1[1] Performed By: JOE QUINTANA / Joe Q Z39987 1/18/14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullis / CM 240092 1/19/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 1-15-14

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 69230

5.[3] Drum information:
- Purchase Order No.: 561892
- Lot No.: 0244449
- Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
- Manufacturer: BOP
- Model No.: 6 CNC 15.2 SPVC
- Serial No.: L-12768
- Manufacture Date: 7/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11-12-14 | 8-5-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | +/-4% cw +/-6% ccw | +/-3% cw +/-6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick Hollister / [signature] 1228826 / [date]
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
- Manufacturer: NucFil
- Model No.: 019 DS
- Serial No.: JL-813
- Manufacture Date: 10/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 74 lbs

5.[34][E] Drum ID No.: 69230

Comments: N/C

5.[35] Performed By: RUSSELL SHUMAKER / Russell Shumaker / 212073 / 1.15.14
GERALD ESPINOZA / [illegible] / 237720 / 1-15-14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / CM / 240092 / 1/19/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69230

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 349.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: NIL

6.[32] Performed By: JOE QUINTANA / Joe Q / 239987 / 1/18/14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / CM / 240092 / 1/19/14
Supervisor or designee (print) Signature Z # Date

## LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET (12a)

WCRRF Rem –

**Planning and Technical Solutions**

Container ID: 90927 Container Type: STEEL DRUM (55 GAL) Gross Weight (lbs): 385.4
Total PE-Ci Activity: 1.49E+00 Equivalent Combustible PE-Ci: 3.73E-01
Total Fissile Gram Equivalents: 1.67E+01 Total Surface Dose Rate (mrem/hr): 31
EPA Code(s): D007A; D008A; D009B

Waste Description: LA-MHD01.001 Fuso RIR PS. Nitrate Salts identified >50% HOM.
LA HB-RTR-13-004 75% full - 2 layers of confinement.

Remediation/Characterization Activities: Nitrate Salts identified during RIR PS. >50% HOM Waste. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.
Ensure EPA codes D007 D008 & D009 are indicated on the Haz Waste label.

Potential Safety Risks: Nitrate Salts drums often contain free liquids and are packed in individual bags. Weight is 191.8 kg, 16 items of nitrate salt identified on generator records ranging from 2.46 kg to 17.6 kg.

Performed By: Richard Trujillo (LTP-PTS (Print)) | Richard Trujillo (Signature) | 167341 (Z#) | 12/12/13 (Date)

**IHS Representative**

Potential IHS Safety Risks: Inhalation. Use engineered ventilation controls and/or Full Face APR or PAPR. Skin contact: double nitrile gloves for handling

Performed By: Russell Stone (IHS Representative (Print)) | Russell Stone (Signature) | 117865 (Z#) | 1/7/14 (Date)

**LTP Engineering**

Waste container remediation compliant with applicable facility safety basis requirements: ☒ Yes ☐ No

Engineering Comments: NA

Performed By: Valerie Rhodes (LTP Engineering (Print)) | Valerie Rhodes (Signature) | 112289 (Z#) | 1/8/14 (Date)

**TRU Remediation Operations**

Potential Safety Risks: Use proper ratio of kitty litter to waste in accordance with the procedure. Do not push or press on waste with hands. Use hexamanipus when processing.

Performed By: Jose Tevez (TRU Operations (Print)) | Jose Tevez (Signature) | 221452 (Z#) | 1/14/14 (Date)

**Operations Manager or designee**

Processing Determination: ☒ Accept ☐ Reject

OM or designee Comments: Follow current procedures and EWO's.

Approved By: Dewet L. Blain (OM or designee (Print)) | Dewet L Blain (Signature) | 1218069 (Z#) | 1/15/14 (Date)

## Noncertified TRU Waste Drum Item Information

DrumID: 021427

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 110X4W1 | | 17.600 | NITRATE SALTS | | 8.76 | 52 | 9/13 | G468 | |
| 2 | 11LR7W1 | | 7.590 | NITRATE SALTS | | 1.48 | 52 | 9/13 | G468 | |
| 3 | 110X4E1 | | 2.450 | NITRATE SALTS | | 0.42 | 52 | 9/13 | G468 | |
| 4 | 11RR14W1 | | 3.800 | NITRATE SALTS | | 2.12 | 52 | 9/13 | G468 | |
| 5 | 11RR14E1 | | 2.650 | NITRATE SALTS | | 0.66 | 52 | 9/13 | G468 | |
| 6 | 11LR13W1 | | 4.810 | NITRATE SALTS | | 0.48 | 52 | 9/13 | G468 | |
| 7 | 11LR13E1 | | 5.450 | NITRATE SALTS | | 0.66 | 52 | 9/13 | G468 | |
| 8 | 110X15W1 | | 9.790 | NITRATE SALTS | | 1.62 | 52 | 9/13 | G468 | |
| 9 | 110X15E1 | | 9.160 | NITRATE SALTS | | 1.26 | 52 | 9/13 | G468 | |
| 10 | 11LR14W1 | | 4.820 | NITRATE SALTS | | 1.35 | 52 | 9/13 | G468 | |
| 11 | 11LR14E1 | | 14.720 | NITRATE SALTS | | 4.32 | 52 | 1/13 | G468 | |
| 12 | 11LR18E1 | | 4.830 | NITRATE SALTS | | 0.8 | 52 | 1/13 | G468 | |
| 13 | 11LR18W1 | | 2.460 | NITRATE SALTS | | 0.06 | 52 | 1/13 | G468 | |
| 14 | 11DS19E1 | | 5.070 | NITRATE SALTS | | 2.9 | 52 | 1/13 | G468 | |
| 15 | 11DS19W1 | | 4.800 | NITRATE SALTS | | 2.53 | 52 | 1/13 | G468 | |
| 16 | 110X21E1 | | 13.600 | NITRATE SALTS | | 6.01 | 52 | 1/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 191.8

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 35.43 | 113.60 |
| Totals | 35.43 | 113.60 |

**ATTACHMENT 1**
Page 1 of 1

**TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET**

5.[1] Sample Date: 12/19/2013

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 90927 | 83939 | 65220 | 65201 | S845063 | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55gal drum | 55gal drum | 55gal drum | 55gal drum | 55gal drum | N/A |
| Filtered Vent Type (5.[1]) | 019-DS | 019-DS | 019-DS | 019-DS | 019-DS | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 419.78 ppm | 726.25 ppm | 467.81 ppm | 412.52 ppm | 383.25 ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 0 ppm | 295.25 ppm | 0 ppm | 0 ppm | 0 ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | 0 ppm | 0 ppm | 0 ppm | 0 ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Sara Aragon / 237975
CCP (Print) Z#

Reviewed By: Erik Lorchell / 234183
CCP (Print) Z#

Comments:
none

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Barbara Trujillo / 167341 / 1/6/2014
Waste Handling Operator (print) Signature Z# Date

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InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131219c\
Data File : 90927.D
Acq On : 19 Dec 2013 12:22 pm (#1); 19-Dec-13, 12:22:01 (#2)
Operator : SA
Sample :
Misc : 55 GAL DRUM THROUGH UNOBSTRUCTED 019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 19 13:58:25 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.535 | 96 | 3259830 | 205.75 | ppmv | 0 02 |
| 15) Chlorobenzene-d5 | 5.845 | 117 | 2577690 | 177.50 | ppmv | -0 02 |
| Target Compounds | | | | | | Qvalue |
| 4) Methanol | 0.886 | 31 | 9515 | 36.53 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Thu Dec 19 13:58:41 2013

7-14

0555 Assuming UCRR operations) center. KOleman

0600 Beginning outside rounds.

0617 Beginning inside rounds. Pre-job being conducted by SDS.

0634 Outside rounds complete.

0636 Pre-job concluded.

0642 Inside rounds complete.

0655 Both rounds reviewed by SDS.

0703 mode change complete. We are now in operations in UCRRF yard and 50 to 9.

0719 CM states he cancelled the crosby clips maintenance that was to be performed on the vehicle barrier today.

0728 Notified pest control regarding the mouse droppings in the morgan where supplies are kept.

0802 Operators denesting 2 drums, then bagging on.

0910 Denesting complete. Operators bagged on S844253.

0941 Permission granted to lower the vehicle access gates to

1043 Begin receipt of drums from area G.

1043 Bagging off 1 daughter and 1 PCC, bagging on another daughter

1048 Vehicle access gates restored. Shipment accepted. Tanportainer secured.

1113 Bag off/on complete. PPE check is Sat.

1210 Bagging off 1 daughter, bagging on S813655.

1240 Bag off/on complete. PPE check is Sat.

1412 Bagging off 1 daughter, bagging on another daughter.

1428 Bag off/on complete.

1446 Initiating a drum movement from 5049 to a tranportainer.

1500 Drum movement out of 5049 Complete.

1605 Beginning inside rounds.

1606 Late entry-at 0640, item 63 SDS, Okay to proceed. (SC)

1622 Item # 63 is SDS, Okay to proceed per CSE documentation.

1632 Inside rounds complete.

1640 Beginning outside rounds.

1642 Bagging off 2 daughters, bagging on 90927.

1708 Outside rounds complete.

1718 Bag off/on complete. Operators report an elevated CAM.

Continued on next page KOleman

1-17-14 Continued from previous page. JColeman
1722 Operators report CAM readings normal now.
1748 Both rounds reviewed by SOS.
1759 Received permission from OM to leave drum #90927 bagged off overnight. Everything is in a safe configuration.
1811 Mode change complete, we are now in warm standby in WCRRF yard and 5069.
1-17-14 1830 End of day. OCC position secured. JColeman

No further entries this page



1-18-14
0600 Assuming WCRR operations center. JColeman
0612 Beginning outside rounds.
0630 Outside rounds complete.
0640 Beginning inside rounds.
0654 Item #63 is OOS, POD in place, okay to proceed per CSE documentation
0705 Inside rounds complete.
0725 Both rounds reviewed by SOS.
0738 Mode change complete. We are now in operations in WCRRF and 50-69.
0845 Bagging off 1 daughter, bagging on S8161980.
0914 Bagoff/on complete. PPE check is Sat.
1000 Initiating a drum movement from 5069 to a transportainer.
1034 Drum movement out of 50-69 complete.
1030 Bagging off 1 daughter, bagging on another daughter. PPE check is Sat.
1050 Bagoff/on complete.
1138 Bagging off 1 daughter, bagging on S813513. PPE check is Sat.
1205 Bagoff/on complete.
1224 Operators out for lunch.
1357 Initiating a drum movement from transportainer to 5069. and 5069 to a transportainer. JC 1-18-14.
1410 Drum movement complete.
1502 Bagging off 1 daughter, bagging on another daughter. PPE check is Sat.
1524 Bagoff/on complete.
1553 Beginning inside rounds.
1614 Item #63 is OOS, POD in place, okay to proceed per CSE documentation
1617 Inside rounds complete. Beginning outside rounds.
1635 Bagging off 1 daughter, bagging on another daughter.
1640 Outside Rounds complete.
1647 Both rounds reviewed by SOS.
1648 Late entry at 1337, operators back from lunch JC
1717 Bagging off 1 daughter, placing port cover on.
1748 Bagoff complete.
1807 Mode changed from ~~warm~~ operating JC 1-18-14 to warm in yard + 5069.
1830 End of day. OCC position secure. JColeman
No further entries this page JColeman

1-17-14 WCRR SOM

0558 Reviewed shift turnover checklist and logs and assumed the WCRR SOM position John Guadagnoli

0638 Completed attending the pre-job brief conducted by the SOS (Clayton)

0638 ES/IH discussed the safety topic of the day chemical storage at work and at home. There is a transfer scheduled into WCRRF - 9 drums total. Film crew is to arrive around noon and film personnel exiting facility. Shift orders in effect were discussed. Maintenance are to install crosby clamps - we will monitor mode change with crafts. Operations are requesting straps for de-nesting 1"x10' and if unable to locate, will notify MF Vigil.

0708 Completed morning phone call with AREA G stateusing WCRRF - POD

0714 The OM caused crafts on installation of crosby clamps

0719 Late entry for 0703 - Mode Change 50/50 and cyand transition from WARM/WARM to Operations/Operations

0728 DCO notifies Pest Control of dropping with the Morgan.

0802 Inside operations initiate denesting of two drums current inside temperature is 69°F

0821 Conducted walkdown of Vehicle Barrier gate and marked the gate with spray tape on where the 3 crosby clips are to be attached.

0910 Operations complete the de-nesting and bag on of Parent drum 5844253 SP-72

0930 Completed working with the procedure writer on comments for DOP-197 in which the DID number is DOP-0236. Also PT assisted for transfer of 9 drums from Area G.

1042 Inside operators report initiating bag off of 1 daughter and 1 PEC and bagging on another daughter and continue to process.

1050 The transfer of 9 drums into WCRRF from AREA G was completed.

1113 Inside operators complete bag off and bag on of the daughter.

1210 Operators initiate bag off and bag on of Parent 5813655 - SP-57

1240 Bag off noted completed, and the photographer is positions for operators to switch for lunch and continue to operate.

1412 Inside operators report bagging off 1 daughter and bagging on another, and continue

1424 Operators report bag off and bag on completed.

1446 Outside operators initiate movement from facility to transportainers, Also Riv-nut replacement tool and electric impact wrench were secured for SWB arrived Tuesday by ES and they prep for Area G

1525 Completed sign off of EP-AREAG-WD-DOP-1085 $R_2$ IPC 2 - to allow procedure writer to submit to USQ - all comments from disciplines were incorporated.

1642 Inside Operators initiate bag off off 2nd daughter 1-17-14 and bag on of Parent 90927

1718 Bag off and on completed RET noted elevated CAM.

1722 CAM Reading was reported normal.

1745 Reviewed Rounds and RCRA to ensure completed

(Continued on Next Page)

1-17-14 WCRR 50M (continued)

1750 Obtained update from AREA 6 SOS working Dome 224. Noted 4 parents generated 4 daughters.
1759 Obtained approval from the OM to allow WCRR Operations to leave Parent 90927 bagged on overnight, the WCG is in a safe configuration.
1809 Inside temperature in 50/69 is noted at 65°F the setpoint is at 77°F
1811 Mode change: 50/69 and yard transition from Operations/Operations to WARM/WARM
1818 Secured the 50M position John Grandegard

No further Entries this page
RLH



1-18-14 WCRR - 50M

0558 Reviewed logs and assumed the WCRR 50M position John Grandegard
0627 Completed attending the pre-job brief conducted by Cleyton the SOS, The Safety Topic was Carbon Monoxide Poisoning, especially in winter months when letting cows warm up. SOS reviewed current status with 1 drum currently bagged on and ready to work. Current shift orders were reviewed.
0725 Rounds were completed and received.
0728 Mode change: 50/69 and yard transition from WARM/WARM to Operations/Operations.
0749 Initiated merge of Dome 224 work - prep empty's and filter change out repack - 50 SWB - work to be conducted this afternoon (Rebrook) AREA 6 - 50M. - approved
0758 Discussed with operators in 50/69 contents of current drums bagged on, No liquids noted.
0801 Inside temperature is at 65°F and the setpoint is at 77°F
0838 Inside PIC requests to turn down the thermostat to 67°F, approved.
0846 Inside Operations initiate bag off of daughter generated from Parent 90927 and bag on of Parent SB61980 - SF-12.
0914 PIC informs OCO, that bag on and bag off is completed.
1001 Outside operators initiate a movement east of 50/69 to the transportainers.
1018 Outside operators complete move to the transportainers - 6 drums total.
1030 Inside operators report bagging off 1 daughter and bagging on another.
1137 Operations report bagging off 1 daughter and 1 Parent and bagging on Parent SB13513 - SF-21
1215 Operators complete bag off and bag on
1225 Operators exit facility 50/69 to initiate lunch break
1335 Operators enter 50/69 to start processing
1400 Operations initiate a movement into 50/69 2 drums (Parents total)
1410 Entry into 50/69 is noted completed
1456 Operations report SB13513 SF-21 is noted as 1-55 gallon bag of sludge type material 1-low dose.
1501 Inside Operations initiate bag off of 1 daughter and bag on of another and continue to process.
1524 Bag off of daughter is noted completed
1634 Operators initiate bagging off 1 daughter and bagging on another daughter.
1657 Inside operators report bagging off/on completed.
1717 Inside operators initiate bag off of daughter and parent and will place port cover on WCG
1748 Bag off completed, port cover is in place and the WCG is in a safe configuration.
1754 Completed review of 7 work packages and updated with current RWP
1807 Mode Change: 50-69 and yard transition from Operations/Operations to WARM/WARM
1813 Ensured inside temperature is set at 77°F. Reviewed rounds and RCRA completed
1818 Secured the WCRR 50M position John Grandegard

(no further entries this page)

PROJECT NAME WCRRF SOS Log Book NOTEBOOK NO.

1/17/14
0600 Assuming SOS position. CA
0615 Starting Pre-Job, discussed proper storage with all tools, equipment, chemicals. With heavy drums ensure the load capacity is not being violated.
0638 Pre-Job complete.
0655 Signed off on the rounds.
0703 Mode change complete, WCRRF yard and 50-69 are now in Operations.
0802 Starting to denest 2 drums.
0910 Denesting and bag on complete, 5844253.
0941 Starting to recieve shipment into WCRRF.
1043 Bagging off 1st daughter, bagging on a 2nd.
1048 Shipment in complete.
1113 Bag off/on complete, also bagged off a POC.
1215 Bagging off 2nd daughter, bagging on 5813655
1240 Bag off/on complete.
1412 Bagging off 1st daughter, bagging on a 2nd.
1428 Bag off/on complete.
1446 Starting movement out of 50-69.
1500 Movement out complete.
1642 Bagging off 2nd and 3rd daughters, bagging on 90927.
1718 Bag off/on complete. Slightly elevated CAM, unable to depost.
1721 CAM's readings back to normal.
1748 Signed off on the rounds.
1759 Permission from OM to leave drum on overnight.
1811 Mode change complete, WCRRF yard and 50-69 are now in Warm Standby.
1/17/14 1819 Securing SOS position. CA

No Further Entries on this Page

SIGNATURE _____ DATE _____ 20__
READ AND UNDERSTOOD DATE 20

PROJECT NAME WCRRF SOS Log Book NOTEBOOK NO.

1/18/14
0600 Assuming SOS position. CA
0615 Starting Pre-Job, discussed watching for signs of carbon monoxide poisoning.
0635 Pre-Job complete.
0725 Signed off on the rounds.
0728 Mode change complete, WCRRF yard and 50-69 are now in Operations. continuing to process drum left on over night.
0840 Bagging off, bagging on 5861980.
0914 Bag off/on complete.
1000 Starting movement out of 50-69.
1024 Movement out complete.
1030 Bagging off 1st daughter, bagging on a 2nd.
1050 Bag off/on complete.
1138 Bagging off 2nd daughter, bagging on 5813513.
1205 Bag off/on complete.
1357 Starting movement into 50-69.
1410 Movement in complete.
1502 Bagging off 1st daughter, bagging on a 2nd.
1524 Bag off/on complete.
1635 ~~1550~~ ~~Starting~~ 1-18-14 Bagging off 2nd daughter, bagging on a 3rd.
1647 Signed off on the rounds.
1654 Bag off/on complete.
1717 Bagging off 3rd daughter to complete processing
1748 Bag off complete.
1807 Mode change complete, WCRRF yard and 50-69 are now in Operations.
1-18-14 1812 Securing SOS position. CA

No Further Entries on this Page

SIGNATURE DATE

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0009 |
| Examination Date: | 1/23/2014 |
| Waste Container ID: | 69230 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0009 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 158.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 124.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 69230

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | Scrap metal |
| AM: | |
| OM: | |
| OI: | |
| C: | |
| R: | |
| XPM: | |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 1.5 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 123.1 |
| Soils (S): | |
| Total WMP Weight: | 124.6 |

# CCP Radiography Data Sheet



Waste Container ID: 69230

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Eddie Rios |  | 1/23/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69230 | | Count Sequence Number: | 16876 | |
| Operator: | DCLTD231\Operator | | | | |
| Assay Start: | 1/24/2014 12:50:16 PM | | | | |
| Description 1: | 2LANDA1256 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gal Drum | | | | |
| Weight: | Net: | 125.0 kg | Net: | 125.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 95.0 % | |
| Density: | | 0.630 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

023
CS 6/17/14

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16876 | Batch Number: | 2LANDA1256 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69230 | Analysis Date: | 1/24/2014 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 125000.0 g | | | |
| Pu mass | 3.31E+001 | +- | 6.61E+000 | g |
| TRU Alpha Activity | 6.22E+000 | +- | 8.54E-001 | Ci |
| TRU Activity Concentration | 4.98E+004 | +- | 6.83E+003 | nCi/g |
| Pu-239 Equivalent Activity | 6.29E+000 | +- | 8.54E-001 | Ci |
| Pu-239 FGE | 3.19E+001 | +- | 6.21E+000 | g |
| Decay heat | 2.02E-001 | +- | 2.80E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 9.58E-002 | 6.76E-005 | 1.17E-005 | 1.37E-006 |
| PU238 | 3.02E-003 | 5.17E-002 | 1.03E-002 | 3.50E-005 |
| PU239 | 3.11E+001 | 1.93E+000 | 3.85E-001 | 1.31E-003 |
| PU240 | 1.99E+000 | 4.51E-001 | 9.00E-002 | 3.06E-004 |
| AM241 | 1.11E+000 | 3.79E+000 | 7.57E-001 | 2.57E-003 |
| PU241 | 3.76E-002 | 3.87E+000 | 7.73E-001 | 2.63E-003 |
| PU242 | 6.63E-003 | 2.62E-005 | 5.23E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.18E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.02E-003 |
| U234 | 1.49E-002 | 9.26E-005 | 2.07E-005 | 0.00E+000 |
| U235 | 1.06E+000 | 2.30E-006 | 5.13E-007 | 1.59E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.41E-005 |
| AM243 | 1.35E-003 | 2.71E-004 | 4.72E-005 | 8.38E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 6-9-14

ITR: _____ Date: 6.10.14

024

## Automated Independent Technical Review

Count Sequence Number: 16876 Batch Number: 2LANDA1256
Counter ID: HENC #2
Container ID: 69230
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/24/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Passive Neutron Pu and Gamma U data specified as input.<br><br>Analysis Status: Override enabled; data marked not available but were used.<br><br>Pu results taken from Passive Neutron data, U from Quantitative Gamma data.<br><br>Results comparison test passed. | Passive Neutron Pu and Gamma U data specified as input. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |

025
CS 6/17/14

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results. |

Expert Review by: Bart B. Marah Date: 6/9/14

026
CD 6/17/14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69230**

BDR Number: **LA14FG12017**

Sampling Date: **2/3/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 107.87 | |
| 74-82-8 | Methane | 6.56 | U |
| 67-56-1 | Methanol | N/A | U |
| 60-29-7 | Ethyl Ether | N/A | U |
| 75-35-4 | 1,1-Dichloroethylene | N/A | U |
| 67-64-1 | Acetone | N/A | U |
| 75-34-3 | 1,1-Dichloroethane | N/A | U |
| 156-59-2 | cis-1,2-Dichloroethene | N/A | U |
| 78-93-3 | Methyl ethyl ketone | N/A | U |
| 110-82-7 | Cyclohexane | N/A | U |
| 71-43-2 | Benzene | N/A | U |
| 107-06-2 | 1,2-Dichloroethane | N/A | U |
| 71-36-3 | 1-Butanol | N/A | U |
| 108-10-1 | Methyl isobutyl ketone | N/A | U |
| 108-88-3 | Toluene | N/A | U |
| 108-90-7 | Chlorobenzene | N/A | U |
| 100-41-4 | Ethylbenzene | N/A | U |
| 108-38-3/106-42-3 | m- and p-Xylene | N/A | U |
| 95-47-6 | o-Xylene | N/A | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | N/A | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | N/A | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

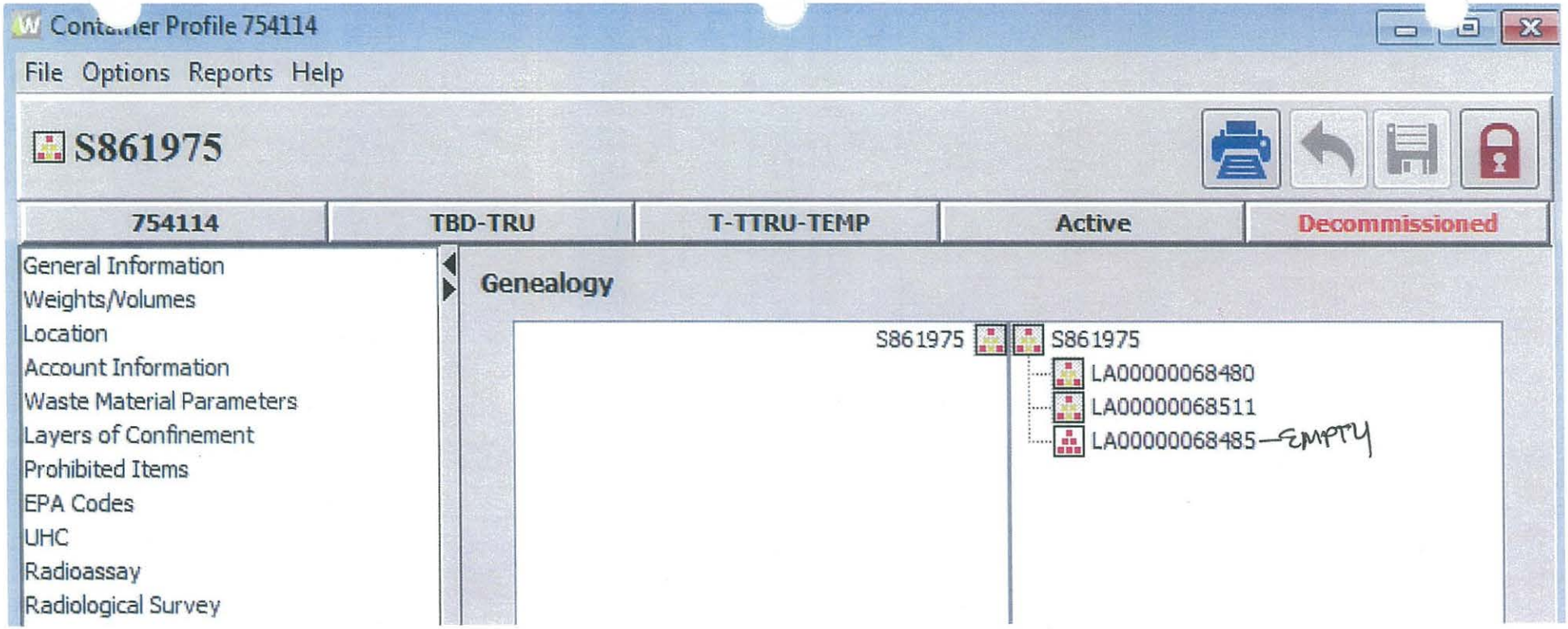
Data Path : C:\msdchem\1\DATA\140203c\
Data File : 69230.D
Acq On : 3 Feb 2014 3:22 pm (#1); 3 Feb 2014 3:21 pm (#2)
Operator : DE
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 03 15:26:36 2014
Quant Method : C:\msdchem\1\METHODS\H2-CH4.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Thu May 23 08:37:45 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.917 | GC1 | 30771m | 107.87 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S861975


Container Profile 754114
File Options Reports Help
S861975
754114
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Genealogy
S861975
S861975
LA00000068480
LA00000068511
LA00000068485 – EMPTY

Working Copy
Date: 10-22-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S861975

6.2[4] Date Processed: 10-22-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☑ Repack

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☐ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☐ YES ☑ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: GERALD ESPINOZA / [signature] 231720 / 10-22-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S801975

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 325.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): Ø lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 325.0 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced.

| Initials | Z# | Date |
|---|---|---|
| N/A | | |

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

| EWMO-FOD (print) | Signature | Z # | Date |
|---|---|---|---|
| | N/A | | |

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S861975

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 608480 | | | |
| 10.1[4] | Daughter Drum Filter No. | LM297 | | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6796 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | BOP | | | |
| | Model No. | Lcpvc1.5-2AML | | | |
| | Serial No. | L-10288 | | | |
| | Date of Manufacture | 5-13 | | | |
| 10.2[5] | POC ID No | 608511 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | LEAD GLOVE | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | GE 237720 | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 354.8 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 801.0 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | 1 quart | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 2 GAL | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | LEAD SHIELDING | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100 % | | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | PLASTIC | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S861975

Comments: Kitty Litter, plastic, liquid, NITRATE SALTS,

11.1[1] Performed By: GERALD ESPINOZA [signature] 1231720 / 10-22-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins [signature] 1240092 / 10/22/13 1632
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 9-26-13@

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0238367
Manufacture Date: 2013

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | +/- 4% cal +/- 6% read | +/- 3% cal +/- 6% read |

Overpack filtered vent information:

Manufacturer: Nucfil
Model No.: 013
Serial No.: SL-911
Manufacture Date: 10/11

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

5. [11] Performed By: Frederico Bahena [signature] 1226828 9-26-13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Frederico Bahena [signature] 1226828 9-26-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins [signature] 124097 10/22/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-22-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68485

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 037418
- Cal. Expiration Date: 3-6-14
- Range in ft-lb: 10-80
- Tolerance: ±3% CW ±6% CCW

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: GERALD ESPINOZA / [signature] / 237124 / 10-22-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 164.4 lb

Comments: N/C

8.1[1] Performed By: GERALD ESPINOZA / [signature] / 237124 / 10-22-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] / 240092 / 10/22/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 9-24-13

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68480

5.[3] Drum information:
Purchase Order No.: SG1578
Lot No.: 0240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: LSAVC-1.5-2 SPVC
Serial No.: L-6796
Manufacture Date: 1/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Range in ft-lb: | 40-200 | 10-80 |
| Tolerance: | +/- 4% CW +/- 6% CCW | +/- 3% CW +/- 6% CCW |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick Archuleta [signature] 1228824 9-26-13
Operator (print) Signature Z# Date

5.[23] Filtered vent information:
Manufacturer: Nucon
Model No.: 019 DS
Serial No.: LM-297
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68480

Comments: N/C

5.[35] Performed By: Frederick Barkley / [signature] 1228826 9-26-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] 240092 10/22/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 10-22-13 GE

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68480

6.[9] Drum closure ring torque wrench information:

M&TE No.: 037418
Cal. Expiration Date: 3-6-14
Range in ft-lb: 10-80
Tolerance: ±3% or ±6 ft-lb

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: GERALD ESPINOZA / Gerald Espinoza / 237720 / 10-22-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is <u>not</u> touching the jam nut and the locking ring lugs are <u>not</u> touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung <u>torque wrench information</u>: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range in ft-lb: | | |
| Tolerance: | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: GERALD ESPINOZA / Gerald Espinoza / 237720 / 10-22-13
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ in-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

## ATTACHMENT 2
Page 2 of 2

6.[3] Drum ID No.: 68480

6.[26] Scale File ID number: 0190165

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 395.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: GERALD ESPINOZA (Operator (print)) (Signature) B7772d (Z #) 10-22-13 (Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) (Signature) 240096 (Z #) 10/22/13 (Date)

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

19 3rd SP72

## Production Control

Container ID: S861975 Container Type: 55-GAL Gross Weight (lbs): 333
Inner Seal #: 020324 Filter Prefix: LAVC Filter Serial #: 01167
Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 A0757
Total PE-Ci Activity: 4.36E+00 Equivalent Combustible PE-Ci: 1.64E+00 AM-241 PE-Ci: 3.54E-01
Total Fissile Gram Equivalents: 48.2 Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): D007; D008; D009
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/12/2007 Comment: Liquids, Impenetrable Obj, Liner Not Punctured Liquid Location: 25"
Certified RTR Comment: None

| | | | | | |
|---|---|---|---|---|---|
| Prohibited Items: | ☑ Sealed > 4 Liters | ☑ Liquid | ☐ Pressurized Container | ☑ Impenetrable Item | ☐ Other |
| Security Determination: | | | | ☑ Green | ☐ Yellow |
| Remediation Determination: | | ☐ VE | ☑ PID | ☐ Split | ☑ Repack |
| Estimated 30-cm Dose Rate (mrem/hr): | | ☐ <100 | ☑ >100 and <1,000 | ☐ >1,000 and <10,000 | ☐ >10,000 |

TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey (Production Control (Print)) Signature: Susan P. Ramsey / 100681 (Z Number) / 12/20/12 (Date)

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: N. Nitrate Salts
Net Wt: 273# Generator info shows 9 items of nitrate salts; weights range from 3-28#. No RTR/BDR. Nitrate salts are typically packaged in plastic bags; undocumented liquids &/or debris may be present. RTR #5 shows prohibited liquids & impenetrable item(s) and unpunctured liner. No chemicals identified; applicable waste codes are for chromium lead & mercury. Nitrate salts require repack w/ admixture.

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes / 112609 (Z Number) / 1/17/13 (Date)

## TRU Remediation Operations

☒ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Dont push or press on waste with hands. Use heavy duty gloves during processing.
Processing Determination: ☒ Accept ☐ Reject
TRU Remediation Operations Comments: USE Proper PPE And Kitty Litter Ratio.

Performed By: G Mtz (TRU Remediation Operations (Print)) Signature: [signature] / 149235 (Z Number) / 6/20/13 (Date)
H 6-22-13 Mr. Jose Perez Jose Perez 221452 6/22/13
IHS Review July Amendment CSP, may contain Pb, Hg + Cr no other concerns 1-29-13

## Noncertified TRU Waste Drum Item Information

DrumID: 020324

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10X14E1 | | 12.600 | NITRATE SALTS | | 10.86 | 52 | 9/13 | G468 | |
| 2 | 10X7E1 | | 12.510 | NITRATE SALTS | | 6.64 | 52 | 9/13 | G468 | |
| 3 | 10X14W1 | | 8.810 | NITRATE SALTS | | 4.15 | 52 | 9/13 | G468 | |
| 4 | 1LR14W1 | | 12.050 | NITRATE SALTS | | 9.48 | 52 | 9/13 | G468 | |
| 5 | 1LR21E1 | | 3.030 | NITRATE SALTS | | 1.64 | 52 | 9/13 | G468 | |
| 6 | 1LR14W2 | | 3.790 | NITRATE SALTS | | 2.74 | 52 | 9/13 | G468 | |
| 7 | 1LR21W1 | | 6.260 | NITRATE SALTS | | 5.4 | 52 | 9/13 | G468 | |
| 8 | 1RR22W1 | | 1.620 | NITRATE SALTS | | 1.48 | 52 | 9/13 | G468 | |
| 9 | 1LR22E1 | | 11.730 | NITRATE SALTS | | 8.77 | 52 | 9/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 150.9

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 51.16 | 72.40 |
| Totals | 51.16 | 72.40 |

**ATTACHMENT 1**
Page 1 of 1

**TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET**

5.[1] Sample Date: 5/28/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 584975 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 073 | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 1201.56 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Gabe Romero (CCP (Print)) , 236973 (Z#)

Reviewed By: Rick Jagielski (CCP (Print)) , 266088 (Z#)

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey, Susan S. Ramsey 100681 5/28/13
Waste Handling Operator (print) / Signature / Z# / Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130528c\
Data File : S861975.D
Acq On : 28 May 2013 12:24 pm (#1); 28-May-13, 12:24:17 (#2)
Operator : GR
Sample :
Misc : 55 GAL DRUM THROUGH UNOBSTRUCTED NucFil-072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 12:33:34 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.574 | 96 | 4190258 | 201.25 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.904 | 117 | 3590889 | 177.00 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.604 | GC1 | 8540 | 1201.56 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

vocgas.m Tue May 28 12:34:41 2013

10-22-13

0600 Assuming WCRR operations center. JC Alexander
0615 Pre-job being conducted by SOS. PCT reviewing everyone on the processing monthly brief.
0642 SOM's re-briefing on shift orders WCRR-SH-13-003 and WCRR-SH-13-005.
0708 Pre-job concluded.
0712 Beginning outside rounds.
0720 Outside rounds complete.
0802 Beginning inside rounds.
0813 Shutting down ventilation to begin the ~~annual~~ quarterly channel function ~~calibration~~ surveillance. SC 10-22-13 ~~SC 10-22-13~~
0815 Ventilation is down.
0816 Acknowledged the mine alarm.
0817 Beginning the ~~annual~~ quarterly channel ~~calibration~~ function test. SC 10-22-13 ~~SC 10-22-13~~
0818 Item #63 is OOS. Okay to proceed with rounds per CSE documentation.
0830 Inside rounds complete.
1000 Both rounds reviewed by SOS.
1022 The quarterly channel function test is complete.
1025 Restarting ventilation.
1029 Ventilation restarted. All readings normal.
1129 Beginning monthly UPS test, WO# 46755101
1219 The monthly UPS test is complete.
1248 Late entry at 1101, the channel function test SR 4.3.17 and 4.3.2.e were due on 10-14-13. The facility was in Cold standby mode and was in stated above from 10-8-13 until 10-21-13 based upon OCE funding. The surveillances were completed at 1022 and the equipment is operable. (JC)
1254 Awaiting signature from the CSE on the monthly UPS test procedure before we ~~go into~~ JC 10-22-13 go into operations mode.
1300 Mode changed to operations in WCRRF yard and 50-69.
1305 Initiating a drum movement of 3 drums into 50-69.
1328 Drum movement completed.

Continued on next page. JC Alexander

10-22-13 Continued from previous page - YColeman
1344 Bagging on S8/1915.
1401 Bag on complete.
1426 Beginning outsides rounds.
1434 Beginning inside rounds.
1445 Item #63 is 005, okay to proceed per CSE documentation.
1450 Inside rounds complete. Outsides rounds complete.
1512 Both rounds reviewed by SOS.
1538 Bagging off 1 daughter, 1 POC, bagging on S8/0095
1612 Bag on/off complete.
1702 Bagging off 1 daughter, bagging off another daughter. on SC 10-22-13
1718 Bag off/on complete.
1740 Bagging off last drum of the day.
1759 Bag off complete.
1811 Mode changed to warm in WRRF yard and SO69.
10-22-13 1830 End of day. ACO position secured. YColeman

No further entries this page

10-22-13 DAYSHIFT

0600 Obtained shift turnover checklist and assumed the WCRR SOM position for ~~John Gundignal~~.

0705 Completed attending the pre-job brief conducted by the SOS (Darnell). RWP was reviewed by the RCT lead. Shift Orders - WCRR-SH-13 003-R2, Manual Drain Movements and WCRR-SH 13 005-R0 Precautions to Prevent Back Feeds were reviewed and operators signed off. There are no transfers scheduled for today - the channel function test will be conducted, and if crafts are available, the UPS monthly will be conducted. Roles and Responsibilities were assigned. The safety topic was Freeze Protection awareness. Team work was discussed to ensure both crews work together as a team.

0706 Conducted daily AREA G/SOM - Plan of the Day phone call.

0808 Completed merging Channel Function Test - SP-WCRR-VS-DOP-0313 and the monthly UPS test.

0813 Inside Operations shutdown ventilation per procedure for the Quarterly Channel Function Test.

0901 Crafts arrive to perform the monthly UPS. Escort is assigned and RCT assigned to provide RWP brief.

1015 Met with WMC personnel and discussed LLW to be transfered to AREA 2. The containers to be transfered are to be walked down.

1022 Inside operations report completion of the Channel Function Tests being performed satisfactory.

1029 The ventilation in SP/69 was restacted satisfactory.

1030 The crafts are waiting to obtain a safety watch prior to initiating work on the UPS - Notification was made to the CM. Currently waiting for the CSE to sign off on DOP-0313.

1100 Completed sign off of Channel function Test. Noted Satisfactory for SR-4.3.1.7 and SR 4.3.2.6. Current status of SP/69 is in Cold.

1120 Completed sign off of WO# 467551-01 for (M) UPS. Safety watch was provided, work was initiated.

1125 Late entry for 1101 hours: Channel Function test SR 4.3.1.7 and 4.3.2.6 were due on 10-14-13. The facility was in Cold Standby Mode, and was in stand down from 10-8-13 till 10-21-13, based upon DOE Funding. As noted at 1100 hrs the SR 4.3.1.7 and SR 4.3.2.6 were conducted satisfactory and equipment is noted Operable

(Continued on Next Page)

10-22-13 Dayshift (Cont).

1230 Per the OM, he obtained approval from the FOD to go operational

1253 CSE completed the sign off of work package WO# 00467551-01 - 50/69 (M) OPS 001 - all was noted satisfactory.

1300 Mode change: WCRR YARD and 50/69 Facility transitioned from WARM/LOAD to Operations/Operations.

1305 Shift Orders - WCRR-SH-13-003 $R_2$, MANUAL DRUM MOVEMENTS and WCRR-SH-13-005-$R_0$. Precautions to Prevent BAG Tears were extended through 10-29-13

1343 Upon completion of re-inventory and prepping the parent for bag on, parent drum 5861975 was identified to be bagged on - Operators initiated bag on.

1400 Inside operations report that bag on was completed.

1538 Operations report bagging off 1 daughter and 1 POC and bagging on Parent 5860095

1610 Operations report bag offs and bag on completed.

1718 Operations completed bag off of one daughter and bag on of another and continue to process. Approximately 20% of the drum remains to process, and operations will work to completion.

1740 Inside operations report bagging off daughter and parent empty 5860095.

1759 Bag offs were noted complete and the WCRR was placed in a safe configuration. No TRU Drums left bagged on.

1811 Mode Change: WCRR yard and 50/69 Facility transition from Operations/Operations to WARM/WARM.
The on-call watch bill was instituted.

1818 Secured the SOM position John Guadagnoli

No further Entries this page

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10/22/13 WCRRF 505 Log Book

0600 Assuming 505 Position [illegible]

0615 Conducted shift briefing. Reviewed RWP 2012-0015 Reviewed Shift Orders WCRR-SH-13-005 Rev 0 and WCRR-SH-13-003 R2, discussed Plan of the day. Channel function test, Processing parents, Forklift operations Discussed slow Start after being offsite for two weeks. Discussed Wearing proper PPE and following procedures. Housekeeping.

0700 Pre job complete

0735 Outside Rounds completed and signed off

0813 Ventilation shutdown to begin Channel function test.

0817 Quarterly Channel function test started

1000 Inside Rounds completed and signed. Reviewed Pre operational check for the daily drum left inspection

1022 Quarterly channel function test completed and signed

1029 Ventilation returned to normal all readings set.

1129 Monthly UPS check started

1219 Monthly UPS check completed Awaiting Signatures

1300 Building 50-69 is in operations mode.
DZB 10-22-13

1305 ~~Moving~~ Starting movement of drums into 50-69.

1325 Movement of drums completed into 50-69

1344 Bag on of drum # 5861975

1401 Bag on complete

1515 Inside and outside rounds completed and signed off

1538 Bag off 1 daughter, 1 POC Bagging on drum # 5860095

1612 Bag on/off complete.

1702 Bag off 1 daughter, bag on 1 daughter.

1718 Bag off/on complete.

1740 Bagging off drum.

1759 Bag off complete.

1811 Mode change to Warm in WCRRF and Warm in 50-69.

1830 Securing 505 position for the day

No further Entries
DZB 10-22-13

5869175

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0119 |
| Examination Date: | 10/28/2013 |
| Waste Container ID: | 68480 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0119 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 179.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 145.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 95 % |

# CCP Radiography Data Sheet



Waste Container ID: 68480

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | Leather gloves |
| R: | |
| XPM: | Plastic bags, plastic lid |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 10.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | 1.0 |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 128.6 |
| Soils (S): | |
| Total WMP Weight: | 145.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68480

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Benito Maestas | | 10/28/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68480 | Count Sequence Number: | 23753 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/30/2013 11:00:39 AM | | | | |
| Description 1: | 1LANDA1856 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 146.0 | kg | Net: | 146.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 95.0 % |
| Density: | | 0.740 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23753 | Batch Number: | 1LANDA1856 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68480 | Analysis Date: | 10/30/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 146000.0 g | | |
| Pu mass | 4.77E+001 | +- 1.15E+001 | g |
| TRU Alpha Activity | 7.29E+000 | +- 2.19E+000 | Ci |
| TRU Activity Concentration | 4.99E+004 | +- 1.50E+004 | nCi/g |
| Pu-239 Equivalent Activity | 7.39E+000 | +- 2.19E+000 | Ci |
| Pu-239 FGE | 5.35E+001 | +- 1.16E+001 | g |
| Decay heat | 2.35E-001 | +- 7.24E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 7.25E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.03E-002 |
| U234 | 1.87E-001 | 1.16E-003 | 2.47E-004 | 0.00E+000 |
| U235 | 1.33E+001 | 2.88E-005 | 6.11E-006 | 4.94E-006 |
| NP237 | 9.35E-002 | 6.59E-005 | 1.26E-005 | 3.82E-006 |
| PU238 | 4.36E-003 | 7.45E-002 | 2.14E-002 | 1.29E-003 |
| U238 | 1.28E+003 | 4.30E-004 | 8.59E-005 | 7.12E-005 |
| PU239 | 4.48E+001 | 2.78E+000 | 7.11E-001 | 4.79E-002 |
| PU240 | 2.86E+000 | 6.50E-001 | 1.90E-001 | 1.12E-002 |
| AM241 | 1.10E+000 | 3.79E+000 | 2.07E+000 | 9.68E-002 |
| PU241 | 5.48E-002 | 5.64E+000 | 1.65E+000 | 9.73E-002 |
| PU242 | 9.55E-003 | 3.77E-005 | 1.10E-005 | 0.00E+000 |
| AM243 | 9.56E-003 | 1.91E-003 | 3.70E-004 | 1.33E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 11-4-13

## Automated Independent Technical Review

Count Sequence Number: 23753 Batch Number: 1LANDA1856
Counter ID: MCS HENC #1
Container ID: 68480
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/30/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>U-235 mass is greater than the upper limit of 10.0 g.<br><br>Total U mass is greater than the upper limit of 500.0 g. | Ok<br><br>U235/U238 verified by gamma spectrum. Results valid. |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 10-31-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68480**

BDR Number: **LA13FG2112**

Sampling Date: **11/4/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 391.40 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131104c\
Data File : 68480.D
Acq On : 4 Nov 2013 10:59 am (#1); 04-Nov-13, 10:58:55 (#2)
Operator : EL
Sample :
Misc : 55 Gallon Drum Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 04 11:08:00 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.562 | 96 | 4827927 | 205.75 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 3752101 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.621 | GC1 | 2943 | 391.40 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | | |
|---|---|---|
| [X] RTR Examination | [ ] RTR Replicate Scan | [ ] RTR Independent Observation |
| Site ID: | LANL | |
| Batch Number: | LA-RTR2-13-0119 | |
| Examination Date: | 10/28/2013 | |
| Waste Container ID: | 68511 | |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0119 | A&B |
| Procedure and Revision No.: | CCP-TP-053 | Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A | |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 161.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 15.9 kg |
| Rigid Liner and Liner Vent Description: | Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes<br>Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [X] Yes [ ] N/A<br>Punctured: [ ] No [X] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [X] No [ ] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 50 % |

# CCP Radiography Data Sheet



Waste Container ID: 68511

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | Scrap metal |
| AM: | |
| OM: | |
| OI: | |
| C: | |
| R: | |
| XPM: | Plastic sheeting |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 109.0 |
| Plastics (PP): Rigid Liner/Lid Liner Bag (Inside POC) | 8.1 |
| Other: Fiberboard (CP), Liner/Sleeve(Inside POC) | 28.0 |
| Total Packaging Weight | 145.1 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | 0.8 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 13.1 |
| Soils (S): | |
| Total WMP Weight: | 15.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68511

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

*Comments:* Standard Pipe Overpack Container (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Benito Maestas | | 10/28/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68511 | Count Sequence Number: | 23742 | | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 10/29/2013 12:08:52 PM | | | | |
| Description 1: | 1LANDA1855 | | | | |
| Description 2: | POC 161.0 | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 15.9 | kg | Net: | 15.9 kg |
| Container: | Volume: | 208.0 | l | Full: | 95.0 % |
| Density: | | 0.675 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 23742 | Batch Number: | 1LANDA1855 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68511 | Analysis Date: | 10/29/2013 |

| | | |
|---|---|---|
| Net Weight | 15900.0 g | |
| Pu mass | 2.09E+001 +- 9.45E+000 | g |
| TRU Alpha Activity | 2.80E+000 +- 1.06E+000 | Ci |
| TRU Activity Concentration | 1.76E+005 +- 6.64E+004 | nCi/g |
| Pu-239 Equivalent Activity | 2.84E+000 +- 1.06E+000 | Ci |
| Pu-239 FGE | 1.97E+001 +- 9.43E+000 | g |
| Decay heat | 8.99E-002 +- 3.44E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.95E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 8.80E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.73E-006 |
| NP237 | 2.62E-002 | 1.85E-005 | 3.43E-006 | 2.48E-006 |
| PU238 | 1.91E-003 | 3.27E-002 | 1.62E-002 | 5.35E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.36E-005 |
| PU239 | 1.96E+001 | 1.22E+000 | 5.85E-001 | 1.99E-002 |
| PU240 | 1.26E+000 | 2.85E-001 | 1.43E-001 | 4.66E-003 |
| AM241 | 3.67E-001 | 1.26E+000 | 8.68E-001 | 9.12E-002 |
| PU241 | 2.40E-002 | 2.48E+000 | 1.24E+000 | 4.05E-002 |
| PU242 | 4.19E-003 | 1.66E-005 | 8.28E-006 | 0.00E+000 |
| AM243 | 1.09E-002 | 2.17E-003 | 3.98E-004 | 1.15E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 10/31/13

ITR: _____ Date: 10-31-13

## Automated Independent Technical Review

Count Sequence Number: 23742 Batch Number: 1LANDA1855
Counter ID: MCS HENC #1
Container ID: 68511
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 10/29/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 10-30-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68511**

BDR Number: **LA13FG2115**

Sampling Date: **11/13/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 444.06 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

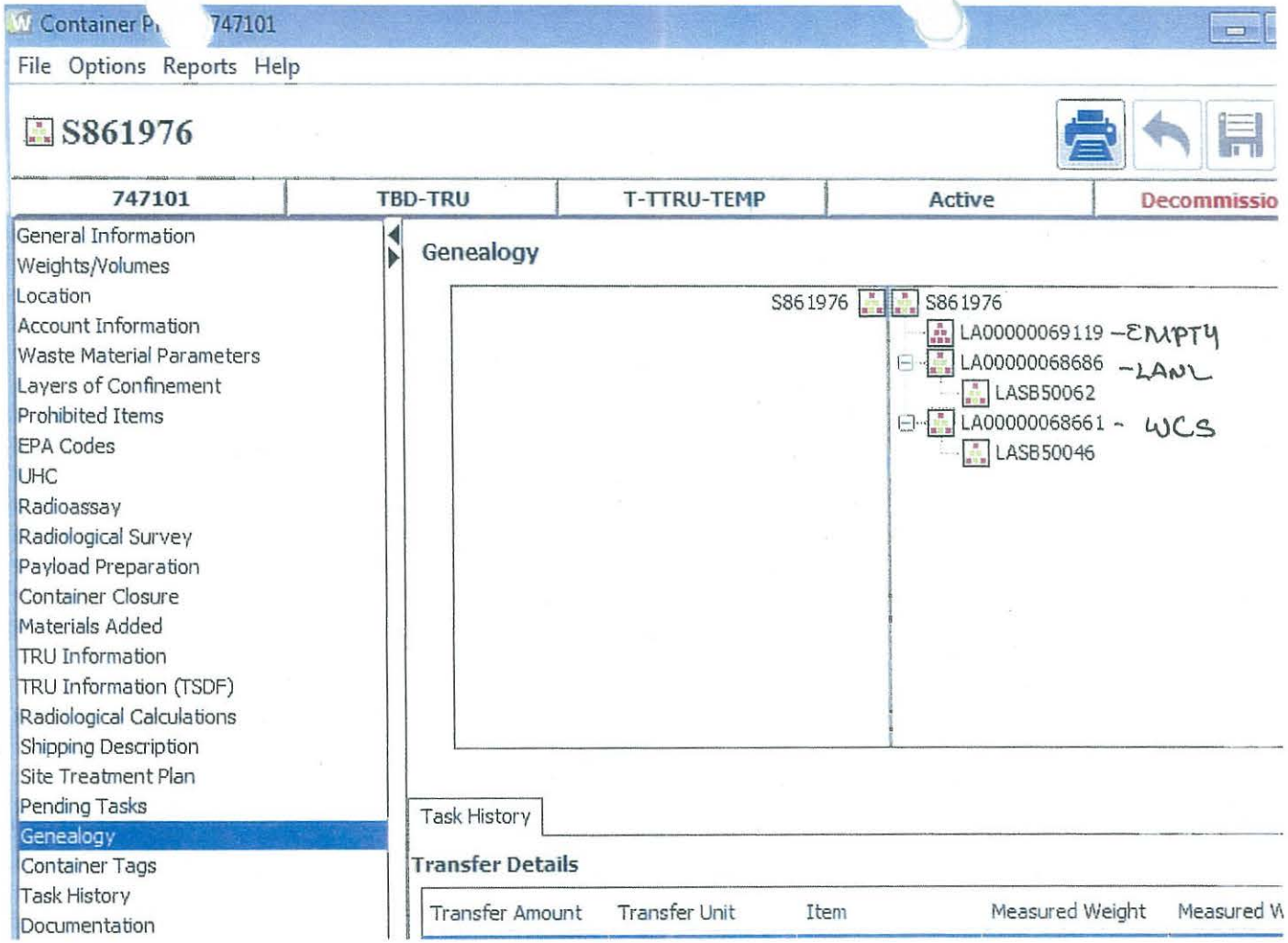
Data Path : C:\msdchem\1\DATA\131113c\
Data File : 68511.D
Acq On : 13 Nov 2013 1:23 pm (#1); 13-Nov-13, 13:23:10 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 13 13:31:43 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.516 | 96 | 4457509 | 205.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 5.839 | 117 | 3418839 | 177.50 | ppmv | -0.02 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.604 | GC1 | 3339m | 444.06 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S861976


Container P 747101
File Options Reports Help
S861976
747101
TBD-TRU
T-TTRU-TEMP
Active
Decommissio
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Genealogy
S861976
S861976
LA00000069119 -EMPTY
LA00000068686 -LANL
LASB50062
LA00000068661 - WCS
LASB50046
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured W

**ATTACHMENT 1**
Page 1 of 4

Working Copy

**WCRRF WCG WASTE PROCESSING DATA SHEET** Date: 12/4/13 HS

4.1[6][B] Parent Waste Container No.: S861976

6.2[4] Date Processed: 12-4-13

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☑ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☐ Moderate (≤ 10 rem/hr) ☑ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10-14-14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible) N/A
(SAC 5.10.1.7.2) (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: Federico Arbeloa / [signature] 1228826 12-4-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S861976

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 423.2 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 423.2 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced. N/A
Initials Z# Date

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

N/A / /
EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S861976

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 686661 | 68686 | | |
| 10.1[4] | Daughter Drum Filter No. | LM-863 | LM-898 | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10326 | L-10106 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | 501578 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | ☐ YES | | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | ☐ YES | | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | N/A | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 15 gallons | 6 gallons | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | lead shielding | lead shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | N/A | | |
| 10.3[9][B] | PCB Item ID No. | | | N/A | |
| 10.3[10] | Remaining Waste Description | See Comments | See Comments | | N/A |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 75% | 90% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Acid neutralizer Absorbent kitty litter | Acid neutralizer kitty litter Plastic shroud bag | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S861976

Comments: Plastic, Nitrate Salts, Room trash, Kitty litter, 1 gallon plastic bottle cut in half;

11.1[1] Performed By: Federico Robledo 1 [signature] 122884 / 12-4-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Martinez [signature] 149235 / 12/6/13 0856
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 2
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: _____

Lot No.: _____

Manufacture Date: _____

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Tolerance: | | |

Overpack filtered vent information:

Manufacturer: _____

Model No.: _____

Serial No.: _____

Manufacture Date: _____

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ Yes ☐ No

5. [11] Performed By: _____ / _____ / _____
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb

5. [18] 2-in. bung plug torque value: _____ ft-lb

Comments: Drum not Prepd at WCRRF

8.1[1] Performed By: Frederick Bobleter / _____ 1205826 12-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Gilbert Martinez / _____ 1492351 12/6/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

Working Copy
Date: 12/4/13 HS

**WCRRF OVERPACK DRUM CLOSURE DATA SHEET**

7.[17] Overpack Drum Unique Identifier No.: 69119

7.[23] Overpack drum closure ring torque wrench information:
M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 16-80
Tolerance: +/- 3% cw +/- 6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Federico Hebbler / [signature] 1228826 12-4-13
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 164.8 lb

Comments: N/C

8.1[1] Performed By: Federico Hebbler / [signature] 1228826 12-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez / [signature] 146285 12/6/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy

**WCRRF DRUM PREPARATION DATA SHEET** Date: 11/12/13 HS

| | | | |
|---|---|---|---|
| 5.[34][E] | | Drum ID No.: | 68661 |
| 5.[3] | Drum information: | Purchase Order No.: | 501578 |
| | | Lot No.: | 0240119 |
| | | Manufacture Date: | 2013 |
| 5.[17] | Drum Liner Bag/Filter Assembly: | Manufacturer: | BAP |
| | | Model No.: | 60CPVC-1.5-2 SAW |
| | | Serial No.: | L-10326 |
| | | Manufacture Date: | 6-13 |

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12-18-13 | 8 5 14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | +/-4% cw +/-6% ccw | +/-3% cw +/-6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederick Achleh / [signature] 1228826 / 11-12-13
Operator (print) Signature Z # Date

| | | | |
|---|---|---|---|
| 5.[23] | Filtered vent information: | Manufacturer: | Nucfil |
| | | Model No.: | 019DS |
| | | Serial No.: | 17 dd3 ~~L-10326~~ LM-863 |
| | | Manufacture Date: | 6-13 |
| 5.[26] | Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: | | 120 in-lb |
| 5.[29][B] | 2 in. bung plug torque value: | | 30 ft-lb |
| 5.[30] | Scale File ID number: | | 0190065 |

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68661

Comments: N/C

5.[35] Performed By: Federico Rodriguez / [signature] 1228826 / 11-12-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [signature] 149235 12/6/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

**WCRRF DRUM CLOSURE DATA SHEET**

6.[3] Drum ID No.: 68606

6.[9] Drum closure ring torque wrench information:

M&TE No.: CR8369
Cal. Expiration Date: 12-18-13
Range: 16 - 80 ft-lb
Tolerance (+/-): +/- 3% CW +/- 6% CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Frederico Robledo / [signature] / 1228826 / 12-4-13
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | | |
| Range: | N/A in-lb | N/A ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 608661

6.[26] Scale File ID number: 0190165

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 309.4 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: Frederick McCloskey [signature] 1228826 12-4-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez [signature] 149235 12/6/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68686

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 024 0119
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6epve-165 2.5PE
Serial No.: L-10106
Manufacture Date: 05/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 100216 | 036245 |
| Cal. Expiration Date: | 12/18/13 | 08/05/14 |
| Range: | 40-200 in-lb | 16-30 ft-lb |
| Tolerance (+/-): | ± 4/cw ± 6/ccw | ± 3/cw ± 6/ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Andrew H Romero (Operator (print)) Andrew H. Romero (Signature) 187006 (Z #) 11/6/13 (Date)

5.[23] Filtered vent information:
Manufacturer: NucFil
Model No.: 0190S
Serial No.: LM-898
Manufacture Date: 12/12

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 68686

Comments: N/A

5.[35] Performed By: Andrew H. Romero (Operator (print)) Andrew H. Romero (Signature) 187006 (Z #) 11/18/13 (Date)

7.1[4] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) (Signature) 149238 (Z #) 12/6/13 (Date)

**ATTACHMENT 2**
Page 1 of 2

**WCRRF DRUM CLOSURE DATA SHEET**

6.[3] Drum ID No.: 686866

6.[9] Drum closure ring torque wrench information:

M&TE No.: 035369
Cal. Expiration Date: 12-18-13
Range: 16 - 80 ft-lb
Tolerance (+/-): +/- 3% CW +/- 6% CCW

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: [signature] / [signature] / /
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N | N |
| Range: | B in-lb | A ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A / / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 681086

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 367.2 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: [illegible] / [illegible] 1275826 12-4-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez / [illegible] 169225 12/6/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 3**
Page 1 of 1

Working Copy
Date: 12/10/13 12/9/13 HS

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: S861976

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

6.3[18] Prepared parent 55-gal drum weight (lb): 423.2

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: GERALD ESPINOZA [signature] 125772 12-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Montano [signature] 149235 12-6-13
Supervisor or designee (print) Signature Z # Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: [signature] 149235 12/6/13 0740
SOS/SOM or designee (print) Signature Z # Date Time

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

1937 SP 17

## Production Control

Container ID: S861976 Container Type: 55-GAL Gross Weight (lbs): 440
Inner Seal #: 020314 Filter Prefix: LAVC Filter Serial #: 03498
Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 A0755
Total PE-Ci Activity: 5.85E+00 Equivalent Combustible PE-Ci: 2.20E+00 AM-241 PE-Ci: 4.75E-01
Total Fissile Gram Equivalents: 64.7 Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): D007; D008; D009
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 5/3/2007 Comment: Liquids, Impenetrable Obj, Liner Not Punctured Liquid Location: 24"
Certified RTR Comment: None
Prohibited Items: ☑ Sealed > 4 Liters ☑ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE ☑ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: Susan Ramsey / Susan J. Ramsey / 100681 / 12/20/12
Production Control (Print) Signature Z Number Date

## WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Nitrate Salts
Net Wt: 380# Generator info shows 11 items of nitrate salts; items weighed between 10 & 43#. No RTR BDR. Nitrate salts typically packaged in plastic bags; undocumented liquids for debris may be present. RTR PS shows prohibited liquids & impenetrable objects along w/ unpunctured liner. No chemicals identified. Nitrate salts carry waste codes for chromium lead and mercury. Nitrate salts require repack w/ admixture.

Performed By: Valerie Rhodes / Valerie Rhodes / 112609 / 1/17/13
WDP Engineering (Print) Signature Z Number Date

## TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push or press on waste with hands. Use kevlar gloves during processing.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: USE Proper PPE And Kitty Litter Kabob

Performed By: Jose Jerez / Jose Jerez / 149235 / 6/20/13
TRU Remediation Operations (Print) Signature Z Number Date
22145Z 6/22/13

IHS Review. Jalen Arnold CSO may contain Pb, Hg + Cr
No other concerns 1-29-13

## Noncertified TRU Waste Drum Item Information

DrumID: 020314

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12LR19W1 | | 15.210 | NITRATE SALTS | | 2.38 | 52 | 9/13 | G468 | |
| 2 | 12EV18E1 | | 4.850 | NITRATE SALTS | | 0.57 | 52 | 9/13 | G468 | |
| 3 | 12OX12W1 | | 5.370 | NITRATE SALTS | | 1.3 | 52 | 9/13 | G468 | |
| 4 | 12DS17W1 | | 13.060 | NITRATE SALTS | | 3.85 | 52 | 9/13 | G468 | |
| 5 | 12OX12E1 | | 11.240 | NITRATE SALTS | | 1.67 | 52 | 9/13 | G468 | |
| 6 | 12OX19E1 | | 7.480 | NITRATE SALTS | | 1.04 | 52 | 9/13 | G468 | |
| 7 | 12DS26W1 | | 10.720 | NITRATE SALTS | | 19.72 | 52 | 9/13 | G468 | |
| 8 | 12DS26E1 | | 12.730 | NITRATE SALTS | | 18.45 | 52 | 9/13 | G468 | |
| 9 | 1DS6W1 | | 19.400 | NITRATE SALTS | | 13.81 | 52 | 9/13 | G468 | |
| 10 | 12LR18W1 | | 4.860 | NITRATE SALTS | | 1.51 | 52 | 9/13 | G468 | |
| 11 | 12OX19W1 | | 14.120 | NITRATE SALTS | | 4.39 | 52 | 9/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 199.5

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 68.69 | 119.04 |
| Totals | 68.69 | 119.04 |

**ATTACHMENT 1**
Page 1 of 1

## TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 4/18/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 586976 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 190S | | | | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 938.28 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Erik Loechell (CCP Print) , 234183 (Z#)

Reviewed By: Nathan Wales (CCP Print) , 238866 (Z#)

Comments:

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Susan Ramsey (Waste Handling Operator (print)) , Susan L. Ramsey (Signature) 110068 (Z#) 5/20/13 (Date)

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130418c\
Data File : S861976.D
Acq On : 18 Apr 2013 2:11 pm
Operator : EL
Sample :
Misc : 55 GAL DRUM FROM FILTER-UN-19DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 15:39:40 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.057 | 96 | 8450713 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.636 | 117 | 6822413 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.897 | GC1 | 267627m | 938.28 | ppmv | |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Thu Apr 18 15:39:45 2013 UNIT12

12/4/13

0613 ASSUMING OPERATIONS CENTER H SMITH

0625 STARTING PRE-JOB BRIEFING

0700 PRE JOB CONCLUDED

0723 OPERATORS ENTER FACILITY TO INSPECT GLOVEBOX GLOVES FOR GLOVE CHANGES

0815 OPERATORS NOTIFIED OPERATIONS CENTER GLOVEBOX GLOVE STATION #7, WILL NEED TO BE CHANGED.

0821 MODE CHANGE DECREASE TO WARM STANDBY IN TA50-69 AND WCRF YARD.

0832 STARTING GLOVEBOX GLOVE CHANGES AT STATION #7 BOTH LEFT & RIGHT GLOVES

0858 COMPLETED GLOVE CHANGES

0904 MODE CHANGE INCREASE WCRR YARD AND TA50-69 NOW IN OPERATIONS MODE

0920 OPERATORS ADVISE OPS CENTER ON POST JOB SURVEYS RCT FOUND 10 DPM ALPHA AT STATION #7. 12/4/13 WIPE DOWN AND WILL REEVALUATE.

0934 OPERATORS ADVISED OPERATION CENTER SMEARS FROM GLOVE SURVEYS WERE NDA

0936 BAGGING OFF, BAGGING ON DAUGHTER

0953 BAG OFF COMPLETE AND CONTINUING TO PROCESS

1005 ENMD DIVISION BEP MEETING BEGINNING

1014 BAGGING OFF, BAGGING S861976

1116 OPERATORS NOTIFIED OPS CENTER OF LEFT HAND CONTAMINATED GLOVE WHILE PERFORMING BAG CUT DURING BAG OFF, PPE GLOVE REMOVED AND RCT'S STATED LEVEL BELOW RWP LIMITS AND OPERATORS CONTINUED WITH OPERATION

1144 OPERATORS NOTIFIED OPERATIONS CENTER OF 15 GALLONS ON FLUIDS IN S861976, AND DRUM STILL CONTAINS FROZEN MATTER

1154 BAGGING OFF, BAGGING ON 1 DAUGHTER

1155 LATE ENTRY: ENMD DIVISION BEP BRIEFING CONCLUDED 1145 HS

1210 BAG ON BAG OFF COMPLETED

CONTINUED ON NEXT PAGE H SMITH

12-4-13 CONTINUED FROM PREVIOUS PAGE M SMITH

1250 OPERATORS PUT WASTE IN SAFE CONFIGURATION TO PAUSE WORK FOR MEETING AND LUNCH

1510 WORK SCHEDULE BRIEFING CONCLUDED 12/4/13 HS

1620 OPERATORS DEMESTING AND BAGGING ON.

1700 STARTING OUTSIDE ROUNDS

1720 BAG ON BAG OFF COMPLETED, BAG ON 68734

1730 OUTSIDE ROUNDS COMPLETED

1731 BEGIN MOVEMENT OUT OF TA50-69 INTO TA50-194/75

1731 STARTED INSIDE ROUNDS

1749 ITEM #63 INSIDE ROUNDS OOS, POD IN PLACE PERMISSION TO PROCEED PER COG DOCUMENTATION

1755 MOVEMENT INTO TA50-194/75 IS COMPLETED.

1756 INSIDE ROUNDS COMPLETE

12-4-13 1800 BEING RELIEVED BY TERRI COLEMAN M SMITH

NO FURTHER ENTRIES ON THIS PAGE M SMITH

12-4-13 DAYSHIFT

0600 Reviewed shift turnover checklist and assumed the WCRR SOM position [illegible]

0658 Completed attending the pre-job brief conducted by the SOS (Clarissa). The safety topic was high wind, be careful when opening transportainer doors or canopy shed/PPE doors. During shift relief, it was reported stations 1, 2, 3, 4, 7, and 8 gloves require changing due to wear. The PIC and RCT will inspect prior to operations commencing. There is one scheduled transfer out.

0708 Completed daily POD call in with ARER 6 - SOM

0815 Inside operations report they will change station 7 - LH R hand -

0821 Mode Change: 50/64 and yard transition from Operations/Operations to Warm/Warm

0832 The swipe radio was checked and was noted operational, no battery required

0856 Glove change noted completed.

0904 Mode Change 50/64 and yard transition from Warm/Warm to Operations/Operations

0935 Inside operation initiate bag off and bag on of 1 daughter of Parent 68725 SP-72.

1010 Initiate Training in Operations Center on EWMD Division Bldg Emergency Plan Ops Center Protocol work (C.D) as trainer.

1041 Inside Operations report bagging off and bagging on Parent SB61976.

1116 Inside Operations report that the left hand/PPE glove was contaminated during bag off; RCTs removed and contained/threw away glove. Levels were within RCT limits PPE glove replaced and operations continued.

1144 Operators report 15 gallons of liquid from parent SB61976 and they observe frozen matter within the drum. It is noted as Ø.

1154 Operators are bagging off 1 daughter and bagging on another

1250 Operations place WCR in a safe configuration and exit for lunch

1310 Operations completed meeting with ES Project Manager and reenter 50/64

1320 Operations initiated demisting 2 parents and will perform bag off/bag on.

1718 The bag off and bag on is noted complete Parent drum bagged on is 68734

1731 Operations initiate movement of 4 drums.

1750 All movements were completed, WCR secured for night shift.

1800 Relieved of SOM by R. Artzer [illegible]

No further Entries this Page

12-4-13

0625 Assuming WCREF SAS position.
0626 Starting Pre-job briefing
0700 Pre job concluded.
0818 Circle inspection complete will need to change out 4th station 7 left and right
0821 made change to warm on WCREF yard and TA50 L
0852 Started glove changes
0858 Glove changes completed
0914 made change performed TA50 L9 and WCREF yard in operations
0920 Operators made required ops center that post job results showing 10 dpm alpha from station 7 glove changes RCTs Operations 12-4-13 reperforming smears after wipe down

0935 RCT resurvey of smears of Station 7 are LLA
0936 Bagging off daughter, bagging on daughter.
0953 Bag on, bag off complete
1000 Briefing being conducted on emergency plan operations Centers response Protocol
1041 Bagging off, bagging on S84197L
1116 Inside RCA notified ops center of a left hand PP glove while performing bag out. PPE glove removed and RCTs have stated RCA limits not exceeded. Operators continuing with operations.
1124 Inside RCA notified ops center of 15 gallon of liquid Chem drum 984197L and drum still contains LCO
1155 Bagging off I daughter, Bagging on I daughter.
1156 late entry, Briefing completed at 1130 (JS)
1210 Bag on, Bag off Complete
1300 meeting with ES ops manager
1500 meeting concluded.
1620 starting to doff and bag Obb. Then bagging on 8878
1718 Bag on, bag off complete Donning after completion.
1721 Starting inside rounds
1730 Completed outside rounds.
1736 Starting movement out of 50-L9
1800 Complete inside rounds
1815 being relieved by SM Darrell Blair

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0135 |
| Examination Date: | 12/12/2013 |
| Waste Container ID: | 68661 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0135 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 139.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 106.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 65 % |

# CCP Radiography Data Sheet



Waste Container ID: 68661

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags, liner lid |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 5.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 7.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 94.1 |
| Soils (S): | |
| Total WMP Weight: | 106.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68661

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 12/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68661 | | Count Sequence Number: | 24006 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 12/17/2013 2:00:48 PM | | | | |
| Description 1: | 1LANDA1881 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 106.0 | kg | Net: | 106.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 65.0 % |
| Density: | | 0.780 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24006 | Batch Number: | 1LANDA1881 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68661 | Analysis Date: | 12/17/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 106000.0 g | | |
| Pu mass | 1.75E+001 +- | 3.25E+000 | g |
| TRU Alpha Activity | 3.12E+000 +- | 1.03E+000 | Ci |
| TRU Activity Concentration | 2.95E+004 +- | 9.70E+003 | nCi/g |
| Pu-239 Equivalent Activity | 3.16E+000 +- | 1.03E+000 | Ci |
| Pu-239 FGE | 1.65E+001 +- | 3.24E+000 | g |
| Decay heat | 1.01E-001 +- | 3.41E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| CO60 | 1.29E-010 | 1.45E-007 | 3.62E-008 | 7.92E-008 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 5.07E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.99E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.80E-006 |
| NP237 | 4.67E-002 | 3.30E-005 | 6.55E-006 | 2.74E-006 |
| PU238 | 1.60E-003 | 2.74E-002 | 6.42E-003 | 1.13E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.36E-005 |
| PU239 | 1.65E+001 | 1.02E+000 | 2.01E-001 | 4.21E-002 |
| PU240 | 1.05E+000 | 2.39E-001 | 5.78E-002 | 9.86E-003 |
| AM241 | 5.35E-001 | 1.84E+000 | 1.01E+000 | 8.11E-002 |
| PU241 | 2.00E-002 | 2.06E+000 | 4.99E-001 | 8.51E-002 |
| PU242 | 3.51E-003 | 1.39E-005 | 3.36E-006 | 0.00E+000 |
| AM243 | 4.75E-003 | 9.50E-004 | 1.90E-004 | 9.70E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 12/19/13

ITR: _____ Date: 12.19.13

## Automated Independent Technical Review

Count Sequence Number: 24006 Batch Number: 1LANDA1881
Counter ID: MCS HENC #1
Container ID: 68661
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 12/17/2013

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>No Warnings Reported. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 12-18-13

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68661**

BDR Number: **LA13FG12133**

Sampling Date: **12/20/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 134.22 | |
| 74-82-8 | Methane | 6.56 | U |
| 67-56-1 | Methanol | 5.90 | |
| 60-29-7 | Ethyl Ether | 0.12 | U |
| 75-35-4 | 1,1-Dichloroethylene | 0.20 | U |
| 67-64-1 | Acetone | 0.42 | U |
| 75-34-3 | 1,1-Dichloroethane | 0.72 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.09 | U |
| 78-93-3 | Methyl ethyl ketone | 0.90 | U |
| 110-82-7 | Cyclohexane | 0.59 | U |
| 71-43-2 | Benzene | 0.17 | U |
| 107-06-2 | 1,2-Dichloroethane | 0.56 | U |
| 71-36-3 | 1-Butanol | 0.38 | U |
| 108-10-1 | Methyl isobutyl ketone | 0.66 | U |
| 108-88-3 | Toluene | 0.93 | U |
| 108-90-7 | Chlorobenzene | 0.67 | U |
| 100-41-4 | Ethylbenzene | 0.59 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 0.38 | U |
| 95-47-6 | o-Xylene | 0.36 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.65 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.78 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

16
~~17~~
EL 1-15-14

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131220c\
Data File : 68661.D
Acq On : 20 Dec 2013 1:15 pm (#1); 20 Dec 2013 1:14 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 20 13:23:47 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Tue Dec 03 09:52:38 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 4.057 | 96 | 7631500 | 207.75 | ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.636 | 117 | 6143223 | 178.75 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.913 | GC1 | 38287m | 134.22 | ppmv | |
| 4) Methanol | 0.831 | 31 | 2381 | 5.90 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

36
~~38~~ EL 1/8/14

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0135 |
| Examination Date: | 12/12/2013 |
| Waste Container ID: | 68686 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0135 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 166.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 133.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 75 % |

# CCP Radiography Data Sheet



Waste Container ID: 68686

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: Plastic bags |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 10.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 117.1 |
| Soils (S): | |
| Total WMP Weight: | 133.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68686

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |

Comments: N/A

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 12/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 68686 | | Count Sequence Number: | 24050 | |
| Operator: | D3PW2DK1\operator | | | | |
| Assay Start: | 1/3/2014 8:47:45 AM | | | | |
| Description 1: | 1LANDA1886 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gallon drum | | | | |
| Weight: | Net: | 133.0 | kg | Net: | 133.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 75.0 % |
| Density: | | 0.850 | kg /l | | |

## System Configuration

| | |
|---|---|
| Counter: | MCS HENC #1 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks On (GE - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 24050 | Batch Number: | 1LANDA1886 |
| Assay Instrument: | MCS HENC #1 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 68686 | Analysis Date: | 1/3/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 133000.0 g | | |
| Pu mass | 4.64E+001 +- | 1.11E+001 | g |
| TRU Alpha Activity | 8.79E+000 +- | 3.05E+000 | Ci |
| TRU Activity Concentration | 6.61E+004 +- | 2.29E+004 | nCi/g |
| Pu-239 Equivalent Activity | 8.89E+000 +- | 3.05E+000 | Ci |
| Pu-239 FGE | 4.38E+001 +- | 1.11E+001 | g |
| Decay heat | 2.85E-001 +- | 1.01E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 9.24E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.33E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 4.05E-006 |
| NP237 | 1.06E-001 | 7.49E-005 | 1.56E-005 | 4.90E-006 |
| PU238 | 4.23E-003 | 7.24E-002 | 2.07E-002 | 2.14E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.91E-005 |
| PU239 | 4.35E+001 | 2.70E+000 | 6.89E-001 | 8.00E-002 |
| PU240 | 2.78E+000 | 6.32E-001 | 1.84E-001 | 1.87E-002 |
| AM241 | 1.57E+000 | 5.38E+000 | 2.97E+000 | 1.43E-001 |
| PU241 | 5.28E-002 | 5.44E+000 | 1.59E+000 | 1.61E-001 |
| PU242 | 9.29E-003 | 3.67E-005 | 1.07E-005 | 0.00E+000 |
| AM243 | 1.85E-002 | 3.69E-003 | 7.74E-004 | 1.85E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.7.14

ITR: _____ Date: 1.9.14

## Automated Independent Technical Review

Count Sequence Number: 24050 Batch Number: 1LANDA1886
Counter ID: MCS HENC #1
Container ID: 68686
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/3/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 1-6-14

S861976

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **68686**

BDR Number: **LA14FG2003**

Sampling Date: **1/10/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

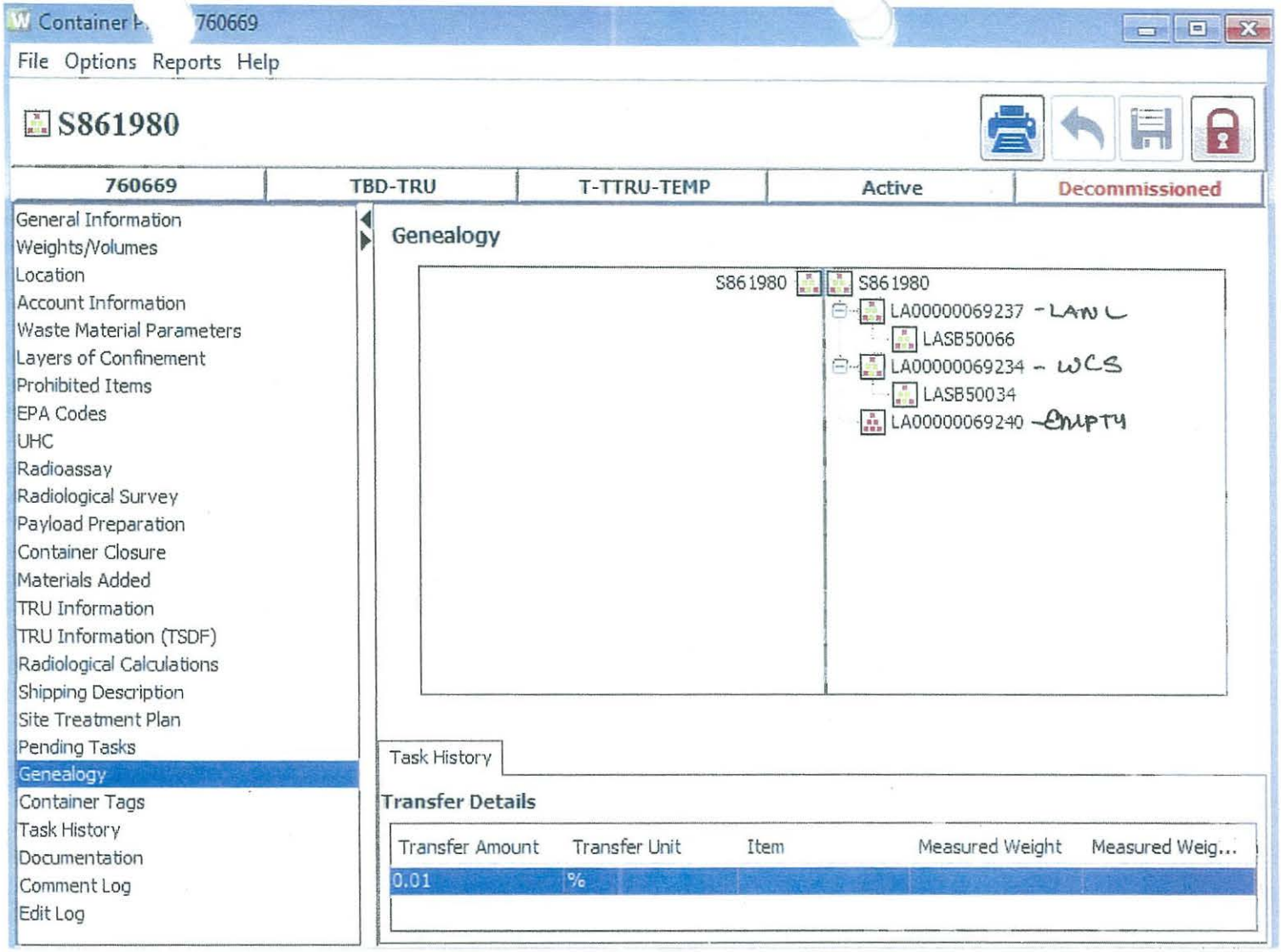
Data Path : C:\msdchem\1\DATA\140110c\
Data File : 68686.D
Acq On : 10 Jan 2014 2:22 pm (#1); 10-Jan-14, 14:22:03 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 10 14:30:40 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.587 | 96 | 3325252 | 205.75 | ppmv | 0.07 |
| 15) Chlorobenzene-d5 | 5.884 | 117 | 2670676 | 177.50 | ppmv | 0.02 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# S861980


Container H... 760669
File Options Reports Help
S861980
760669
TBD-TRU
T-TTRU-TEMP
Active
Decommissioned
General Information
Weights/Volumes
Location
Account Information
Waste Material Parameters
Layers of Confinement
Prohibited Items
EPA Codes
UHC
Radioassay
Radiological Survey
Payload Preparation
Container Closure
Materials Added
TRU Information
TRU Information (TSDF)
Radiological Calculations
Shipping Description
Site Treatment Plan
Pending Tasks
Genealogy
Container Tags
Task History
Documentation
Comment Log
Edit Log
Genealogy
S861980
S861980
LA00000069237 - LANL
LASB50066
LA00000069234 - WCS
LASB50034
LA00000069240 - Empty
Task History
Transfer Details
Transfer Amount
Transfer Unit
Item
Measured Weight
Measured Weig...
0.01
%

1-18-14

**ATTACHMENT 1**
Page 1 of 4

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 5861980

6.2[4] Date Processed: 1/18/14

4.1[6][B] Processing Activity (EP-DIV-AP-0107):
☐ > 190 mrem/hr ☑ PID ☐ Split ☐ Repack

4.1[6][B] Prohibited Items:
☐ Sealed Containers > 4L ☑ Liquids ☐ Pressurized Containers ☐ N/A

4.1[6][B] Parent Waste Container RCRA Designations: D007, D008, D009

4.1[7] Activity Hazard Classification based on Anticipated Extremity Radiation Dose Rate:
☑ Moderate (≤ 10 rem/hr) ☐ High/Complex (> 10 rem/hr)

4.3[1]/4.3[2] ($) TA-50-69 is in the OPERATION or WARM STANDBY MODE (TSR 1.2) ☑ OPERATIONS ☐ WARM STANDBY ☐ N/A

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 10/14/14

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ N/A

4.3[6] ($) Stationary Fire Watch has been established: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) _____ (Initial and Date)

4.3[7 [A] Parent Waste Container degraded, loss of integrity, or weighs greater than 468 lb but less than or equal to 624 lb:
☑ YES ☐ NO ☐ N/A

4.3[8][D] WCG glove and bag-in/bag-out bag inspection: ☑ SAT ☐ UNSAT ☐ N/A

Performed By: JOE QUINTANA, Joe Z 239987, 1/18/14
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5-86980

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 450.8 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 450.8 lb

6.2[7] ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

6.2[17][D] Drum lift hinge pin retaining clip replaced.

| Initials | Z# | Date |
|---|---|---|
| | N/A | |

6.2[28] Approval to leave a parent drum attached to the WCG overnight:

| EWMO-FOD (print) | Signature | Z # | Date |
|---|---|---|---|
| | N/A | | |

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5 861890

| | Daughter Drums | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 69234 | 69237 | | |
| 10.1[4] | Daughter Drum Filter No. JL825 | ~~CM 355~~ | JL814 | N | |
| 10.1[4] | Daughter Drum Bag Filter No. L12775 | ~~L12775~~ | L12777 | | A |
| 10.1[4] | Daughter Drum Purchase Order No. | 501892 | 501892 | | |
| 10.1[13][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[14][C][d]3/11.1[3] | WCG Fire Watch Secured | | ☐ YES | ☐ NO | ☑ N/A |
| 10.2[4] | POC bag-on bag: Manufacturer | | | | |
| | Model No. | | | | |
| | Serial No. | | | | |
| | Date of Manufacture | | | | |
| 10.2[5] | POC ID No | | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | | N | A | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | 1.5 GAL | N/A | N | |
| 10.3[5][A] | Free Liquid Volume/Units | 5 GALLONS | 1 GAL. | A | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N | A | | |
| 10.3[9][B] | PCB Item ID No. | | | | N A |
| 10.3[10] | Remaining Waste Description | SEE COMMENTS | SEE COMMENTS | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 85% | 80% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | KITTY LITTER | KITTY LITTER | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 861980

Comments: LEAD; SOILS, OF LIQUID, PLASTICS
SALTS, KITTY LITTER

11.1[1] Performed By: JOE QUINTANA / Joe Q 239987 / 1/18/14
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins / CM 240092 / 1/19/14 0818
SOG or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

| | |
|---|---|
| Purchase Order No.: | 501893 |
| Lot No.: | 0244438 |
| Manufacture Date: | 13 |

5.[8] Overpack filtered vent and 2-in. bung torque wrench information:

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11-12-14 | 8-5-14 |
| Tolerance: | ±4% CW ±6% CCW | ±3% CW ±6% CCW |

Overpack filtered vent information:

| | |
|---|---|
| Manufacturer: | NUCFIL |
| Model No.: | 0.13 |
| Serial No.: | HL-856 |
| Manufacture Date: | 3/11 |

5.[9] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☒ Yes ☐ No

5. [11] Performed By: Gerardo Espinoza / Howard Smith / Howard Smith — 237720 / 1222773 — 1/16/14 / 1/16/14
Waste Handling Technician (print) Signature Z# Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5. [18] 2-in. bung plug torque value: 30 ft-lb

Comments: N/C

8.1[1] Performed By: Gerardo Espinoza / Howard Smith / Howard Smith — 237720 / 1222773 — 1/16/14 / 1/16/14
Waste Handling Technician (print) Signature Z# Date

8.1[6] Reviewed By: Clayton McMinn / CA — 124002 — 1/19/14
Supervisor or designee (print) Signature Z# Date

**ATTACHMENT 5**
Page 1 of 1

1-18-14 JC

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 69240

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038370
- Cal. Expiration Date: 8/2/14
- Range in ft-lb: 16-80
- Tolerance: +/- 3% cw, +/- 6% ccw

7.[24] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: JOE QUINTANA, Joe Z 239987 1/18/14
Waste Handling Technician (print) Signature Z # Date

7.[26] Overpack drum closure ring torque value: 60 ft-lb

7.[29] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[34][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 179.6 lb

Comments: N/C

8.1[1] Performed By: JOE QUINTANA, Joe Z 239987
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullis, CA 240096 1/19/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Date: 1-15-14

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 69234

5.[3] Drum information:
Purchase Order No.: 501892
Lot No.: 024449
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BAP
Model No.: 6 CAC 1.5-2 SAC
Serial No.: L-12775
Manufacture Date: 7/13

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11-12-14 | 8-5-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | +/- 4% or +/- 6% cw | +/- 2% or +/- 6% cw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: [illegible] [illegible] 123[illegible]61 1-15-14
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: Nucon
Model No.: 019 DS
Serial No.: JL 825
Manufacture Date: 10/11

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 20 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76 lbs

5.[34][E] Drum ID No.: 69234

Comments: N/C

5.[35] Performed By: GERALD ESPINOZA / HOWARD SMITH (Operator (print)) / [signature] (Signature) 237720 / 1267731 1-15-14 / 1/15/14 (Z # / Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) / [signature] (Signature) 1240021 1/19/14 (Z # / Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 62234

6.[9] Drum closure ring torque wrench information:
M&TE No.: 038370
Cal. Expiration Date: 8/2/14
Range: 16-80 ft-lb
Tolerance (+/-):

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: JOE QUINTANA / Joe Z 239987 / 1/18/14
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range: | in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ N/A

Performed By: N/A / /
Operator (print) Signature Z # Date

6.[17][C] 2 in. bung plug torque value: ft-lb ☑ N/A

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: in-lb ☑ N/A

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69234

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 347.0 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/L

6.[32] Performed By: JOE QUINTANA, Joe Q 239987, 1/18/14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins, CM 240092 1/19/14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

1-15-14 ω

## WCRRF DRUM PREPARATION DATA SHEET

| | | | |
|---|---|---|---|
| 5.[34][E] | | Drum ID No.: | 69237 |
| 5.[3] | Drum information: | Purchase Order No.: | 501892 |
| | | Lot No.: | 02/4449 |
| | | Manufacture Date: | 13 |
| 5.[17] | Drum Liner Bag/Filter Assembly: | Manufacturer: | DOP |
| | | Model No.: | 6 CNC-1.5-2 SAC |
| | | Serial No.: | L 12777 |
| | | Manufacture Date: | 7/13 |

5.[19] Filtered vent and 2 in. bung torque wrench information:

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 101310 | 036245 |
| Cal. Expiration Date: | 11-12-14 | 8-5-14 |
| Range: | 40-200 in-lb | 16-80 ft-lb |
| Tolerance (+/-): | +/- 4% cw +/- 6% ccw | +/- 3% cw +/- 6% ccw |

5.[20] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: [redacted] / [redacted] [redacted] 1-15-14
Operator (print) Signature Z # Date

| | | | |
|---|---|---|---|
| 5.[23] | Filtered vent information: | Manufacturer: | Nucon |
| | | Model No.: | 019 DS |
| | | Serial No.: | J-814 |
| | | Manufacture Date: | 10/11 |

5.[26] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: 120 in-lb

5.[29][B] 2 in. bung plug torque value: 30 ft-lb

5.[30] Scale File ID number: 019065

**ATTACHMENT 1**
Page 2 of 2

5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

5.[32] Drum tare weight (lbs): 76.1 lbs

5.[34][E] Drum ID No.: 69237

Comments: N/C

5.[35] Performed By: GERALD ESPENOZA / HOWARD SMITH (Operator (print)) / [signature] (Signature) 237120 / 1221731 (Z #) 1-15-14 1/15/14 (Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) / [signature] (Signature) 240092 (Z #) 1/19/14 (Date)

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 69237

6.[9] Drum closure ring torque wrench information:

M&TE No.: 038370
Cal. Expiration Date: 8/2/14
Range: 16-80 ft-lb
Tolerance (+/-): +/- 3%, cw
+/- 6%, ccw

6.[10] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ YES ☐ NO

Performed By: Joe Quintana / Joe Q / 239987 / 1/18/14
Operator (print) / Signature / Z # / Date

6.[12] Drum closure ring torque value: 60 ft-lb

6.[15] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

6.[17][A] Filtered vent and 2 in. bung torque wrench information: ☑ N/A

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | | |
| Cal. Expiration Date: | N/A | N/A |
| Range: | in-lb | ft-lb |
| Tolerance (+/-): | | |

6.[17][B] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☐ YES ☐ NO ☑ ~~N/A~~

Performed By: N/A / / / /
Operator (print) / Signature / Z # / Date

6.[17][C] 2 in. bung plug torque value: _____ ft-lb ☑ ~~N/A~~

6.[17][D] Filtered vent torque value [120 in-lb (96 to 144 in-lb)]: _____ in-lb ☑ ~~N/A~~

**ATTACHMENT 2**
Page 2 of 2

6.[3] Drum ID No.: 69237

6.[26] Scale File ID number: 019065

6.[27] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

6.[28] Drum gross weight: 382.8 lbs

6.[29] Drum gross weight recorded on drum lid in approximately 1/2 in. lettering: ☑ SAT ☐ UNSAT

Comments: N/C

6.[32] Performed By: JOE QUINTANA (Operator (print)) Joe Z (Signature) Z39987 (Z #) 1/18/14 (Date)

7.1[4] Reviewed By: Clayton Mullins (Supervisor or designee (print)) CA (Signature) 1240091 (Z #) 1/19/14 (Date)

UFT

1-17-14 jr

**ATTACHMENT 3**
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 5861950

6.3[15] ($) 55-gal drum wrapped in protective covering: (ISI 6.3.6) ☑ SAT ☐ UNSAT

6.3[16] Platform scale serial number: 019065
Platform scale calibration expiration date: 10/14/14

6.3[18] Prepared parent 55-gal drum weight (lb): 450.8

6.3[19] ($) Prepared parent 55-gal drum weighs < 624 lb: (SR 4.5.1) ☑ SAT ☐ UNSAT

Comments: N/C

8.1[1] Performed By: JOE QUINTANA / [signature] 239987 / 1/17/14
Waste Handling Technician (print) / Signature / Z # / Date

8.1[7] Reviewed By: Clayton Mullins / [signature] 124000 / 1/19/14
Supervisor or designee (print) / Signature / Z # / Date

8.1[8][B] Acceptance criteria satisfied: ☑ YES ☐ NO

8.1[8][D] Approved by: JOHN GUADAGNOLI / [signature] / 125695 / 1-PM / 0823
SOS/SOM or designee (print) / Signature / Z # / Date / Time

SP72

# LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Planning and Technical Solutions

Container ID: S861980 Container Type: STEEL DRUM (55 GAL) Gross Weight (lbs): 544.07
Total PE-Ci Activity: 3.96E+00 Equivalent Combustible PE-Ci: 3.49E+00
Total Fissile Gram Equivalents: 4.43E+01 Total Surface Dose Rate (mrem/hr): 10.7
EPA Code(s): D007A; D008A; D009B
Waste Description: LA-MIN02-V.001

Remediation/Characterization Activities: Ensure EPA Codes D007, D008 and D009 are indicated on the Haz Waste Label. A minimum of 1.2 volume of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts. No other prohibited items are indicated. No RTR Pre-screen is found.

Potential Safety Risks: Nitrate salts often contain free liquid and are packaged in individual plastic bags. Generator records indicate the container to have a net wt. is 129.57 kg with 14 items ranging from 4.59 kg to 13.48 kg.

Performed By: Barbara Trujillo (LTP-PTS (Print)) Barbara Trujillo (Signature) 167341 (Z#) 1/16/2014 (Date)

## IHS Representative

Potential IHS Safety Risks: May contain lead, chromium and Mercury.

Performed By: Tony Smallwood (IHS Representative (Print)) Tony Smallwood (Signature) 241659 (Z#) 1-16-14 (Date)

## LTP Engineering

Waste container remediation compliant with applicable facility safety basis requirements: ☒ Yes ☐ No

Engineering Comments: NA

Performed By: Valerie Rhodes (LTP Engineering (Print)) Valerie Rhodes (Signature) 112669 (Z#) 1/16/14 (Date)

## TRU Remediation Operations

Potential Safety Risks: Use proper PPE and kitty litter ratio

Performed By: Gilbert Martin (TRU Operations (Print)) [signature] (Signature) 112355 (Z#) 1/16/14 (Date)

## Operations Manager or designee

Processing Determination: ☒ Accept ☐ Reject

OM or designee Comments: Use proper and current procedures and SWO's

Approved By: Darrel L. Blain (OM or designee (Print)) [signature] (Signature) 218069 (Z#) 1/16/14 (Date)

## Noncertified TRU Waste Drum Item Information

DrumID: 020310

| Item No | ItemID | Process Status | Net Wt (kg) | Matrix | Meas Code | SNM (g) | MT | Auth (Pg/Ln) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12LR4W1 | | 10.270 | NITRATE SALTS | | 1.12 | 52 | 9/13 | G468 | |
| 2 | 12LR4E1 | | 9.280 | NITRATE SALTS | | 1. | 52 | 9/13 | G468 | |
| 3 | 12OX10W1 | | 7.480 | NITRATE SALTS | | 11.51 | 52 | 9/13 | G468 | |
| 4 | 12OX10E1 | | 10.780 | NITRATE SALTS | | 6.04 | 52 | 9/13 | G468 | |
| 5 | 12DS11W1 | | 12.200 | NITRATE SALTS | | 14.15 | 52 | 9/13 | G468 | |
| 6 | 12LR9E1 | | 6.030 | NITRATE SALTS | | 1.61 | 52 | 9/13 | G468 | |
| 7 | 12LR9W1 | | 11.210 | NITRATE SALTS | | 1.06 | 52 | 9/13 | G468 | |
| 8 | 12LR16W1 | | 9.950 | NITRATE SALTS | | 1.46 | 52 | 9/13 | G468 | |
| 9 | 12EV13E1 | | 5.980 | NITRATE SALTS | | 0.95 | 52 | 9/13 | G468 | |
| 10 | 12LR12W1 | | 13.480 | NITRATE SALTS | | 1.77 | 52 | 9/13 | G468 | |
| 11 | 12OX16E1 | | 12.550 | NITRATE SALTS | | 1.71 | 52 | 9/13 | G468 | |
| 12 | 12LR12E1 | | 8.930 | NITRATE SALTS | | 2.4 | 52 | 9/13 | G468 | |
| 13 | 12EV23W1 | | 6.840 | NITRATE SALTS | | 1.21 | 52 | 9/13 | G468 | |
| 14 | 12LR20W1 | | 4.590 | NITRATE SALTS | | 0.95 | 52 | 9/13 | G468 | |

## Noncertified Waste Drum Material Summary

Gross Wt (kg): 210.9

| Material Type | SNM (grams) | Items Net Wt (kg) |
|---|---|---|
| 52 | 46.94 | 129.57 |
| Totals | 46.94 | 129.57 |

**ATTACHMENT 1**
Page 1 of 1

**TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET**

5.[1] Sample Date: 4-18-2013

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 58619 80 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | | | | | | |
| Filtered Vent Type (5.[1]) | 19-DS | | | NA | | |
| Filtered Vent Unobstructed (5.[1]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| WIPP-Approved Filtered Vent (5.[2]) | ☑ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT | ☐ SAT ☐ UNSAT |
| Total CCP VOC value (< 7,000 ppm) (5.[4]) | 92526 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 538.76 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Erik Loechell / 234183
CCP (Print) Z#

Reviewed By: Nathan Wales / 237975
CCP (Print) Z#

Comments: — NA —

6.1[2][A] WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen – less than or equal to 3.2% (32,000 ppm)
- VOC – less than or equal to 7,000 ppm

6.1[3] Performed By: Barbara Trujillo Barbara Trujillo / 167344 1/16/14
Waste Handling Operator (print) Signature Z# Date

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130418c\
Data File : S861980.D
Acq On : 18 Apr 2013 12:54 pm (#1); 18 Apr 2013 12:53 pm (#2)
Operator : EL
Sample :
Misc : 55 GAL DRUM FROM FILTER-UN-19DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 18 12:02:39 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

| Compound | R T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| Internal Standards | | | | | |
| 3) Fluorobenzene | 4.063 | 96 | 8969814 | 207.75 ppmv | 0 00 |
| 15) Chlorobenzene-d5 | 6.639 | 117 | 7199641 | 178.75 ppmv | 0 00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.897 | GC1 | 153672 | 538 76 ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

VOCGAS.M Thu Jan 16 11:37:15 2014 UNIT12

1-8 14
0600 Assuming WCRR operations Coleman
0612 Beginning outside rounds.
0632 Outside rounds complete.
0640 Beginning inside rounds.
0654 Item #63 is CCS, PC Din place, okay to proceed per CSE documentation
0705 Inside rounds complete.
0725 Both rounds reviewed by SCS
0728 Mode change complete. We are now in operations in WCRR and 50-69
0845 Bagging off 1 daughter, bagging on S861980.
0914 Bagoff/on complete. PPE check is Sat.
1000 Initiating a drum movement from 50-69 to a transportainer.
1024 Drum movement out of 50-69 complete.
1030 Bagging off 1 daughter, bagging on another daughter. PPE check is Sat.
1050 Bagoff/on complete.
1138 Bagging off 1 daughter, bagging on S813513. PPE check is Sa
1205 Bagoff/on complete.
1224 Operators out for lunch.
1351 Initiating a drum movement from transportainer to 50-69. and 50-69 to a transportainer. Jc 1-18 14.
1410 Drum movement complete.
1502 Bagging off 1 daughter, bagging on another daughter. PPE check is Sat.
1534 Bagoff/on complete.
1553 Beginning inside rounds.
1614 Item #63 is CCS, PC Din place, okay to proceed per CSE documenta
1617 Inside rounds complete. Beginning outside rounds.
1635 Bagging off 1 daughter, bagging on another daughter.
1640 Outside rounds complete.
1647 Both rounds reviewed by SCS.
1648 Late entry-at 1337, operators back from lunch JC
1717 Bagging off 1 daughter, placing port cover on.
1748 Bagoff complete.
1807 Mode changed from ~~Warm~~ operations JC 1-18-14 to warm in yard + 50-6
1830 End of day. CCD position secure. Coleman
No further entries this page Coleman

1-18-14 WCRR - 50M

0558 Reviewed logs and assumed the WCRR 50M position John Gwadegnek

0627 Completed attending the pre-job brief conducted by Clayton the SOS. The Safety Topic was Carbon Monoxide Poisoning especially in winter months when letting cars warm up. SOS reviewed current status with 1 drum currently bagged on and ready to work. Current shift orders were reviewed.

0725 Rounds were completed and received

0728 Mode change: 50/69 and yard transition from Lunch/Jarvis to Operations/Operators.

0749 Initiated merge of Dome 224 work - prep empties and filter change out repack - for SwB - work to be conducted this afternoon (P. Ready) NRCA 4-50M - approved

0756 Discussed with operators in 50/69 contents of current drum bagged on, no liquids noted.

0801 Inside temperature is at 65°F and the setpoint is at 77°F

0838 Inside PIC requests to turn down the thermostat to 67°F, approved.

0846 Inside Operations initiate bag off of daughter generated from Parent 90927 and bag on of Parent 5861980 - SF: 72

0914 PIC informs OCC, that bag on and bag off is completed.

1001 Outside operators initiate a movement out of 50/69 to the transportainer

1018 Outside operators complete move to the transportainers - 6 drums total.

1032 Inside operators report bagging off 1 daughter and bagging on another

1137 Operators report bagging off 1 daughter and 1 Parent and bagging on Parent 5813513 SF: 21

1215 Operators complete bag off and bag on

1225 Operator exit facility 50/69 to initiate lunch break

1335 Operators enter 50/69 to start processing

1400 Operators initiate a movement into 50/69 2 drums (Parents total)

1410 Entry into 50/69 is noted completed

1456 Operators report 5813513 SF 21 is noted as 1-55 gallon bag of sludge type material / - low dose.

1501 Inside Operations initiate bag off of 1 daughter and bag on of another and continue to process

1524 Bag off of daughter is noted completed

1634 Operators initiate bagging off 1 daughter and bagging on another daughter.

1654 Inside operators report bagging off/on completed.

1717 Inside operators initiate bag off of daughter and parent and will place port cover on WCG

1748 Bag off completed, port cover is in place and the WCG is in a safe configuration.

1754 Completed review of 7 work packages and operated with current Rad

1807 Mode Change: 50-69 and yard transition from Operations/Operators to Lunch/Jarvis

1813 Ensured inside temperature is set at 77°F. Reviewed rounds and RCRA completed

1818 Secured the WCRR 50M position John Gwadegnek

(No further entries this page)

# WCRRF SOS Log Book

1/18/14
0600 Assuming SOS position. CA
0615 Starting Pre-Job, discussed watching for signs of carbon monoxide poisoning.
0635 Pre-Job complete.
0725 Signed off on the rounds.
0728 Mode change complete, WCRRF yard and 50-69 are now in Operations. continuing to process drum left on over night.
0846 Bagging off, bagging on 5861980.
0914 Bag off/on complete.
1000 Starting movement out of 50-69.
1024 Movement out complete.
1030 Bagging off 1st daughter, bagging on a 2nd.
1050 Bag off/on complete.
1138 Bagging off 2nd daughter, bagging on 5813513.
1205 Bag off/on complete.
1357 Starting movement into 50-69.
1410 Movement in complete.
1502 Bagging off 1st daughter, bagging on a 2nd.
1524 Bag off/on complete
1635 ~~1550 Starting~~ 1-18-14 Bagging off 2nd daughter, bagging on a 3rd.
1647 Signed off on the rounds.
1654 Bag off/on complete.
1717 Bagging off 3rd daughter to complete processing
1748 Bag off complete.
1807 Mode change complete, WCRRF yard and 50-69 are now in Operations.
1-18-14 1812 Securing SOS position. CA

No Further Entries on this Page

# CCP Radiography Data Sheet

CCP-TP-053 Attachment 2



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0010 |
| Examination Date: | 1/24/2014 |
| Waste Container ID: | 69234 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0010 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container?<br><br>(e.g., Prohibited Items) | [X] No [ ] Yes<br><br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 157.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 123.6 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 69234

| Section 3: Container Inventory and Comments (Detailed descriptions) | |
|---|---|
| IM: | |
| AM: | |
| OM: | Scrap lead |
| OI: | |
| C: | |
| R: | |
| XPM: | Liner lid, plastic bags |
| OR: | |
| IN: | Homogeneous solids |
| S: | |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 1.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 7.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 115.6 |
| Soils (S): | |
| Total WMP Weight: | 123.6 |

# CCP Radiography Data Sheet



Waste Container ID: 69234

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block, except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

RTR Operator:

| Thad Hasselstrom | Thad Hasselstrom | 1/24/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69234 | | Count Sequence Number: | 16902 | |
| Operator: | DCLTD231\Operator | | | | |
| Assay Start: | 1/27/2014 12:51:15 PM | | | | |
| Description 1: | 2LANDA1258 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gal Drum | | | | |
| Weight: | Net: | 124.0 kg | Net: | 124.0 kg | |
| Container: | Volume: | 208.0 l | Full: | 80.0 % | |
| Density: | | 0.750 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16902 | Batch Number: | 2LANDA1258 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69234 | Analysis Date: | 1/27/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 124000.0 g | | |
| Pu mass | 9.89E+000 | +- 1.97E+000 | g |
| TRU Alpha Activity | 2.84E+000 | +- 1.16E+000 | Ci |
| TRU Activity Concentration | 2.29E+004 | +- 9.37E+003 | nCi/g |
| Pu-239 Equivalent Activity | 2.86E+000 | +- 1.16E+000 | Ci |
| Pu-239 FGE | 9.33E+000 | +- 1.96E+000 | g |
| Decay heat | 9.30E-002 | +- 3.86E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 3.46E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.51E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.42E-006 |
| NP237 | 5.48E-002 | 3.86E-005 | 7.44E-006 | 1.15E-006 |
| PU238 | 9.02E-004 | 1.54E-002 | 3.92E-003 | 4.56E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.03E-005 |
| PU239 | 9.28E+000 | 5.76E-001 | 1.22E-001 | 1.70E-002 |
| PU240 | 5.93E-001 | 1.35E-001 | 3.43E-002 | 3.99E-003 |
| AM241 | 6.17E-001 | 2.12E+000 | 1.15E+000 | 4.81E-002 |
| PU241 | 1.12E-002 | 1.16E+000 | 2.94E-001 | 3.42E-002 |
| PU242 | 1.98E-003 | 7.82E-006 | 1.99E-006 | 0.00E+000 |
| AM243 | 2.12E-003 | 4.24E-004 | 8.17E-005 | 6.76E-006 |
| CM243 | 4.27E-007 | 2.09E-005 | 1.22E-005 | 6.87E-006 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.31.14

ITR: _____ Date: 1.31.14

## Automated Independent Technical Review

Count Sequence Number: 16902 Batch Number: 2LANDA1258
Counter ID: HENC #2
Container ID: 69234
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/27/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors. | Ok |
| Cosmic Ray Rejection Analysis complete with warnings.<br><br>- The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue. | Ok |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Analysis Status: Override enabled; data marked not available but were used.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chamberlain Date: 1-30-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69234**

BDR Number: **LA14FG2012**

Sampling Date: **1/31/2014**

S861980

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 90.37 | U |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140131c\
Data File : 69234.D
Acq On : 31 Jan 2014 1:41 pm (#1); 31-Jan-14, 13:40:56 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 31 13:49:59 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.568 | 96 | 3389428 | 205.75 | ppmv | 0.05 |
| 15) Chlorobenzene-d5 | 5.871 | 117 | 2468013 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |

(#) = qualifier out of range (m) = manual integration (+) = signals summed

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0009 |
| Examination Date: | 1/23/2014 |
| Waste Container ID: | 69237 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0009 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 14 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [X] No [ ] Yes<br>NCR No.: N/A<br>NCR No.: N/A |

| Section 2: Waste Container Data | |
|---|---|
| Container Type: | 55 Gallon Drum |
| TRUCON Code: | LA226 |
| Waste Matrix Code: | S3110 |
| Waste Stream I.D.: | LA-MIN02-V.001 |
| Waste Container Weights: | Gross Wt.: 173.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 140.1 kg |
| Rigid Liner and Liner Vent Description: | Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes<br>Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil<br>Vented: [ ] No [ ] Yes [X] N/A<br>Punctured: [X] No [ ] Yes<br>Mechanical Vent: [X] No [ ] Yes<br>Fiberboard Liner: [ ] No [X] Yes<br>Lead Lined: [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 80 % |

# CCP Radiography Data Sheet



Waste Container ID: 69237

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: |
| OR: |
| IN: Homogeneous solids |
| S: |

| Section 4: Packaging Material and Waste Material Parameters | |
|---|---|
| **Packaging Material:** | **Estimated Weight (kg)** |
| Steel (ST): | 27.7 |
| Plastics (PP): Plastic Liner Bag | 2.0 |
| Other: Fiberboard (CP) | 3.7 |
| Total Packaging Weight | 33.4 |
| **Waste Material Parameter:** | **Estimated Weight (kg)** |
| Iron-based Metal / Alloys (IM): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 18.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 122.1 |
| Soils (S): | |
| Total WMP Weight: | 140.1 |

# CCP Radiography Data Sheet



Waste Container ID: 69237

| Section 5: RTR Summary (Questions answered "Yes" will be explained in the Comment block except for Question 1) | |
|---|---|
| Is there observable liquid? | ☐ Yes ☒ No |
| Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater? | ☐ Yes ☒ No |
| Is the total volume of observable liquid in the outermost container GREATER than 1% of the container? | ☐ Yes ☒ No |
| Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134? | ☐ Yes ☒ No |
| Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium? | ☐ Yes ☒ No |
| Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)? | ☐ Yes ☒ No |
| Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])? | ☐ Yes ☒ No |
| Is there an indication of wastes containing explosives or compressed gases? | ☐ Yes ☒ No |
| Is there an indication of PCBs liquids? | ☐ Yes ☒ No |
| Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA Hazardous Waste Numbers of D001, D002, or D003)? | ☐ Yes ☒ No |
| Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code? | ☐ Yes ☒ No |
| **CH or RH TRAMPAC** | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code? | ☐ Yes ☒ No |
| Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters? | ☐ Yes ☒ No |
| Are there sealed containers GREATER than 4 liters? | ☐ Yes ☒ No |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ Yes ☒ No |
| Comments: N/A | |

| RTR Operator: | | |
|---|---|---|
| Eddie Rios | Eddie Rios | 1/23/2014 |
| Print Name | Signature | Date |

5861980



# NDA 2000 Assay Report

## Item Information

| | | | | | |
|---|---|---|---|---|---|
| Item ID: | 69237 | | Count Sequence Number: | 16879 | |
| Operator: | DCLTD231\Operator | | | | |
| Assay Start: | 1/24/2014 3:04:20 PM | | | | |
| Description 1: | 2LANDA1256 | | | | |
| Description 2: | N/A | | | | |
| Location: | LANL TA-54 | | | | |
| Comment: | AK-6 | | | | |
| Matrix Type: | Homo Sol. S3000 | | | | |
| Container Type: | 55 gal Drum | | | | |
| Weight: | Net: | 140.0 | kg | Net: | 140.0 kg |
| Container: | Volume: | 208.0 | l | Full: | 80.0 % |
| Density: | | 0.840 kg /l | | | |

## System Configuration

| | |
|---|---|
| Counter: | HENC #2 |
| Count Type: | Item Count |
| Collimator/Geometry Setting: | All Banks on GEO - 0 |

Errors quoted at 1.000 sigma

## Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

| | | | |
|---|---|---|---|
| Count Sequence Number: | 16879 | Batch Number: | 2LANDA1256 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 69237 | Analysis Date: | 1/24/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 140000.0 g | | |
| Pu mass | 5.86E+001 | +- 1.22E+001 | g |
| TRU Alpha Activity | 1.26E+001 | +- 4.62E+000 | Ci |
| TRU Activity Concentration | 8.99E+004 | +- 3.30E+004 | nCi/g |
| Pu-239 Equivalent Activity | 1.27E+001 | +- 4.62E+000 | Ci |
| Pu-239 FGE | 5.53E+001 | +- 1.22E+001 | g |
| Decay heat | 4.09E-001 | +- 1.53E-001 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| CO60 | 1.72E-010 | 1.94E-007 | 4.70E-008 | 8.38E-008 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.05E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.16E-002 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 3.49E-006 |
| NP237 | 1.75E-001 | 1.24E-004 | 2.55E-005 | 2.55E-006 |
| PU238 | 5.34E-003 | 9.14E-002 | 2.40E-002 | 1.10E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.35E-005 |
| PU239 | 5.50E+001 | 3.41E+000 | 7.54E-001 | 4.09E-002 |
| PU240 | 3.51E+000 | 7.98E-001 | 2.09E-001 | 9.57E-003 |
| AM241 | 2.41E+000 | 8.28E+000 | 4.56E+000 | 9.19E-002 |
| PU241 | 6.65E-002 | 6.85E+000 | 1.80E+000 | 8.22E-002 |
| PU242 | 1.17E-002 | 4.63E-005 | 1.22E-005 | 0.00E+000 |
| AM243 | 4.31E-003 | 8.62E-004 | 1.78E-004 | 1.56E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 1.28.14

ITR: _____ Date: 1.30.14

## Automated Independent Technical Review

Count Sequence Number: 16879 Batch Number: 2LANDA1256
Counter ID: HENC #2
Container ID: 69237
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/24/2014

| Comments | Disposition |
|---|---|
| Section 1 - Add-A-Source Analysis<br><br>No Add-a-Source warnings. | Ok |
| Section 2 - Passive Neutron Analysis<br><br>Analysis Status: No errors.<br><br>Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | Ok<br><br>Not data affecting. |
| Section 3 - Data Combiner Analysis<br><br>Override enabled; Gamma data specified as input.<br><br>Analysis Status: Override enabled; data marked not available but were used.<br><br>Results taken from Quantitative Gamma data.<br><br>Results comparison test passed. | Results taken from quantitative gamma data. |
| Section 4 - MGA Analysis<br><br>Results are marked as invalid. | MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Spectrum Validity Check engine has suggested data review. | Ok<br><br>After EA review, spectrum valid. |

| Comments | Disposition |
|---|---|
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 1-28-14

**Attachment 4 – Flammable Gas Analysis Form**

SCO 1049 Add 4 - Win XP SP3/Win 7 SP1
Excel 2003/2007/2010

Waste Container ID: **69237**

BDR Number: **LA14FG2014**

Sampling Date: **2/3/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 308.28 | |
| 74-82-8 | Methane | 142.14 | U |
| 67-56-1 | Methanol | 35.23 | U |
| 60-29-7 | Ethyl Ether | 0.96 | U |
| 75-35-4 | 1,1-Dichloroethylene | 6.38 | U |
| 67-64-1 | Acetone | 18.08 | U |
| 75-34-3 | 1,1-Dichloroethane | 4.08 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.76 | U |
| 78-93-3 | Methyl ethyl ketone | 11.73 | U |
| 110-82-7 | Cyclohexane | 5.10 | U |
| 71-43-2 | Benzene | 1.77 | U |
| 107-06-2 | 1,2-Dichloroethane | 3.66 | U |
| 71-36-3 | 1-Butanol | 1.84 | U |
| 108-10-1 | Methyl isobutyl ketone | 9.82 | U |
| 108-88-3 | Toluene | 8.02 | U |
| 108-90-7 | Chlorobenzene | 4.10 | U |
| 100-41-4 | Ethylbenzene | 3.57 | U |
| 108-38-3/106-42-3 | m- and p-Xylene | 1.92 | U |
| 95-47-6 | o-Xylene | 2.10 | U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 1.96 | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 2.13 | U |

| CAS Number | IDENTIFIED TIC COMPOUND | Est. Amount ppmv |
|---|---|---|
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140203C\
Data File : 69237.D
Acq On : 3 Feb 2014 1:45 pm (#1); 03-Feb-14, 13:45:04 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 03 13:53:19 2014
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 3) Fluorobenzene | 3.558 | 96 | 3085821 | 205.75 | ppmv | 0.04 |
| 15) Chlorobenzene-d5 | 5.861 | 117 | 2454826 | 177.50 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.619 | GC1 | 2318 | 308.28 | ppmv | 100 |

(#) = qualifier out of range (m) = manual integration (+) = signals summed