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AUG 7 2014

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Los Alamos
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NMED
Hazardous Waste Bureau

***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*: AUG 07 2014
*Symbol*: ENV-DO-14-0188
*LAUR*: 14-25594, 14-25427
*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 1**

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 the enclosures partially address Item # 13 of the *Summary Chart - Requested Information/Pending Issues* included as 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. Partial fulfillment of the request was submitted to the NMED on July 9, 2014 and was revised on July 17, 2014. This submittal includes remediation and repackaging documentation for daughter containers resulting from the repackaging and remeditation of the 267 original nitrate salt-bearing waste containers and is the first 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.

This submittal includes two enclosures. Enclosure 1 (LA-UR-14-25594) is a table that includes descriptions of each piece of the documentation included in Enclosure 2. Enclosure 2 (LA-UR-14-25427) includes the remediation and repackaging documentation.

The descriptions in Enclosure 1 are included in the same order as the contents of documentation for each waste container in Enclosure 2. However, the specific contents of the documentation available for each waste container may vary due to changes in documentation processes over time and security restrictions. Additionally, not all documents will be available or relevant for all waste containers in Enclosure 2.

Enclosure 2 includes the pertinent documentation for nine 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).

Other information requested includes waste profile forms and any other generator information for each of the containers to complete comments 2 and 8 within the email request. These documents will be provided separately. 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) Narrative Explanation of Forms
(2) Remediation and Repacking Documentation for Nitrate Salt-Bearing Waste Containers – Package 1

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)

Cy (continued):
Lisa Cummings, NA-LA, (E-File)
Gene E. Turner, NA-LA, (E-File)
Eric L. Trujillo, NA-LA, (E-File)
Carl A. Beard, PADOPS, (E-File to aosburn@lanl.gov)
Michael T. Brandt, ADESH, (E-File)
Alison M. Dorries, ENV-DO, (E-File)
Jeffery D. Mousseau, ADEP, (E-File)
Daniel R. Cox, ADEP, (E-File)
Victoria A. George, REG-DO, (E-File)
Deborah K. Woitte, LC-ESH, (E-File)
Debra S. Nevergold, LTP, (E-File)
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env-correspondence@lanl.gov, (E-File)

# Remediation and Repackaging Documentation for Nitrate Salt-Bearing Waste Containers – Package 1
# ENV-DO-14-0188

**August 2014**

**Enclosure 1:** **Narrative Explanation of Forms, LA-UR-14-25594**

**Enclosure 2:** **Remediation and Repackaging Documentation for Nitrate Salt-Bearing Waste Containers – Package 1, LA-UR-14-25427**

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# ENCLOSURE 1

Narrative Explanation of Forms

ENV-DO-14-0188

LA-UR-14-25594

Date: AUG 07 2014

# ENCLOSURE 1 - NARRATIVE EXPLANATION OF FORMS

[Note: The contents of individual documentation packages may vary due to changes to documentation processes over time.]

| DOCUMENT | SOURCE | SUMMARY DESCRIPTION |
|---|---|---|
| **OVERVIEW DOCUMENT** | | |
| Container Genealogy | Waste Characterization and Tracking System (WCATS) | This document provides a summary of the intermediate and final daughter containers associated with the original parent container. |
| **REMEDIATION DOCUMENTATION** | | |
| *WCRRF WCG Waste Processing Data Sheet* | EP-WCRR-WO-DOP-1198 (previously numbered EP-WCRR-WO-DOP-0233), *WCRRF Waste Characterization Glovebox Operations* | This form provides information associated with processing a given parent waste drum in the Waste Characterization Glovebox (WCG) in the Waste Characterization, Reduction, and Repacking Facility (WCRRF). This form documents completion of pre-processing inspections and certain processing attributes, such as daughter drum number and contents. |
| *WCRRF Overpack Drum Assembly Preparation Data Sheet* | EP-WCRR-WO-DOP-1197 (previously numbered EP-WCRR-WO-DOP-0236), *WCRRF Loading/Unloading SWB or 85-Gal Drum* | This form documents certain assembly attributes such as container and filtered vent manufacturing information for preparing an empty overpack container. |
| *WCRRF Overpack Drum Closure Data Sheet* | EP-WCRR-WO-DOP-1197 (previously numbered EP-WCRR-WO-DOP-0236), *WCRRF Loading/Unloading SWB or 85-Gal Drum* | This form documents overpack closure data and inspections such as closure ring torque and container weight. |
| *Checklist for the preparation of a new 55-Gallon Drum Assembly* or *WCRRF Drum Preparation* | EP-WCRR-WO-DOP-1204 (previously numbered EP-WCRR-WO-DOP-0221), *WCRRF 55-Gallon Daughter Drum Assembly* | This form documents information associated with preparation of a daughter drum, including certain assembly attributes such as container, liner bag, and filtered vent manufacturing information and drum weight. |

# ENCLOSURE 1 - NARRATIVE EXPLANATION OF FORMS

[Note: The contents of individual documentation packages may vary due to changes to documentation processes over time.]

| DOCUMENT | SOURCE | SUMMARY DESCRIPTION |
|---|---|---|
| *Data Sheet* | *Preparation and Closure* | Note: This document is not applicable to Pipe Overpack Containers. |
| *WCRRF Drum Closure Data Sheet* or *Checklist for the Closing of a new 55-Gallon Drum Assembly* | EP-WCRR-WO-DOP-1204 (previously numbered EP-WCRR-WO-DOP-0221), *WCRRF 55-Gallon Daughter Drum Assembly Preparation and Closure* | This form documents information associated with preparation of a daughter drum, including drum closure data and inspections such as closure ring torque and container weight.<br><br>Note: This document is not applicable to Pipe Overpack Containers. |
| *WCRRF Parent 55-gal Drum Preparation Data Sheet* | EP-WCRR-WO-DOP-1197 (previously numbered EP-WCRR-WO-DOP-0236), *WCRRF Loading/Unloading SWB or 85-Gal Drum* | This form documents completion of pre-processing inspections and certain attributes, such as weight, of a parent 55-gallon drum. |
| **SAFETY EVALUATION DATA (Parent Containers)** | | |
| *LTP Waste Remediation Safety Evaluation Data Sheet* or *WDP Waste Remediation Safety Evaluation Data Sheet* | EP-DIV-AP-20098, *LTP TRU Waste Remediation Safety Evaluation* | This form documents the evaluation, and including acceptance or rejection, of each parent waste container for remediation based on potential hazards that may be exposed during the remediation process. |
| *Discardable Waste Log Sheet* or *Discardable Solids* or *LASL Leached Solids* | TA55-RD-539, *TA-55 Waste Management Requirements* | This form provides the original generator information on the contents and weight of a parent waste container.<br><br>Note: Sometimes this document is untitled. |

# ENCLOSURE 1 - NARRATIVE EXPLANATION OF FORMS

[Note: The contents of individual documentation packages may vary due to changes to documentation processes over time.]

| DOCUMENT | SOURCE | SUMMARY DESCRIPTION |
|---|---|---|
| *CCP Radiography Data Sheet* | Central Characterization Project (CCP) | This form documents the Real-Time Radiography information associated with a parent waste container. |
| *TA-54 Area G Waste Container Hydrogen/VOC Sample Analysis Data Sheet* or *Hydrogen / VOC Sampling Using Gas Chromatography Data Sheet* | EP-AREAG-WO-AP-1112 (previously numbered EP-AREAG-WO-DOP-0204), *TA-54 Area G Waste Container Hydrogen/VOC Sample Analysis.* | This form documents flammable gases information received from CCP personnel following the sampling of waste container headspace gas. It documents relevant container flammable gas analysis results and the evaluation of results against facility limits. |
| Quantitation Report | CCP | This report is the software output for flammable gas analysis performed on container headspace of a parent waste container. |
| **OPERATION LOGBOOK SHEETS** | | |
| WCRRF Operations Center Operator Logbook Sheet(s) | LANL P315, *Conduct of Operations Manual* | These logbook pages document certain operational information on the date that a waste container was processed. Operating logs support the communication of facility operational information for a given position from one shift to the next. The information is primarily focused on facility operations. |
| WCRRF Shift Operations Supervisor Logbook Sheet(s) | LANL P315, *Conduct of Operations Manual* | These logbook pages document certain operational information on the date that a waste container was processed. Operating logs support the communication of facility operational information for a given position from one shift to the next. The information is primarily focused on facility operations. |
| WCRRF Shift Operations Manager Logbook Sheet(s) | LANL P315, *Conduct of Operations Manual* | These logbook pages document certain operational information on the date that a waste container was processed. Operating logs support the communication of facility operational information for a given position from one shift to the next. The information is primarily focused on facility operations. |

# ENCLOSURE 1 - NARRATIVE EXPLANATION OF FORMS

[Note: The contents of individual documentation packages may vary due to changes to documentation processes over time.]

| DOCUMENT | SOURCE | SUMMARY DESCRIPTION |
|---|---|---|
| **CERTIFICATION DATA (Daughter Containers)** | | |
| *CCP Radiography Data Sheet* | CCP | This form documents the Real-Time Radiography information associated with a daughter waste container. |
| *NDA 2000 Assay Report* | CCP | This form documents the Non-Destructive Assay information associated with a daughter waste container. |
| *Radioassay Data Sheet* | CCP | This form documents the results of the radioassay associated with a daughter waste container. |
| *Automated Independent Technical Review* | CCP | This form documents the independent validation of the radioassay data associated with a daughter waste container. |
| *Flammable Gas Analysis Form* | CCP | This form documents the results of the flammable gas analysis associated with a daughter waste container. |
| *Quantitation Report* | CCP | This report is the software output for flammable gas analysis performed on container headspace of a daughter waste container. |

# ENCLOSURE 2

Remediation and Repacking Information for Nitrate Salt-Bearing Waste Containers – Package 1

ENV-DO-14-0188

LA-UR-14-25427

Date: AUG 0 7 2014

| ParentID | Intermediate Daughters | PKG_ID | Overpacked Into |
|---|---|---|---|
| S793450 | 68993 | 69598 | |
| S793450 | 68993 | 69644 | |
| S802641 | | 93859 | |
| S802641 | | 93860 | |
| S802641 | | 93861 | |
| S802959 | | 94223 | SB02091 |
| S803613 | | 68432 | SB50037 |
| S803613 | | 68627 | SB50059 |
| S804989 | | 68580 | SB50025 |
| S811613 | | 93949 | |
| S811734 | | 94050 | |
| S811734 | | 94051 | |
| S811812 | | 93980 | |
| S811812 | | 93981 | |
| S811834 | | 93976 | |

S793450

**S793450**

Container Profile 768118

File Options Reports Help

# S793450

| 768118 | 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

S793450

- S793450
  - W801640 -EMPTY
  - LA00000068993
    - LA00000069613 – EMPTY
    - LA00000069644
    - LA00000069598

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 49.99 | % | | | |

Working Copy
Date: 4-21-14

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 608993

6.2[4] Date Processed: 4-21-14

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

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

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) GE 4-21-14 (Initial and Date)

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: GERALD ESPINOSA [signature] 1237720 4-21-14
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: W8993 | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 470.0 lb |
| 6.2[5][A] | Parent Drum Lead Blanket Weight (lb): | 0 lb ☑ N/A |
| 6.2[5][B]/ 6.2[6] | Total Parent Drum Weight (lb) | 470.0 lb |
| 6.2[7] | ($) Total Parent Drum Weight < 624 lb (SR 4.5.1): | ☑ SAT ☐ UNSAT |
| 6.2[16] | Retaining clips in place | ☑ SAT ☐ UNSAT |
| 6.2[18][D] | Drum lift hinge pin retaining clip replaced. Initials / Z# / Date | ☑ N/A |
| 6.2[26] | 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.: 608993

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 1091044 | | | |
| 10.1[4] | Daughter Drum Filter No. | KM-302 | | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10244 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501578 | | | |
| 10.1[19][C] | WCG Fire Watch Stationed | | ☐ YES | ☐ NO | ☑ N/A |
| 10.1[20][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. | 60PVC/5-25M | | | |
| | Serial No. | L-10224 | | | |
| | Date of Manufacture | 5-13 | | | |
| 10.2[5] | POC ID No | 608598/02385 | | | |
| 10.2[6]/10.2[7][B] | POC Item Description | NITRATE SALTS | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | GE 237720 | | N/A | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 249.0 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 2500 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 4 OZ | | | |
| 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.: 608993

Comments: NITRATE SALTS, DEGRADED LEAD, PLASTIC, KITTY LITTER, DEGRADED CANS, LIQUID

11.1[1] Performed By: Gerardo Espinoza [signature] 1237720 4-21-14
Waste Handling Tech (print) Signature Z# Date

11.1[8] Reviewed By: Gilbert Martinez [signature] 1149235 4-22-14 0800
SOS or designee (print) Signature Z# Date/Time

**ATTACHMENT 1**
Page 1 of 1

Working Copy
Date: 3/20/14 43

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501563
Lot No.: 0240323
Manufacture Date: 2013

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: | 11/24/14 | 08/05/14 |
| Tolerance: | ±4% cw ± 6% ccw | ±3% cw ± 6% ccw |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: HL-897
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: MICHAEL MONTOYA / [signature] 1913521 3-20-14
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: MICHAEL MONTOYA / [signature] 1913521 3-20-14
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Gilbert Martinez / [signature] 1149237 4.22.14
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 4-21-14

**ATTACHMENT 4**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 109613

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: GERALD ESPINOZA [signature] 129770 4-21-14
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: 090605
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 111.0 lb

Comments: N/A

8.1[1] Performed By: GERALD ESPINOZA [signature] 129770 4-21-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez [signature] 149235 4-22-14
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

Working Copy
Date: 4/3/14 4S

**WCRRF DRUM PREPARATION DATA SHEET**

5.[34][B] Drum ID No.: 69644

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240118
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6cpvc-1.5-2 spvc
Serial No.: L-10244
Manufacture Date: 5/13

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: Randy Roybal / Randy Roybal / 1188341 / 03/04/14
Operator (print) / Signature / Z # / Date

5.[23] Filtered vent information:
Manufacturer: NucFil
Model No.: 019 DS
Serial No.: KM-302
Manufacture Date: 11/12

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.: 69644

Comments: N/C

5.[35] Performed By: Randy Loybal | [signature] | 1187034 | 04/07/14
Operator (print) | Signature | Z# | Date

7.1[4] Reviewed By: Gilbert Martinez | [signature] | 1492354 | 4-22-14
Supervisor or designee (print) | Signature | Z# | Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 609624

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

M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range: 110-80 ft-lb
Tolerance (+/-): ±2% or ±60% OAW

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

Performed By: GERALD ESPINOZA [signature] 123772 4.21.14
Operator (print) Signature Z # Date

6.[12] Drum closure ring torque value: 100 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: GERALD ESPINOZA [signature] 123772 4.21.14
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.: 096044

6.[26] Scale File ID number: 0190165

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

6.[28] Drum gross weight: 510.6 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: [illegible] [signature] 123[illegible] 4.21.14
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez [signature] 1149235 4.22.14
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 4-21-14

ATTACHMENT 2
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 68993

6.3[15] (S) 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): 470.0

6.3[19] (S) 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] 283770 4-21-14
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez [signature] 1492354 4-22-14
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] 1492354 4-22-14 0805
SOS/SOM or designee (print) Signature Z # Date Time

1956 Non-GG LFL Completed SP72

# LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Planning and Technical Solutions

Drum #68993 salvage

Container ID: S793450 Container Type: 85 GAL DRUM Gross Weight (lbs): 469.0035
Total PE-Ci Activity: 1.01E+00 Equivalent Combustible PE-Ci: 3.79E-01
Total Fissile Gram Equivalents: 6.97E+00 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.

RTR pre-screen indicates ~1.5 gallons of liquid in the drum.

Potential Safety Risks: Nitrate salt drums often contain free liquids and are packaged in individual plastic bags. Net weight is ~271 lbs. and generator data shows 13 items of nitrate salts with weights ranging from ~6-55 lbs.

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

## IHS Representative

Potential IHS Safety Risks: Drums contain D007, D008 and D009. May contain free liquid, no other hazards found.

Performed By: Tommy Smallwood, Signature, 244659, 8/22/13
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, Signature, 112609, 9/30/13
LTP Engineering (Print) Signature Z# Date

## TRU Remediation Operations

Potential Safety Risks: Follow procedures

Performed By: Clarissa Nelson, Signature, 231019, 4/7/14
TRU Operations (Print) Signature Z# Date

## Operations Manager or designee

Processing Determination: ☒ Accept ☐ Reject
OM or designee Comments: Follow current procedures and SWO's.

Approved By: David L. Blair, Signature, 218069, 4-7-14
OM or designee (Print) Signature Z# Date

# Discardable Waste Log Sheet

**DrumID: 6056**

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-56-F1 | 25 | 54 | | 0 | 54 | 5/11 | |
| 2 | IXFS-57-F1 | 12.5 | 54 | | 1.283 | 54 | 5/11 | |
| 3 | IXFS-58-F1 | 11 | 54 | | 1.24 | 54 | 5/11 | |
| 4 | IXFS-59-F1 | 6.4 | 54 | | 0 | 54 | 5/11 | |
| 5 | IXFS-58-R1 | 3.7 | 54 | | 0 | 54 | 5/11 | |
| 6 | IXFS-59-R1 | 3.2 | 54 | | 0 | 54 | 5/11 | |
| 7 | IXFS-31-R1 | 2.5 | 54 | | 0 | 54 | 5/11 | |
| 8 | IXFS-60-F1 | 10.9 | 54 | | 0.942 | 54 | 5/11 | |
| 9 | IXFS-61-F1 | 10 | 54 | | 1.375 | 54 | 5/11 | |
| 10 | IXFS-61-R1 | 5.9 | 54 | | 0 | 54 | 5/11 | |
| 11 | IXFS-60-R1 | 3.6 | 54 | | 0 | 54 | 5/11 | |
| 12 | IXFS-62-F1 | 6.14 | 52 | | 0 | 52 | 5/11 | |
| 13 | IXFS-63-F1 | 22.4 | 54 | | 3 | 54 | 5/11 | |
| | | 123.24 kg | | | | | | |

## 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]) | S793450 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55-Gal | | | | | |
| Filtered Vent Type (5.[1]) | 19DS | | | | | |
| 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: 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)), [signature] (Signature), 100681 (Z#), 5/20/13 (Date)

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130418c\
Data File : S793450.D
Acq On : 18 Apr 2013 4:20 pm (#1); 18 Apr 2013 4:19 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 16:29:15 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 | 4.057 | 96 | 8074038 | 207.75 ppmv | 0.00 |
| 15) Chlorobenzene-d5 | 6.636 | 117 | 6698679 | 178.75 ppmv | 0.00 |

| Target Compounds | Qvalue |
|---|---|

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

VOCGAS.M Thu Apr 18 16:29:26 2013 UNIT12

4-21-14

0400 Assuming WCEEF Operations center - Orlando
0415 Pre-job being conducted by SOS
0430 Pre-job concluded.
0455 Starting outside rounds.
0715 Outside rounds completed
0738 Rounds signed off by SOS.
0750 mode changed to operations TA50-69 and WCEEF yard.
0806 Test execute completed SR 4.1.1 performed, starting movement into 50-69.
0819 movement into 50-69 is complete.
0843 Starting to dinst. 3 drums.
0959 Denisting completed, Bagged on S822679
1109 Bagging off 1 daughter, bagging on 1 daughter
1128 bag on, bag off complete continuing to process.
1226 RCTs reporting that cam 115316 ~~pump~~ @ 4-21-14 pump is not working. it is the portable cam located on the east side.
1355 RCTs have notified ops center that cam is back up and running.
1404 Bagging off, bagging on 68993
1424 bag on, bag off complete
1430 Starting inside rounds
1435 Starting outside rounds.
1454 Outside rounds complete
1457 Inside rounds complete
1515 Rounds signed off by SOS
1536 bagging off 1 daughter, POC and empty. Installing port cover.
1609 bag off complete.
1612 mode changed to warm TA50-69 and WCEEF yard.
4-21-14 1630 end of day WCEEF Operations center position secured.

no further entries this page

1.21.14 WCRR SOS LOG BOOK

0600 Assuming SOS position [illegible]

0615 Conducted shift brief Discussed drum's going into 50-69 All SP# 72. Also Discussed the Right Glove For the Job.

0630 Concluded shift brief. Started Rounds

0738 Reviewed Inside And outside Rounds

0750 Mode change Complete WCRRF In operations Mode

0806 Starting movements into 50-69

0819 Movement complete

0843 Starting to denest 3 drums

0959 Denesting Complete Bagged on 5822679

1109 Bagging off / daughter Bagging on Another

1128 Bag on/off complete

1276 RCds reported that Cam 11536 pump is not working

1355 Rcts notified Cam is back up And Running

1404 Bagging off / on 68993

1424 Bag on/off complete

1430 Starting Rounds

1515 Reviewed Inside And outside Round

1536 Bagging off / Poc And / daughter Final drum of day

1605 Bag on/off Complete

2 ~~1630 end~~ GMM 4-21-13 Mode Change Complete WCRRF In warm

1630 end of Day securing Position [illegible]

no further entries on this page

4-21-14 WCRR SOM

0557 Reviewed the logs and assumed the WCRR SOM position John Lucedgal.
0631 Completed attending the pre-job brief conducted by the SOS (Colbert)
The Safety Topic was a Scenario - what if a person attending the pre-job were to pass out - what actions would be taken. Response - call 911 -
The SOS indicated that there was not enough manpower to work thru lunch
Briefed Operators on the shift orders incorporated into DOP-1199, and which one is in effect. No transfers are scheduled out today. There should be an ethlene glycol pick-up by WMC.
0708 Completed the daily phone call to the AREA-G SOM updating daily PODs.
0819 Outside Operations completed the movement into the facility (4 drums total)
0843 Inside operations initiate denesting of 3 drums.
0844 Late Entry for 0750 hrs - Mode Change conducted; 50/69 and Yard transitioned at 0750 hrs from Cold/WARM to Operations/Operations. JJL - 4-21-14
0910 Notified by the WMC that the State of NM environmental department arrived at AREA-G. SOM notified WRRF-SOS/OCO/OM and AREA G SOM.
0959 Operations complete de-nesting 3 drums and completed bag-on of Parent drum SB22679-SP 72.
1109 Inside operators report bagging off 1 daughter and bagging on another and continue processing
1128 Inside Operators report bag off and bag on complete.
1220 Completed the noon phone call with OM, ES/PM, PM, SOM and others
1226 RP-1/RCT, report the east portable CAM in 50/69 went out, its the pump that seems to not be working. RCT, will initiate replacement, while the operators exit for lunch.
1300 Notification of non working CAM was made to the RAD Engineer to work with RP-1 supervisor to obtain backup or get it fixed. Per RWP - operators will not be able to bag off. Operations are ready to bag off.
1315 RP-1 enters area to evaluate pump on CAM. with RCT (Ken + Terry). Notification voice mail left with OM.
1350 RP-1 reports they got the CAM operational. One propellar vein on the motor had broke which was carbon base. RP-1 supervisor had ordered backups and switched them out.
1404 Inside Operators report, initiating bag off of daughter and bag on of Parent 68993
1430 Operations report bag off and bag on was completed
1504 Inside Operators report they have a POC
1536 Inside operators report bagging off reduaghter a POC and will place foil cover on

(Continued on Next Page)

4-21-14 WCRR-SOM (cont.)

1549 Discussed with the WMC - results for one NEW GEN drum W801926 - and she will work with C.BENN to enter results in WCATS and notify SOM when completed. Notification also made to Production Inventory.

1605 Inside Operators report bag off is completed and the WCG port cover was put in place. The WCG is in a safe configuration.

1612 Mode change: 50/69 and yard transition from Operations/Operations to WARM/WARM

1621 Secured the WCRR SOM position [signature]

No further entries this page
[signature]

# 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-RTR2-14-0040 |
| Examination Date: | 4/25/2014 |
| Waste Container ID: | 69598 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0040 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.: 158.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 13.4 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: | 45 % |

# CCP Radiography Data Sheet



Waste Container ID: 69598

## 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): | 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): | 0.1 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 11.3 |
| Soils (S): | |
| Total WMP Weight: | 13.4 |

# CCP Radiography Data Sheet



Waste Container ID: 69598

| 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 | 4/25/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 69598 | Count Sequence Number: | 24603 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 4/28/2014 11:00:02 AM | | |
| Description 1: | 1LANDA1935 | | |
| Description 2: | POC 158.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 13.4 kg | Net: | 13.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.662 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: | 24603 | Batch Number: | 1LANDA1935 |
| 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: | 69598 | Analysis Date: | 4/28/2014 |

| | | | |
|---|---|---|---|
| Net Weight | 13400.0 g | | |
| Pu mass | 3.13E-001 | +- 7.35E-002 | g |
| TRU Alpha Activity | 2.00E+000 | +- 3.57E-001 | Ci |
| TRU Activity Concentration | 1.49E+005 | +- 2.67E+004 | nCi/g |
| Pu-239 Equivalent Activity | 2.00E+000 | +- 3.57E-001 | Ci |
| Pu-239 FGE | 2.90E-001 | +- 7.27E-002 | g |
| Decay heat | 6.63E-002 | +- 1.19E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 5.02E-009 | 6.93E-007 | 4.30E-007 | 0.00E+000 |
| CS137 | 7.97E-009 | 6.93E-007 | 4.30E-007 | 4.53E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 3.03E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 9.06E-007 |
| NP237 | 3.60E-002 | 2.54E-005 | 4.57E-006 | 1.59E-006 |
| PU238 | 1.35E-004 | 2.31E-003 | 6.83E-004 | 1.84E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 8.76E-006 |
| PU239 | 2.74E-001 | 1.70E-002 | 4.50E-003 | 1.35E-002 |
| PU240 | 3.60E-002 | 8.18E-003 | 2.46E-003 | 6.52E-003 |
| AM241 | 5.74E-001 | 1.97E+000 | 3.57E-001 | 1.02E-001 |
| PU241 | 1.69E-003 | 1.74E-001 | 5.23E-002 | 1.39E-001 |
| PU242 | 6.90E-004 | 2.72E-006 | 8.18E-007 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: Marla [illegible] Date: 4-29-14

ITR: [illegible] Date: 4-30-14

## Automated Independent Technical Review

Count Sequence Number: 24603
Batch Number: 1LANDA1935
Counter ID: MCS HENC #1
Container ID: 69598
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 4/28/2014

| 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-54,52. |
| 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: 4-29-14

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-14-0040 |
| Examination Date: | 4/25/2014 |
| Waste Container ID: | 69644 |
| Video/Audio Recorded Media Number: | LA-RTR2-14-0040 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.: 231.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 198.1 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: | 100 % |

# CCP Radiography Data Sheet



Waste Container ID: 69644

| Section 3: Container Inventory and Comments | (Detailed descriptions) |
|---|---|
| IM: | Hardware |
| 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): | 0.1 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 8.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 7.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 183.0 |
| Soils (S): | |
| Total WMP Weight: | 198.1 |

# CCP Radiography Data Sheet



Waste Container ID: 69644

| 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 | 4/25/2014 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 69644 | Count Sequence Number: | 24609 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 4/28/2014 3:17:50 PM | | |
| Description 1: | 1LANDA1935 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 198.0 kg | Net: | 198.0 kg |
| Container: | Volume: 208.0 l | Full: | 100.0 % |
| Density: | 0.950 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: 24609
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 69644

Batch Number: 1LANDA1935
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
Analysis Date: 4/28/2014

| | | | |
|---|---|---|---|
| Net Weight | 198000.0 g | | |
| Pu mass | 4.67E+000 | +- 1.46E+000 | g |
| TRU Alpha Activity | 9.10E+000 | +- 4.84E+000 | Ci |
| TRU Activity Concentration | 4.59E+004 | +- 2.44E+004 | nCi/g |
| Pu-239 Equivalent Activity | 9.14E+000 | +- 4.84E+000 | Ci |
| Pu-239 FGE | 4.21E+000 | +- 1.44E+000 | g |
| Decay heat | 3.02E-001 | +- 1.61E-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 | 8.03E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.36E-006 |
| NP237 | 1.57E-001 | 1.11E-004 | 2.46E-005 | 4.10E-006 |
| PU238 | 2.01E-003 | 3.44E-002 | 1.30E-002 | 4.95E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.07E-005 |
| PU239 | 4.09E+000 | 2.54E-001 | 8.94E-002 | 3.65E-002 |
| PU240 | 5.38E-001 | 1.22E-001 | 4.63E-002 | 1.76E-002 |
| AM241 | 2.53E+000 | 8.69E+000 | 4.84E+000 | 8.93E-002 |
| PU241 | 2.52E-002 | 2.60E+000 | 9.87E-001 | 3.74E-001 |
| PU242 | 1.03E-002 | 4.07E-005 | 1.54E-005 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: Martha [illegible] Date: 4.29.14

ITR: [illegible] Date: 4-30-14

## Automated Independent Technical Review

Count Sequence Number: 24609
Batch Number: 1LANDA1935
Counter ID: MCS HENC #1
Container ID: 69644
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 4/28/2014

| 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 |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | 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-52,54. |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Ratio of Pu-239 414 to 129 keV line activities is above the limit of 2.50 | Self absorption correction used. Results valid. |

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

Expert Review by: Sheri Chamberlin Date: 4-29-14

S802641

# S802641

Container Profile 748851

File Options Reports Help

# S802641

| 748851 | 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

S802641

S802641
- 93862-EMPTY
- 93861
- 93860
- 93859

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 33.3329851666667 | % | | | |

6-21-13 C

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 5802641

6.2[4] Date Processed: 6-21-13

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: D008

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 / [signature] / 267129 / 6-21-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S802641

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 376.0 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) 376.0 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:

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

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S802641

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 93859 | 93860 | N | |
| 10.1[4] | Daughter Drum Filter No. | KM-604 | KM-530 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6811 | L-6503 | A | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501103 | 501103 | | |
| 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. | 30PVC15-28PVC | | | |
| | Serial No. | L-6264 | | | |
| | Date of Manufacture | 1/13 | | | |
| 10.2[5] | POC ID No | 93861 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | NITRATE SALTS | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | BG 261129 | | A | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 346.8 | N | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 3000 | | | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 12 oz. | 16 oz. | | |
| 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 (%) | 30% | 95% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | BAG OUT STUCS, KITTY LITTER | BAG OUT STUC, KITTY LITTER | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5802641

Comments: ROOM TRASH, PLASTICS, KITTY LITTER, SALTS, ACID NEAUTRALIZER

11.1[1] Performed By: BRIAN GALLEGOS B. Gallegos 267129 6-21-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Clayton Mullins CM 240092 7/30/13 2120
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: 2012

5.[8] Overpack filtered vent information:
- Manufacturer: Nuc Fil
- Model No.: 013
- Serial No.: EL-371
- Manufacture Date: 5/11

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

| | Filtered Vent | 2 in. Bung |
|---|---|---|
| M&TE No.: | 040694 | 038369 |
| Cal. Expiration Date: | 8-26-13 | 12-18-13 |
| Tolerance: | ±4%cw±6%ccw | |

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

Performed By: Don Pacheco / Don Pacheco / 240012 / 03-13-13
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: Don Pacheco / Don Pacheco / 240012 / 03-13-13
Waste Handling Technician (print) / Signature / Z # / Date

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

8.1[7] Reviewed By: Clayton Mullins / CA / 240092 / 7/30/13
Supervisor or designee (print) / Signature / Z # / Date

**ATTACHMENT 5**
Page 1 of 1

U-21-150

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: 93862

7.[24] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-4-13
Range in ft-lb: 10-80
Tolerance: ±3% cw ±6% ccw

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

Performed By: Brian Gallegos / [signature] / 1267129 6-21-13
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: 7-31-13

7.[35][D] 85-gal overpack drum gross weight (lb): 164.4 lb

Comments: N/C

8.1[1] Performed By: Brian Gallegos / [signature] / 1267129 6-21-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] / 1240090 7/30/13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 93859

**1. Drum/Lid Assembly**

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

RECORD drum information:

Purchase Request #: 501103
Lot #: 0234165
Date of Manufacture: 12

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

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

RECORD bag filter information:

Manufacturer: DOP
Model #: 6LPVC 1.5-2 SPVC
Serial #: L-60811
Date of Manufacture: 13

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

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

**4. Install Lid/Drum Filter**

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

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 01905
Serial #: KM7.04
Date of Manufacture: 12

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100216 | M&TE ID #: | 038069 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±4%cw ±6%ccw | Tolerance: | ±3%cw ±6%ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Adam Segovia Signature: [signature] Z#: 276702

**5. Weigh Drum Assembly**

RECORD weight information

Tare wight (lbs) 750
File ID #: 019645

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] 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: Adam Segovia Operator Sign: [signature] Z#: 276702 Date: 6-7-13

Verifier Print: Brian Gallegos Verifier Sign: [signature] Z#: 207129 Date: 06-21-13

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

DRUM ID#: 93859

**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 # : 039383

Cal expiration date: 9-11-13

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:

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 ): 157.4

Scale ID#: 019865

✓ 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: R. Nalley Joe Quintana Date: 6-21-13

Verifier Print/Sign: [illegible] Date: 6/21/13

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

Drum ID#: 93860

**1. Drum/Lid Assembly**

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

RECORD drum information:

Purchase Request #: 50103
Lot #: 02334265
Date of Manufacture: 2012

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

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPRC 1.5 2 SMC
Serial #: L-6503
Date of Manufacture: 1/13

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

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

**4. Install Lid/Drum Filter**

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

RECORD drum filter information:

Manufacturer: MacFab
Model #: 8125
Serial #: Km 530
Date of Manufacture: 11/12

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 100216
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 40-200
Tolerance: +/- 4% or 4.0 ft-lbs

Jam Nut / Bung torque wrench:
M&TE ID #: 03869
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 10-80
Tolerance: +/- 5% or 3.6 in-lbs

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
[x] Yes [ ] No

Print Name: Ian Marquez Signature: [signature] Z#: 236705

**5. Weigh Drum Assembly**

RECORD weight information

Tare wight (lbs) 75.8
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] 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: Ian Marquez Operator Sign: [signature] Z#: 236705 Date: 6-19-13

Verifier Print: Brian Gallegos Verifier Sign: [signature] Z#: 210729 Date: 6-21-13

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

DRUM ID#: 93860

**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:

BG 6-21-13 MT&E #: ~~037385~~ 038373

BG 6-21-13 Cal expiration date: ~~09-11-11~~ 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:

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) 326.4

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: Bri Dallegro Date 6-21-13

Verifier Print/Sign: Gerald Espinoza Date: 6-21-13

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S802641 | Container Type: 55-GAL | Gross Weight (lbs): 378
Inner Seal #: 005226 | Filter Prefix: LAS | Filter Serial #: 02326
AK Waste Stream: LA-CIN01.001 | Certified RTR BDR: No BDR
TWSR Comments: None
Total PE-Ci Activity: 1.43E+00 | Equivalent Combustible PE-Ci: 5.36E-01 | AM-241 PE-Ci: 2.57E-01
Total Fissile Gram Equivalents: 10.3 | Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): D008
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 12/11/2006 | 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: LA125M | Production Control Comments: Per Chris Lemmons container has > 170 Liquid 3/7/12 production report, Nitrate Salts, apply mixture & EPA Code

Performed By: Julie Gallegos (Production Control (Print)) | Julie Gallegos (Signature) | 176905 (Z Number) | 10/11/12 (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
Not RT 3/7/12. Although in 2007, generator info indicates the waste is most likely composed of nitrate salts, 12 items weighing ~2lb to 40lbs. Debris contents packaged w/ absorbent DuCH pellets. Nitrate salts have, historically contained using contaminated liquids and usually carry waste codes for chromium and lead. Based on (waste pkg) the chemicals identified, RTR PS indicates liquid + impenetrable item(s). Dbg require PWP for > 100 + < 1000 mrem/hr

Performed By: Valerie Rhodes (WDP Engineering (Print)) | Valerie Rhodes (Signature) | 172059 (Z Number) | 10/15/12 (Date)

## TRU Remediation Operations

☑ Waste Container Information Evaluated | Less Than 170 lbs | RTR Video Available
Other Specific Safety Concerns: waste with liquids
Use heavy duty gloves during handling
Processing Determination: ☒ Accept | Reject
TRU Remediation Operations Comments: 0.5 hour RPS. Use propane torch and kitty litter to waste
Performed By: [illegible] (TRU Remediation Operations (Print)) | [illegible] (Signature) | 142235 (Z Number) | 5/13/13 (Date)
Jose Juarez | 221452 | 5/13/13

HS review: RS 206362 12.17.12

# Discardable Waste Log Sheet

# DrumID: 005226

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-120-F1 | 9.55 | 54 | | 0 | 54 | 5.11 | |
| 2 | IXFS-121-F1 | 4.09 | 53 | | 0 | 53 | 5.11 | |
| 3 | IXFS-122-F1 | 3.64 | 54 | | 0.19 | 54 | 5.11 | |
| 4 | 1425A-F3 | 9.32 | 54 | | 0.9 | 54 | 5.11 | |
| 5 | IXFS-124-F1 | 3.64 | 54 | | 0.34 | 54 | 5.11 | |
| 6 | IXFS-59-F1 | 11.2 | 54 | | 0.3 | 54 | 5.11 | |
| 7 | IXFS-129-F1 | 6.93 | 54 | | [illegible] | 54 | 5.11 | |
| 8 | IXFS-130-F1 | 6.82 | 52 | | 1.18 | 52 | 5.11 | |
| 9 | IXFS-132-F1 | 0.95 | 54 | | 0 | 54 | 5.11 | |
| 10 | IXFS-133-F1 | 6.14 | 54 | | 4.29 | 54 | 5.11 | |
| 11 | IXFS-134-F1 | 18.18 | 54 | | 0 | 54 | 5.11 | |
| | | 80.46 kg | | | | | | |

ATTACHMENT 1
Page 1 of 1

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

5 [1] Sample Date: Jan 22, 2013

| Container No. (5 [1]) | S8036641 | | | | | |
|---|---|---|---|---|---|---|
| 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]) | 1159.8 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5 [5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

5 [ ] Certified CCP Technician

Performed By Rick Jagielski (CCP Print) 246088 Z #

Reviewed By Gabe Romero (CCP Print) 236973 Z #

Comments
per Erik Loechell filter type is a 72.

6 [2][A] WCRRF waste container satisfies the following criteria ☑ SAT ☐ UNSAT ☐ N/A

- Hydrogen less than or equal to 5.2% (52,000 ppm)
- VOC less than or equal to 7,000 ppm.

6 [3] Performed By Julie Gallegos (Waste Handling Operator/print) Julie Gallegos (Signature) 176905 (Z #) 1 (Date)

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130122C\
Data File : S802641.D
Acq On : 22 Jan 2013 3:25 pm (#1); 22 Jan 2013 3:23 pm (#2)
Operator : RC
Sample :
Misc : 55 Gallon drum, unobstructed through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 22 15:29:21 2013
Quant Method C:\msdchem\1\METHODS\H2-CH4.M
Quant Title Flammable Gas Analysis for Transportation Only
QLast Update Thu Oct 04 08:07:46 2012
Response via Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.937 | GC1 | 335476 | 1187.81 | ppmv | 100 |

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

H2 CH4 M Tue Jan 22 15:29:27 2013 UNIT12

Dec 21-13

0600 Assuming DCRRF operations center outside

0611 Starting outside rounds.

0615 Pre job being conducted by SDS.

0625 Item #3 is unsat FSR in place OK to proceed.

0628 Starting inside rounds

0659 Outside rounds completed

0659 Rounds signed off by SDS.

0722 mode change performed TA50-69 and DCRRF yard in operations.

0727 Starting staging of drums for area G shipment Permission granted to lower vehicle access gates.

0728 Operations continuing to process drum S855530.

0808 Bagging off S855530, bagging on S802641

0827 Permission granted to restore vehicle access gates, shipment to area G complete

0852 Bag on, Bag off complete.

0902 Bagging off 1 daughter.

0950 Starting movement into 50-69

014 movement complete into 50-69

1039 Bagging off S802641, bagging on S855867

1104 Bag on, Bag off complete

1215 Bagging off S855867, bagging on S816828

1241 Bag on, Bag off complete.

1304 Operator notifying operations center that inner vehicle bay door was hit with extra pallet left on the floor. RCT's, SDM and OM notified.

1310 RCTs and SDS have stated no damage was done to the doors.

1519 Starting movement out of 50-69.

1551 movement out of 50-69 complete

1635 Starting inside and outside rounds

1651 Completed outside rounds.

1653 Item #63 is OES PCO in place OKay to proceed.

[illegible] Bagging off last drum

12-21-13
173
175
185

6-21-13 — Continued from previous page (Adams)
1734 Bag off to complete.
1757 Mods change performed TASO-69 and WCREF yard warm standby.
1830 End of day. WCREF operations center secure (Adams).

JJ

Do further entries this page

PROJECT NAME 6-21-13 WCRR SOM LOG

NOTEBOOK NO.

0600 ASSUMED WCRR SOM DUTIES FOR 6-21-13.
0615 PRE JOB
0640 MGMT CALL IN
0700 TASK SHIFT BRIEF
0722 MODE CHANGE AT WCRR: WARM/WARM TO OPERATIONAL/OPERATIONAL FOR SITE/50.69.
0805 FINISHED PARENT FROM THE NIGHT BEFORE (S855530) AND BEGAN ANOTHER (S802641).
0837 SHIPPED TO AREA 6
0902 REVIEWED TIMELY ORDER BOOK AND ASSOCIATED SHIFT ORDER (SH-WCRR-003 R2)
1735 BAGGED 1FP LAST DRUM. REMEDIATE 4 PARENTS & DAUGHTERS AND 1 POC. THIS INCLUDES THE PARENT LEFT ON LAST NIGHT (INCLUDING DAUGHTERS).
1757 MODE CHANGE AT WCRR: OPERATION/OPERATION TO WARM/WARM FOR SITE FACILITY
1815 SECURE SOM SHIFT.

NO FURTHER ENTRIES

6/21/13

WCRR SOS Log Book

0600 Assuming SOS position for the day. [illegible]
0605 Reviewed log Book and SOS turnover.
0615 Starting Pre Job brief. ~~Operator br~~ JH briefing about ladder being used for shipments in and out. also briefing to ladders being used inside of the facility using two man rule. One shipment scheduled out today. Finish processing parent that was bagged on overnight, Continue processing parents. Bioassay kits, TLD's and Dosimeters, ensure that they are turned in timely. 6-21-13
0640 Concluded Pre-Job
0658 Reviewed and signed rounds.
0822 Made Change, WCRR yard and 50-69 are in operations mode.
0806 Bagging off first Parent that was left Bagged on overnight. Bagging on second parent for the day.
0826 Shipment out Complete.
0900 Bagging off one daughter from first parent, bagging on second daughter and continuing to process.
0916 Bag off Complete
1027 Bagging off one daughter and one POC, Bagging off second daughter, Bagging on third ~~daughter 1~~ Parent for the day. 6-21-13
1100 Bag on Bag off complete.
1215 Bagging off third parent, bagging on fourth parent
1241 Bag on Bag off complete.
1304 Operators notifying operations center that when operators were moving in a pallet with empty drums, they hit a pallet that was in there pushing it up against the inner rollup door. Opened it and closed it, stuck a little bit and manually raised and lowered it then electrically. Need to monitor
1708 Bagging off last Parent for the day generated two daughters
1734 Bag off complete.
1757 Made Change WCRR yard and 50-69 in GWRRff.

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0088 |
| Examination Date: | 6/27/2013 |
| Waste Container ID: | 93859 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0088 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 71.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 38.1 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: | 40 % |

# CCP Radiography Data Sheet



Waste Container ID: 93859

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

IM:

AM:

OM:

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): | |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 32.1 |
| Soils (S): | |
| Total WMP Weight: | 38.1 |

# CCP Radiography Data Sheet



Waste Container ID: 93859

| 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 | | 6/27/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93859 | Count Sequence Number: | 23116 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 6/28/2013 10:30:02 AM | | |
| Description 1: | 1LANDA1800 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 38.1 kg | Net: | 38.1 kg |
| Container: | Volume: 208.0 l | Full: | 40.0 % |
| Density: | 0.460 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: | 23116 | Batch Number: | 1LANDA1800 |
| 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: | 93859 | Analysis Date: | 6/28/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 38100.0 g | | |
| Pu mass | 4.97E-001 | +- | 9.11E-002 g |
| TRU Alpha Activity | 1.18E+000 | +- | 6.01E-001 Ci |
| TRU Activity Concentration | 3.09E+004 | +- | 1.58E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.18E+000 | +- | 6.01E-001 Ci |
| Pu-239 FGE | 4.52E-001 | +- | 9.01E-002 g |
| Decay heat | 3.92E-002 | +- | 2.01E-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 | 3.15E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.88E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 5.62E-007 |
| NP237 | 2.35E-002 | 1.68E-005 | 2.45E-006 | 1.01E-006 |
| PU238 | 1.99E-004 | 3.43E-003 | 8.47E-004 | 1.04E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 6.43E-006 |
| PU239 | 4.39E-001 | 2.76E-002 | 5.67E-003 | 8.37E-003 |
| PU240 | 5.45E-002 | 1.25E-002 | 3.14E-003 | 3.80E-003 |
| AM241 | 3.26E-001 | 1.13E+000 | 6.01E-001 | 2.18E-002 |
| PU241 | 2.58E-003 | 2.68E-001 | 6.77E-002 | 8.14E-002 |
| PU242 | 9.94E-004 | 3.95E-006 | 9.99E-007 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 7-9-2013

ITR: Brit Tupleth Date: 7-10-13

## Automated Independent Technical Review

Count Sequence Number: 23116 Batch Number: 1LANDA1800
Counter ID: MCS HENC #1
Container ID: 93859
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 6/28/2013

| 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 |
| 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. | |
| Section 4 - MGA Analysis | 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-52,54. |
| Results are marked as invalid. | |
| 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: _____ Date: 7/9/13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **93859**

BDR Number: **LA13FG12057**

Sampling Date: **7/2/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 78.37 | |
| 74-82-8 | Methane | 9.63 | 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\130702c\
Data File : 93859.D
Acq On : 2 Jul 2013 1:43 pm (#1); 2 Jul 2013 1:42 pm (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER, NUCFIL-019DS
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 02 13:47:58 2013
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 | 1.900 | GC1 | 22356m | 78.37 | ppmv | |

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

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# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-13-0079 |
| Examination Date: | 6/28/2013 |
| Waste Container ID: | 93860 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0079 C&D |
| 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| 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 2 layers |
| Volume Utilization Percentage: | 75 % |

# CCP Radiography Data Sheet



Waste Container ID: 93860

## 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): | 22.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 8.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 84.6 |
| Soils (S): | |
| Total WMP Weight: | 114.6 |

# CCP Radiography Data Sheet



Waste Container ID: 93860

| Section 5: RTR Summary<br>(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 | | 6/28/2013 |
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93860 | Count Sequence Number: | 23122 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 6/28/2013 3:35:42 PM | | |
| Description 1: | 1LANDA1800 | | |
| 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: | 75.0 % |
| 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: | 23122 | Batch Number: | 1LANDA1800 |
| 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: | 93860 | Analysis Date: | 6/28/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 115000.0 g | | |
| Pu mass | 4.46E+000 | +- | 8.87E-001 g |
| TRU Alpha Activity | 1.00E+001 | +- | 5.24E+000 Ci |
| TRU Activity Concentration | 8.70E+004 | +- | 4.56E+004 nCi/g |
| Pu-239 Equivalent Activity | 1.01E+001 | +- | 5.24E+000 Ci |
| Pu-239 FGE | 4.07E+000 | +- | 8.78E-001 g |
| Decay heat | 3.34E-001 | +- | 1.75E-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 | 7.53E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.16E-006 |
| NP237 | 1.71E-001 | 1.22E-004 | 2.33E-005 | 3.93E-006 |
| PU238 | 1.89E-003 | 3.26E-002 | 8.55E-003 | 4.89E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 2.54E-005 |
| PU239 | 3.93E+000 | 2.47E-001 | 5.52E-002 | 3.70E-002 |
| PU240 | 4.87E-001 | 1.12E-001 | 2.98E-002 | 1.68E-002 |
| AM241 | 2.77E+000 | 9.62E+000 | 5.24E+000 | 8.24E-002 |
| PU241 | 3.33E-002 | 3.46E+000 | 9.26E-001 | 5.19E-001 |
| PU242 | 8.89E-003 | 3.53E-005 | 9.46E-006 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 7-9-2013

ITR: _____ Date: 7-10-13

## Automated Independent Technical Review

Count Sequence Number: 23122
Batch Number: 1LANDA1800
Counter ID: MCS HENC #1
Container ID: 93860
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 6/28/2013

| 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-52,54. |
| 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: [signature] Date: 7/9/13

041

Waste Container ID: **93860**

BDR Number: **LA13FG12058**

Sampling Date: **7/3/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 246.93 | |
| 74-82-8 | Methane | 9.63 | 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\130703c\
Data File : 93860.D
Acq On : 3 Jul 2013 10:55 am (#1); 3 Jul 2013 10:53 am (#2)
Operator : EL
Sample :
Misc : 55 Gallon Drum through Filter, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 03 10:58:56 2013
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 | 1.893 | GC1 | 70437m | 246.93 | ppmv | |

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

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| ☐ RTR Examination ☒ RTR Replicate Scan ☐ RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0088 |
| Examination Date: | 6/27/2013 |
| Waste Container ID: | 93861 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0088 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 157.5 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 12.4 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: | 50 % |

# CCP Radiography Data Sheet



Waste Container ID: 93861

| Section 3: Container Inventory and Comments | (Detailed descriptions) |
|---|---|
| IM: | |
| AM: | |
| OM: | |
| 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): | 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): | 2.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 10.4 |
| Soils (S): | |
| Total WMP Weight: | 12.4 |

# CCP Radiography Data Sheet



Waste Container ID: 93861

| 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. This Replicate Scan agrees with the Original Scan.

RTR Operator:

| Benito Maestas | | 6/27/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93861 | Count Sequence Number: | 23109 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 6/27/2013 2:12:03 PM | | |
| Description 1: | 1LANDA1799 | | |
| Description 2: | POC - Gross Wt. = 157.5 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 12.4 kg | Net: | 12.4 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.657 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: | 23109 | Batch Number: | 1LANDA1799 |
| 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: | 93861 | Analysis Date: | 6/27/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 12400.0 g | | |
| Pu mass | 1.72E+001 | +- | 3.40E+000 g |
| TRU Alpha Activity | 1.06E+001 | +- | 4.90E+000 Ci |
| TRU Activity Concentration | 8.51E+005 | +- | 3.95E+005 nCi/g |
| Pu-239 Equivalent Activity | 1.07E+001 | +- | 4.90E+000 Ci |
| Pu-239 FGE | 1.55E+001 | +- | 3.01E+000 g |
| Decay heat | 3.50E-001 | +- | 1.64E-001 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 1.70E-001 | 1.21E-004 | 2.16E-005 | 6.08E-006 |
| PU238 | 6.64E-003 | 1.15E-001 | 2.27E-002 | 7.65E-005 |
| PU239 | 1.52E+001 | 9.56E-001 | 1.89E-001 | 6.37E-004 |
| PU240 | 1.89E+000 | 4.34E-001 | 8.58E-002 | 2.89E-004 |
| AM241 | 2.61E+000 | 9.05E+000 | 4.89E+000 | 7.59E-002 |
| PU241 | 7.55E-002 | 7.85E+000 | 1.55E+000 | 5.23E-003 |
| PU242 | 3.45E-002 | 1.37E-004 | 2.71E-005 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 1.01E-006 |
| U233 | <LLD | <LLD | 0.00E+000 | 6.98E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 2.10E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.90E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 7-9-13

ITR: _____ Date: 7-9-13

## Automated Independent Technical Review

Count Sequence Number: 23109 Batch Number: 1LANDA1799
Counter ID: MCS HENC #1
Container ID: 93861
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 6/27/2013

| 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. |
| 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 |

| Comments | Disposition |
|---|---|
| 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 failed. | 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 Chamberlin Date: 7-2-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **93861**

BDR Number: **LA13FG12057**

Sampling Date: **7/2/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 234.64 | |
| 74-82-8 | Methane | 9.63 | 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\130702c\
Data File : 93861.D
Acq On : 2 Jul 2013 1:26 pm (#1); 2 Jul 2013 1:25 pm (#2)
Operator : NW
Sample :
Misc : POC THROUGH DRUM FILTER, NUCFIL-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 02 13:30:55 2013
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 | 1.903 | GC1 | 66931m | 234.64 | ppmv | |

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

26

S802959

# S802959

Container Profile 770776

File Options Reports Help

# S802959

| 770776 | 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

S802959

- S802959
  - 94223
    - LASB02091
  - 94224—EMPTY

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 0.0010445 | % | | | |

**ATTACHMENT 1**
Page 1 of 4

8-20-13

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 5802959

6.2[4] Date Processed: 8-20-13

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 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.: D19065
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:
(> 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: Adam Segovia [signature] Z76107 8-20-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S802959

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 311.8 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) 311.8 lb

6.2[7] (S) 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:

EWMO-FOD (print) Signature / # Date

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5802959

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 94223 | | N/A | |
| 10.1[4] | Daughter Drum Filter No. | KL-446 | | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-8226 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501321 | | | |
| 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 | N/A | N/A | N/A | |
| 10.3[5][A] | Free Liquid Volume/Units | 2 GALLONS | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | 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 | | | |
| 10.3[13]/10.4[10]/ 10.5[4]/10.6[10] | Daughter Drum % Full (%) | 95% | | N/A | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Stubout bags Kitty litter | | | |

**ATTACHMENT 1**
Page 4 of 4

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

Comments: Lead Shielding, Metal, Rubber, Stuff out Bags, Poly Lidg, Hex Armor's & and misc other

11.1[1] Performed By: Adam Sessom [illegible] [illegible] 18-20-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: [illegible] [illegible] [illegible] 5/1/13 [illegible]
SOS or designee (print) Signature Z # Date/Time

8 20 13

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501323
Lot No.: 0238 025
Manufacture Date: 2013

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

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

Overpack filtered vent information:

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

N/A

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

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

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

5. [18] 2-in. bung plug torque value: N/A ft-lb

Comments: Not Prepped At WCRRF.

8.1[1] Performed By: James Sudmel / [signature] 116662 / 08 20-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: G Mk / [signature] 149235 / 8/20/13
Supervisor or designee (print) Signature Z # Date

8-20-13

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: 94224

7.[24] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 09-11-13
Range in ft-lb: 10-80
Tolerance: +1.3% cw + +1.6% ccw

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

Performed By: James Sedel, [signature] 116662 / 08-20-13
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: 10-14-14

7.[35][D] 85-gal overpack drum gross weight (lb): 168.6 lb

Comments: N/C

8.1[1] Performed By: James Sedel, [signature] 116662 / 08-20-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: [signature], [signature] 149285 / 8/20/13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 96223

**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 #: 501321
Lot #: 9237720
Date of Manufacture: 13

**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 #: 6CEV-15 25PC
Serial #: L-3226
Date of Manufacture: 3/13

**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: Nutech
Model #: 0905
Serial #: KL-446
Date of Manufacture: 11/11

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 100216
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 40-200
Tolerance: ±1%cw 3%ccw

Jam Nut / Bung torque wrench:
M&TE ID #: 033369
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 10-80
Tolerance: ±1%cw 3%ccw

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Michael Mohamed Signature: [signature] ZI#: 191352

**5. Weigh Drum Assembly**

RECORD weight information

Tare wight (lbs) 75.6
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: Michael Mohamed Operator Sign: [signature] ZI#: 191352 Date: 8-19-13

Verifier Print: Adam Sepsom Verifier Sign: [signature] ZI#: 176202 Date: 8-20-13

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

DRUM ID#: 94223

**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 Seat 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: 9-11-13

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.): 439.8

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: [illegible] Date 08-20-13

Verifier Print/Sign: [illegible] Date: 08-20-13

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# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S802959 Container Type: 55-GAL Gross Weight (lbs): 268

Inner Seal #: 006248 Filter Prefix: None Filter Serial #: None

AK Waste Stream: LA-CIN01.001 Certified RTR BDR: No BDR

TWSR Comments: None

Total PE-Ci Activity: 7.44E-01 Equivalent Combustible PE-Ci: 2.79E-01 AM-241 PE-Ci: 9.59E-02

Total Fissile Gram Equivalents: 6.8 Total Surface Dose Rate (mrem/hr): 3

EPA Code(s): D008 D007 D009 10/11/12

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 3/12/2012 Comment: Liquid; impenetrable item (lead liner)

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: None Production Control Comments: Nitrate Salts apply mixture + EPA codes.

Performed By: Julie Gallegos (Production Control (Print)) Julie Gallegos (Signature) 176905 (Z Number) 10/18/12 (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. 208# Generator info shows 12 items of nitrate salts, weights range from 5-9 #. No RTR BDR available for review. Nitrate salts are commonly packaged in plastic bags & sometimes contain undocumented liquids. RTR P.S. shows liquids & lead lined drum. Nitrate salts require repack w/ admixture, they carry waste codes for chromium, lead, & mercury. No chemicals identified.

Performed By: Valerie Fitzwater (WDP Engineering (Print)) [illegible] (Signature) [illegible] (Z Number) 10/11/12 (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 in the drums. Use hexavalent glass during processing.

Processing Determination: ☑ Accept Reject

TRU Remediation Operations Comments: use Proper PPE, Use proper ratio of kitty litter to waste

Performed By: Gilbert Ortiz (TRU Remediation Operations (Print)) [illegible] (Signature) 149235 (Z Number) 15/18/13 (Date)

Jose Perez [illegible] 221452 5/18/13

IHS review: JS 206362 12.17.12

# Discardable Waste Log Sheet

**DrumID: 006248**

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-181-F1 | 9.3 | NITRATE SALTS | | 0 | 54 | 5/11 | |
| 2 | IXFS-182-F1 | 18.46 | NITRATE SALTS | | 1.64 | 52 | 5/11 | |
| 3 | IXFS-183-F1 | 10.6 | NITRATE SALTS | | 1.86 | 52 | 5/11 | |
| 4 | IXFS-184-51 | 3.9 | NITRATE SALTS | | 0 | 54 | 5/11 | |
| 5 | IXFS-187-F1 | 5.33 | NITRATE SALTS | | 0.3 | 54 | 5/11 | |
| 6 | IXFS-188-F1 | 2.5 | NITRATE SALTS | | 0.67 | 54 | 5/11 | |
| 7 | IXFS-191-F1 | 7.5 | NITRATE SALTS | | 0.69 | 54 | 5/11 | |
| 8 | IXFS-193-F1 | 2.5 | NITRATE SALTS | | 0.1 | 54 | 5/11 | |
| 9 | IXFS-194-F1 | 9.5 | NITRATE SALTS | | 0.55 | 54 | 5/11 | |
| 10 | IXFS-195-F1 | 9.1 | NITRATE SALTS | | 0.16 | 54 | 5/11 | |
| 11 | IXFS-196-F1 | 9.86 | NITRATE SALTS | | 1.73 | 52 | 5/11 | |
| 12 | IXFS-197-F1 | 4.8 | NITRATE SALTS | | 0.24 | 54 | 5/11 | |
| | | 93.35 kg | | | | | | |

**ATTACHMENT 1**
Page 1 of 1

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

5.[1] Sample Date: Jan 29 2013

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 882457 | | | | | |
| 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]) | 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: Steve Aragon (CCP (Print)) 237975 (Z#)

Reviewed By: Nathan Wall (CCP (Print)) [illegible] (Z#)

Comments: N/A

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: Mike Gallegos (Waste Handling Operator (print)) [signature] (Signature) 176920 (Z#) 1301 (Date)

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130129c\
Data File : S802959.D
Acq On : 29 Jan 2013 1:00 pm (#1); 29 Jan 2013 12:58 pm (#2)
Operator : SA
Sample :
Misc : 55 GAL LFL THROUGH UNOBSTRUCTED FILTER-072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 29 13:04:00 2013
Quant Method : C:\msdchem\1\METHODS\H2-CH4.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Thu Oct 04 08:07:46 2012
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|

Target Compounds Qvalue

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

H2-CH4.M Tue Jan 29 13:04:17 2013 UNIT12

8-19-13

1803 Assuming WCRR operations center - JCOleman

1816 Entering EP-WCRR-RM-AOP-0207. All outside activities have been cancelled due to lightning.

1839 Restarting - 30 minute time for lightning.

1840 Late entry: at 1820, pre-job began. JC

1855 Pre-job concluded.

1910 Exiting EP-WCRR-RM-AOP-0207, resuming outdoors ~~oper~~ JC 8-19-13 JC 8-19 operations.

2009 SOS reporting to SOM that operator 38 states the small lead window on station 3 is completely broken in half. SOS and SOM discussing a path forward.

2045 SOS reporting to SOM that operator 38 states the inspection for the drum handler is unsat due to a tire being cracked.

2135 FSR# 110652 submitted for the drum handler.

0010 Operators out for lunch.

0110 Resuming operations.

0200 ~~Assuming~~ Assuming WCRRF OPS center in training Kevin Belnap

0247 Bagging off 1 daughter and Bagging on S802959 ..

0258 Initiating drum movement into T7-50-69 from transportainers.

0314 Drum movement into facility completed.

0320 Bag off / Bag on complete.

0345 Operators removed small lead window on station 3 and put new lead window on outside of window for station 3 due to velcro not lining up.

0447 Operators are not comfortable with taping the lead window on outside of window on the WCG. They will be double wrapping the broken inner lead window with tape to hopefully insure that the window holds together.

0512 Initiating a drum movement from 50-69 to a transportainer

0530 Drum movement out of 50-69 complete.

0531 Late entry - at 0230, caution tag # 50-13-0020 placed on the Roto Grip. JC

0533 Beginning inside rounds.

0534 Beginning outside rounds.

Continued on next page. - JCOleman

8/19/13 Night Shift.

1809 Reviewed Shift Turnover Checklist and assumed the WCRR SOM position.

1811 WCRR Nightshift Operations watchbill is approved and posted.

1816 Entering EP-WCRR-RM-AOP-0207 Severe Weather due to lightning. 30/30 rule is in effect.

1820 Attending pre job brief conducted by SOS. Discussed current conditions in WCRR w/ waste on the box and drums to be processed. IH safety topic was prompt reporting of even the smallest injuries. Briefed crew to PRITS issues 2013-2897 Actions 2 and 3. Discussed upcoming maintenance outage and work planned

2009 Informed by SOS that Station #3 Lower inner lead window is now cracked with a visible gap/seperation in the glass. No replacement glass of correct size is on site. Discussed swapping w/ a low use station (5 or 6). Checking w/ RP-1 for input.

2045 SOS reported that operators failed the drum hauler/roto grip insp. inside 50-69 for drum movements due to a cracked wheel.

2050 Notified OM regarding issues - discussed continuation of processing current drum on WCG due to lower dose rates and operations w/ waste can be accomplished w/out an operator @ station #3. Operations can also utilize forklift for drum movements on/off the scale

2135 FSR was submitted in by OCO for wheel repair on Roto Grip.

8/20/13 0010 Operators breaking for lunch.

0110 Resuming operations.

0314 Completed drum movement of 3 drums into 50-69 from transportainers.

0320 Completed bagging of all drums for parent #5864647 (1 daughter) and bag on of 5802959.

0345 Operators in process of removing inner lead window @ station #3 and installing a lead window on the outside of the WCG prior to beginning processing of next drum.

0447 Operators reporting that installation of lead window on the outside of the WCG is not optimal because it does

not fit inside the window gasket => with a gap in between the lead window and WCG window any pressure against the lead window may cause it to break. Operators will attempt to tape existing inner window to hold intact and use lead tape over any gaps in the surface to prevent dose streaming.

0530 Completed drum movement of 6 drums from 50-69 to the transportainers.

0622 Turned over SOM position to day shift. Secured Night Shift SOM.

LR
[illegible]

No further entries this page
RLG

8/19/13 WCRR SOS Log Book

1809 Assuming SOS position. ~~CL~~ 8-19-13 CA

1816 Due to conditions outside, entering EP-WCRR-RM-AOP-0207, outside operations suspended.

1817 Starting Pre-Job, discussed watching your footing and reporting all work injuries, minor or major, to SOS and IH.

1855 Pre-Job completed.

1910 After several restarts, exiting EP-WCRR-RM-AOP-0207, resuming outside operations.

2009 Operators inside reporting that small lead window on station 3 is broken in half. OCO and SOM notified.

2040 Operators inside will either tape over crack or replace window if extras are located.

2045 Operators report that drum handler failed inspection due to crack in tire.

2135 FSR # 110652 submitted for drum handler.

0247 Bagging off 1 daughter, bagging on 5802959.

0258 Starting movement into 50-69.

0314 Move in complete.

0320 Bag off/on complete.

0345 Operators placing a new, smaller, ~~ta~~ 8-20-13 lead window on outside of WCG. Will use lead tape to cover gaps. SOM notified to send email to engineering for temp. mod. for installing lead window to outside of WCG.

0447 Operators are not comfortable with lead window on outside of WCG, due to ease of breakage. They will be double tapping broken inner lead window to hopefully ensure that the window holds together.

0511 Starting movement out of 50-69

0529 Move out complete.

0531 Late entry @ 0230 caution tag placed on drum handler.

Continued on Next Page. C Mullins

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-13-0101 |
| Examination Date: | 9/17/2013 |
| Waste Container ID: | 94223 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0101 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 199.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 165.6 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: 94223

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

IM:

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): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 35.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 124.6 |
| Soils (S): | |
| Total WMP Weight: | 165.6 |

# CCP Radiography Data Sheet



Waste Container ID: 94223

| 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 | | 9/17/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 94223 | Count Sequence Number: | 16559 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 9/24/2013 2:44:10 PM | | |
| Description 1: | 2LANDA1226 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 166.0 kg | Net: | 166.0 kg |
| Container: | Volume: 208.0 l | Full: | 90.0 % |
| Density: | 0.890 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: | 16559 | Batch Number: | 2LANDA1226 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 15 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 94223 | Analysis Date: | 9/24/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 166000.0 g | | | |
| Pu mass | 8.82E+000 | +- | 2.28E+000 | g |
| TRU Alpha Activity | 3.99E+000 | +- | 1.83E+000 | Ci |
| TRU Activity Concentration | 2.41E+004 | +- | 1.10E+004 | nCi/g |
| Pu-239 Equivalent Activity | 4.03E+000 | +- | 1.83E+000 | Ci |
| Pu-239 FGE | 8.17E+000 | +- | 2.09E+000 | g |
| Decay heat | 1.31E-001 | +- | 6.09E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 4.35E-002 | 3.07E-005 | 6.58E-006 | 2.38E-006 |
| PU238 | 1.78E-003 | 3.04E-002 | 7.85E-003 | 5.84E-005 |
| PU239 | 8.09E+000 | 5.02E-001 | 1.30E-001 | 9.65E-004 |
| PU240 | 7.00E-001 | 1.59E-001 | 4.11E-002 | 3.06E-004 |
| AM241 | 9.63E-001 | 3.30E+000 | 1.83E+000 | 3.42E-002 |
| PU241 | 2.09E-002 | 2.15E+000 | 5.56E-001 | 4.14E-003 |
| PU242 | 7.96E-003 | 3.14E-005 | 8.12E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.74E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.43E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.43E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.50E-005 |
| AM243 | 3.92E-005 | 7.84E-006 | 2.14E-006 | 5.04E-006 |

Errors quoted at 1.000 sigma

Operator: [illegible] Date: 9-25-13

ITR: [illegible] Date: 9-26-13

## Automated Independent Technical Review

Count Sequence Number: 16559 Batch Number: 2LANDA1226
Counter ID: HENC #2
Container ID: 94223
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-52,54. |
| 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 Chandler 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: **94223**

BDR Number: **LA13FG12103**

Sampling Date: **9/26/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 161.62 | |
| 74-82-8 | Methane | 9.63 | 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\130926c\
Data File : 94223.D
Acq On : 26 Sep 2013 2:17 pm (#1); 26 Sep 2013 2:15 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER-NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 26 14:20:53 2013
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 | 1.900 | GC1 | 46102m | 161.62 | ppmv | |

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

S803613

# S803613

Container Profile 746980

File Options Reports Help

# S803613

| 746980 | 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

S803613

- S803613
  - LA00000068432 – WCS
    - LASB50037
  - LA00000068627 – LANL
    - LASB50059
  - LA00000068663 – EMPTY

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 0.01 | % | | | |

**ATTACHMENT 1**
Page 1 of 4

Working Copy
Date: 11-12-13

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: 5863613

6.2[4] Date Processed: 11-12-13

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: Adam Segovia | [signature] | 1716702 | 11/12/13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5803613

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 322.8 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 83.0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 405.8 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. [illegible] / NVP
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.: 5803613

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68627 | | | |
| 10.1[4] | Daughter Drum Filter No. | LM-847 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-10140 | | A | |
| 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. | 6CPV/C1.5x25PVC | | | |
| | Serial No. | L-6758 | | | |
| | Date of Manufacture | 1-13 | | | |
| 10.2[5] | POC ID No | 68432 | | | |
| 10.2[7][B]/10.2[6] | POC Item Description | Nitrate salts kitty litter | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | 98 116662 | | N | |
| 10.2[14] | POC Assembly Gross Weight (lb) | 336.6 | | | |
| 10.2[15] | POC Rad. Survey Results (mrem/hr) | 3003 | | A | |
| 10.3[3][A] | Approx. Containerized Liquid Vol./Units | N/A | | | |
| 10.3[5][A] | Free Liquid Volume/Units | 1 Qt. | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | lead Sheilding | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | | | | |
| 10.3[9][B] | PCB Item ID No. | | | | |
| 10.3[10] | Remaining Waste Description | See Comments | | N | |
| 10.3[13]/10.4[10]/10.5[4]/10.6[10] | Daughter Drum % Full (%) | 100% | | A | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty litter + Plastic | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5803613

Comments: Kitty litter, Plastic, Room Trash, Nitrate Salts And lead Sheilding

11.1[1] Performed By: James S. [illegible] 1116662 11-12-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Gilbert Martinez [illegible] 149235 11/[illegible] 0813
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 5**
Page 1 of 1

Working Copy
Date: 11/12/13 HS

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68663

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% rdg + +/-6% rng

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

Performed By: James Sutherl [signature] 116662 / 11-12-13
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): 162.4 lb

Comments: N/A

8.1[1] Performed By: James Sutherl [signature] 116662 / 11-12-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez [signature] [signature] 11/12/13
Supervisor or designee (print) Signature Z # Date

11-13 jr

**ATTACHMENT 1**
Page 1 of 2

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68627

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6cpvc1.52spvc
Serial No.: L-10140
Manufacture Date: 5-13

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 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: Brandon Chavez (Operator (print)) [signature] (Signature) 2047412 (Z #) 11-7-13 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-847
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.: 686627

Comments: N/C

5.[35] Performed By: Brandon Chavez / [signature] [illegible] 11-7-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: [illegible] [signature] [illegible] 11/7
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68627

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: +/-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: James Smith / [signature] / 11-12-13
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 lam 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: _____ / _____ / _____
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.: 68 627

6.[26] Scale File ID number: 019065

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

6.[28] Drum gross weight: 357.2 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: James Sabol [signature] [illegible] 11-12-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Gilbert Martinez [signature] [illegible] 11/12/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 11/11/13

**ATTACHMENT 3**
Page 1 of 1

**WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET**

6.3[21] Prepared Parent 55-Gal Drum Number: S803613

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): 322.8

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: James Sebel [signature] [illegible] 11-12-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Gilbert Martinez [signature] [illegible]
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] [illegible] [illegible]
SOS/SOM or designee (print) Signature Z # Date Time

Inspected SP78

# LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Planning and Technical Solutions** 85 11-4-09

Container ID: S803613 Container Type: STEEL DRUM (55 GAL) Gross Weight (lbs): 322.812
Total PE-Ci Activity: 6.32E-01 Equivalent Combustible PE-Ci: 2.37E-01
Total Fissile Gram Equivalents: 4.51E+00 Total Surface Dose Rate (mrem/hr): 5
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 ~ 6 gallons of free liquid.

Potential Safety Risks: Nitrate salt drums often contain free liquids and are packaged in individual plastic bags. Drum has been lead lined. Net weight is ~ 149 lbs. and generator data shows 14 items of nitrate salts with weights varying from ~2-22 lbs.

Performed By: Susan Ramsey (LTP-PTS (Print)) Signature: [signature] Z#: 100681 Date: 7/30/13

**IHS Representative**

Potential IHS Safety Risks: May contain lead, ammonia, mercury. Use caution when lifting.

Performed By: Johnny Broadhead (IHS Representative (Print)) Signature: [signature] Z#: 214659 Date: 7-31-13

**LTP Engineering**

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

Performed By: Valerie Rhodes (LTP Engineering (Print)) Signature: Valerie Rhodes Z#: 1112609 Date: 8/5/13

**TRU Remediation Operations**

Potential Safety Risks: USE Proper PPE and kitty litter ratio

Performed By: Gilbert Martinez (TRU Operations (Print)) Signature: [signature] Z#: 149235 Date: 8/8/13

**Operations Manager or designee**

Processing Determination: ☒ Accept ☐ Reject
OM or designee Comments: Do not push or press on waste with hands. Use heavyweight gloves during processing.

Approved By: Joe Perez (OM or designee (Print)) Signature: [signature] Z#: 221452 Date: 8-12-13

# Discardable Waste Log Sheet

**DrumID: 005363**

| ItemN# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | DXFS-107-F1 | 5.45 | 54 | | 0 | 54 | 5/11 | |
| 2 | DXFS-108-F1 | 3.2 | 53 | | 0.21 | 53 | 5/11 | |
| 3 | DXFS-59-F1 | 4 | 54 | | 0 | 54 | 5/11 | |
| 4 | DXFS-59-F1A | 3.95 | 54 | | 4 | 54 | 5/11 | |
| 5 | DXFS-109-F1 | 3.8 | 52 | | 0.28 | 52 | 5/11 | |
| 6 | DXFS-110-F1 | 5.9 | 54 | | 0 | 54 | 5/11 | |
| 7 | DXFS-111-F1 | 6.4 | 54 | | 0.56 | 54 | 5/11 | |
| 8 | DXFS-111-R1 | 0.9 | 54 | | 0 | 54 | 5/11 | |
| 9 | DXFS-112-F1 | 5.9 | 54 | | 0 | 54 | 5/11 | |
| 10 | DXFS-113-F1 | 9.55 | 54 | | 0 | 54 | 5/11 | |
| 11 | DXFS-114-F1 | 5.45 | 54 | | 0 | 54 | 5/11 | |
| 12 | DXFS-115-F1 | 1.75 | 52 | | 0 | 52 | 5/11 | |
| 13 | DXFS-118-F1 | 6.14 | 54 | | 0 | 54 | 5/11 | |
| 14 | DXFS-119-F1 | 5.45 | 54 | | 0 | 54 | 5/11 | |
| | | 67.84 kg | | | | | | |

## ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 4/1/13

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S8D3613 | | | | | |
| 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]) | 1.37 ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 745.41 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | 0 ppm | ppm | ppm | ppm | ppm | ppm |

N/A

5.[7] Certified CCP Technician:

Performed By: Sara Aragon, 237475
CCP (Print) Z #

Reviewed By: [illegible] ales 2388
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], [illegible], 5/30/13
Waste Handling Operator (print) Signature Z # Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130411c\
Data File : S803613.D
Acq On : 11 Apr 2013 1:50 pm (#1); 11 Apr 2013 1:49 pm (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON LFL THROUGH UNOBSTRUCTED 073 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 11 15:50:57 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 | 3.256 | 96 | 1989212 | 206.00 | ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.940 | 117 | 1787310 | 179.50 | ppm | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 5.631 | GC1 | 184185m | 745.44 | ppm | |
| 12) Benzene | 2.877 | 78 | 6882 | 1.37 | ppm | 95 |

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

Vocgas.m Thu Apr 11 15:51:06 2013

11-12-13

0600 ASSUMING OPERATIONS CENTER -H. SMITH
0615 BEGINNING PRE-JOB BRIEFING AND CREW TURNOVER
0642 PRE-JOB BRIEFING CONCLUDED
0701 OPERATORS ENTER BUILDING TO BEGIN PROCESSING
0812 PERMISSION GRANTED TO LOWER ACCESS GATES TO BEGIN SHIPMENT ~~DF~~ HS 11/12/13 OUT OF TA50 194/75 TO AREA G.
0813 BAGGING OFF 2 POC's 1 DAUGHTER AND BAGGING ON ~~S8300613~~ HS 11/12/13 S803613
0920 BAG OFF COMPLETE
0921 MODE CHANGE TA50-69 AND YARD DECREASE TO WARM
0922 SHIPMENT OUT OF WCRR TA50-194/75 IS COMPLETE, VEHICLE ACCESS GATES SECURED.
0923 MAINTENANCE ENTERS BUILDING TO WORK ON PCM's
1058 MODE CHANGE INCREASE TO OPERATIONS IN WCRRF SITE.
1120 MAINTENANCE EXIT BUILDING, WORK COMPLETED
1300 PERMISSION GRANTED TO BEGIN MOVEMENT OUT OF TA50 69 TO TA 50-194/75
1318 OPERATORS OUT FOR LUNCH
1339 TRANSPORTAINER DOOR ARE CLOSED & LATCHED, MOVEMENT OUT OF TA50-69 IS COMPLETE
1431 PERMISSION GRANTED TO BEGIN MOVEMENT INTO TA50-69 FROM TA50-194/75
1500 MOVEMENT INTO TA50-69 IS COMPLETED
1510 BAGGING OFF S803613 BAGGING ON S843593
1520 STARTING OUTSIDE ROUNDS
1545 BAG ON-BAG OFF COMPLETED
1545 OUTSIDE ROUNDS COMPLETED
1602 STARTING INSIDE ROUNDS
1637 ITEM #63 ODS, PDD IN PLACE OKAY TO PROCEED PER CSE DOCUMENTATION
1645 INSIDE ROUNDS COMPLETED
1701 INSIDE ROUNDS AND OUTSIDE ROUNDS REVIEWED BY SO.
1800 OPERATORS OUT FOR THE DAY
11-12-13 1802 BEING RELIEVED BY OCO GERALD ESPANOLA-H SMITH
HS

NO FURTHER ENTRIES ON THIS PAGE. H SMITH

11-12-13

1802 Assuming OCO position - Gerald Espinoza
1815 SHIFT BRIEF AND TURNOVER BEING CONDUCTED.
1840 Pre job concluded.
1905 OPERATORS headed BACK TO BEGIN PROCESSING.
2100 BAGGING OFF FIRST DAUGHTER BAGGING ON A SECOND DAUGHER.
2113 NOTIFIED BY INSIDE PIC OF ELEVATED CAMS.
2127 BAG OFF COMPLETE, CAMS HAVE WENT BACK TO NORMAL.
2234 STARTING TO DENEST 2 DRUMS.
2257 DENESTING COMPLETE, BAGGING OFF and BAGGING ON S833846.
2331 BAG ON BAG OFF COMPLETE
0213 STARTING OUTSIDE ROUNDS.
0245 BEING RELIEVED BY OCO TERRI COLEMAN G. Espinoza
0245 Assuming WCRR operation center, TColeman
0258 Outside rounds complete.
0310 Bagging off 1 daughter, 1 PAC, bagging on another daughter.
0337 Bag off/on complete.
0428 Beginning inside rounds.
0430 Being relieved by OCO Gerald Espinoza TColeman
0430 ASSUMING WCRR OPERATIONS CENTER. G. Espinoza
0442 ITEM #63 DOS, OK TO PROCEED PER CSE DOCUMENTATION.
0445 INSIDE ROUNDS COMPLETED.
0506 ROUNDS REVIEWED BY SOS.
11/13/13 0605 BEING RELIEVED BY OCO HOWARD SMITH. G. Espinoza

NO FURTHER ENTRIES THIS PAGE

11-12-13 DAYSHIFT

0603 Reviewed the shift turnover checklist and assumed the WCRR dayshift SOM Position John Guadagnoli

0643 Completed attending the pre-job brief conducted by (Clarissa). There is one transfer scheduled out (20 drums). The PCM-2 is non-functional. AP-Techs will be notified and scheduled for repair. The safety topic was walking up and down stairs - ensure hand is on rail. An RCT mentioned he encountered a road accident (fatality) when driving back from Texas. Also during de-nesting yesterday, RCT provided more info, the ring was noted below the top chime. within the 85. drum. The SOM discussed the shift orders in affect.

0710 Completed the daily phone call to AREAG statusing POD activities.

0805 P+T arrives to inspect drums to be transfered out, and RP-1 will notify techs to repair the PCM-2 when operators initiate bag outs.

0813 Inside operations report initiating bag offs and Bagging on Parent 5830613

0920 Inside operators report the bag off and bag on was completed. WCG safe configuratio

0921 Mode change: 50/69 and YARD transition from Operations/Operations to WARM/WARM which allows RP-Tech's to enter 50/69 and conduct work on the PCM-2.

0922 The transfer out 20 drums from WCRRF to AREAG - Truck loaded and exited WCRRF,

1015 Completed reviewing ADP validation check sheets with the procedure writer.

1058 RP-Techs complete repair of the PCM-2

Mode change: 50/69 and yard Transition from WARM/WARM to Operations/Operations

1110 Extended shift orders - WCRR-SH-13-003 $R_2$ and WCRR-SH-13-005 $R_0$ through 11-18-13

1231 Completed noon status call - with SOM, SOS, OM, and Production Control.

1339 Operators completed the tranfer out of 50/69 to the transportainer.

1431 Operators initiate movement into 50/69 from the transportainers - 4 drums total.

1510 Inside operators report bagging of 1 daughter and 1 POC and bagging on PARENT 5843593

1545 Bag off and bag on were completed

1745 Obtained update from the SOS, the parent drum is 1/4 full and the daughter drum will require a bag off, the lid is being placed on the parent to secure the parent and leave the WCG in a safe configuration during shift change. No waste in WCG.

1800 Initiated shift turnover checklist with oncoming SOM.

1810 Relieved by R. AXTELL as SOM John Guadagnoli

No further Entries this Page
JGG

11/12/13 Night Shift

1810 Reviewed shift turnover checklist, reviewed approved and posted nightshift operations watchbill and assumed WCRR SOM position. R

1840 Pre job brief is concluded. 1H safety topic was forklift ops and importance of spotter. Briefed the active shift orders in effect for manual drum movements and preventing bag tears. Discussed w/ operators safety concern of driving home after 12 hour shift when tired. Prompted them to bring up safety concerns w/ ES management and WSST.

2113 RP-1 reported elevated CAMs during bag off of daughter drum - one CAM @ 0.5 DAC another @ 0.7 DAC.

2127 CAMs returned to normal. Bag off is completed of ~~and~~ 11/12/13 1 daughter and continuing processing.

2257 Operators completed denesting 2 drums

2331 Completed bag offs for parent drum # 5843593 - 2 daughters total. Bagged on drum # 5833846. Totals for todays production report was already sent out and will not include 5843593.

11/13/13 0337 Completed bag off of 1 daughter and 1 POC - continuing to process.

0511 Reviewed inside and outside round sheets.

0545 Reviewed compliance tracking schedule and updated status board.

0547 Late entry @ 0400 Inventory control brought up issue w/ WCATS system regarding prepping of drums in Arctic. Some are not getting completed in WCATS prior to moving from Arctic to 50-69, causing problems w/ labeling when used as daughter drums.

11/13/13 0609 Relieved by J. Guadagnoli as WCRR SOM. R

No further entries this page

13 PROJECT NAME _____ NOTEBOOK NO. _____

11-12-13

0415 Assuming WCRRF SOS position

0417 Beginning pre job, discussed shift orders, driving safety. Briefings on procedures. RCT's still trying to get personnel to work on PCM.

0442 Pre job briefing concluded.

0702 Operators entering 50-69 to continue processing.

0811 Starting movement to transport vehicle for shipment to treat.

0813 Bagging off 2 POC's, 1 daughter, bagging on ~~S830415~~ S803413 CW-12

0920 Bag on, Bag off to complete

0921 mode change to warm for maintenance to perform work on PCM

0923 movement out of ~~50-69~~ WCRRF to complete 11-12-13

1058 mode change performed TA50 69 and WCRRF yard now in operations, PCM work was completed.

1102 Operators entering 50-69 to continue processing.

1300 Starting movement out of 50-69 10 drums.

1324 Completed movement out of 50-69

1325 Operators waiting for lunch.

1420 Operators entering 50-69 to continue processing.

1431 Starting movement into 50-69.

1500 Completed movement into 50-69

1510 Bagging off S803413, ~~S801-12-13~~ 1 daughter and 1 POC, Bagging on S843593

1545 Bag on, Bag off completed completed outside rounds

1100 late entry started outside rounds. 1520 CW

1012 Starting inside rounds.

1648 Completed inside rounds.

1701 Rounds signed off.

1800 Operators waiting 50-69 drum S843593 is 25% full

11-13 PMG 1810 Relieved by SOS Clayton Mullins / Crelande

10 minutes entries this page

SIGNATURE _____ DATE _____ 20

READ AND UNDERSTOOD _____ DATE _____ 20

PROJECT NAME WCRRF SOS Log Book NOTEBOOK NO

11/12/13

1811 Assuming SOS position. CA

1815 Starting Pre-Job, with turnover from day shift. Also discussed always having a spotter when operating a fork lift as well as being in constant contact with the spotter.

2100 Bagging off 1st daughter, bagging on a 2nd.

2113 Notified by operators inside of slightly elevated CAM's.

2127 Bag off/on complete, CAM's back to normal.

2234 Starting to denest 2 drums.

2257 Denesting complete, bagging off 2nd daughter and bagging on 5833846.

RMG 2331 Bag off/on complete.

0310 Bagging off 1st daughter and 1 POC, bagging on a 2nd daughter.

0337 Bag off/on complete.

0506 Signed off on the rounds.

11/13/13 ~~CA~~ EM 11-13-13 0600 Securing SOS position. CA

No Further Entries on this Page

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-RTR2-13-0129 |
| Examination Date: | 11/15/2013 |
| Waste Container ID: | 68432 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0129 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.: 153.0 kg<br>Tare Wt.: 145.1 kg<br>Net Wt.: 7.9 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: | 30 % |

# CCP Radiography Data Sheet



Waste Container ID: 68432

## 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): | 1.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 6.9 |
| Soils (S): | |
| Total WMP Weight: | 7.9 |

# CCP Radiography Data Sheet



Waste Container ID: 68432

| 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 Component (P.O.C.); There is separation between the liner and liner lid, therefore, the liner is vented.

RTR Operator:

| Michael Simmons | | 11/15/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68432 | Count Sequence Number: | 23874 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/20/2013 11:42:29 AM | | |
| Description 1: | 1LANDA1868 | | |
| Description 2: | POC 153.0 | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 7.9 kg | Net: | 7.9 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.634 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: | 23874 | Batch Number: | 1LANDA1868 |
| 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: | 68432 | Analysis Date: | 11/20/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 7900.0 g | | |
| Pu mass | 3.13E+000 | +- 6.58E-001 | g |
| TRU Alpha Activity | 4.96E+000 | +- 2.53E+000 | Ci |
| TRU Activity Concentration | 6.28E+005 | +- 3.20E+005 | nCi/g |
| Pu-239 Equivalent Activity | 4.99E+000 | +- 2.53E+000 | Ci |
| Pu-239 FGE | 2.83E+000 | +- 6.52E-001 | g |
| Decay heat | 1.64E-001 | +- 8.41E-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 | 6.70E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.71E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.42E-006 |
| NP237 | 8.57E-002 | 6.04E-005 | 1.06E-005 | 2.45E-006 |
| PU238 | 1.23E-003 | 2.11E-002 | 5.80E-003 | 2.57E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.47E-005 |
| PU239 | 2.76E+000 | 1.71E-001 | 4.04E-002 | 2.09E-002 |
| PU240 | 3.47E-001 | 7.89E-002 | 2.17E-002 | 9.63E-003 |
| AM241 | 1.37E+000 | 4.69E+000 | 2.53E+000 | 5.04E-002 |
| PU241 | 1.37E-002 | 1.41E+000 | 3.87E-001 | 1.72E-001 |
| PU242 | 6.28E-003 | 2.48E-005 | 6.36E-006 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 11-22-13

ITR: _____ Date: 11-25-13

## Automated Independent Technical Review

Count Sequence Number: 23874
Batch Number: 1LANDA1868
Counter ID: MCS HENC #1
Container ID: 68432
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 11/20/2013

| 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. |
| Curium/Californium Neutron Analysis complete with warnings.<br><br>- 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>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-54,52,53 |

| Comments | Disposition |
|---|---|
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors. | Ok |
| Ratio of Pu-239 414 to 129 keV line activities is above the limit of 2.50 | Self absorption correction used. Results valid. |
| Miscellaneous | No additional nuclides contributing to 95% of the radiological hazard identified. |

Expert Review by: Sheri Chambers Date: 11-21-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **68432**

BDR Number: **LA13FG2130**

Sampling Date: **12/18/2013**

| 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\131218c\
Data File : 68432.D
Acq On : 18 Dec 2013 2:33 pm (#1); 18-Dec-13, 14:32:27 (#2)
Operator : EL
Sample :
Misc : POC Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 18 14:41:18 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 | 3.568 | 96 | 3422008 | 205.75 ppmv | 0.05 |
| 15) Chlorobenzene-d5 | 5.871 | 117 | 2717653 | 177.50 ppmv | 0.00 |

| Target Compounds | Qvalue |
|---|---|

(#) = 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-RTR2-13-0129 |
| Examination Date: | 11/15/2013 |
| Waste Container ID: | 68627 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0129 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.: 162.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 129.1 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: 68627

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

IM:

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): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 35.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 8.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 86.1 |
| Soils (S): | |
| Total WMP Weight: | 129.1 |

# CCP Radiography Data Sheet



Waste Container ID: 68627

| 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 | | 11/15/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68627 | Count Sequence Number: | 23875 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 11/20/2013 12:34:01 PM | | |
| Description 1: | 1LANDA1868 | | |
| 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: | 85.0 % |
| Density: | 0.730 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: | 23875 | Batch Number: | 1LANDA1868 |
| 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: | 68627 | Analysis Date: | 11/20/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 129000.0 g | | |
| Pu mass | 1.75E+000 | +- 5.25E-001 | g |
| TRU Alpha Activity | 5.20E+000 | +- 9.64E-001 | Ci |
| TRU Activity Concentration | 4.03E+004 | +- 7.48E+003 | nCi/g |
| Pu-239 Equivalent Activity | 5.21E+000 | +- 9.64E-001 | Ci |
| Pu-239 FGE | 1.59E+000 | +- 5.21E-001 | g |
| Decay heat | 1.72E-001 | +- 3.20E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 2.91E-008 | 4.01E-006 | 1.24E-006 | 0.00E+000 |
| CS137 | 4.62E-008 | 4.01E-006 | 1.24E-006 | 8.38E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.09E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.48E-006 |
| NP237 | 9.82E-002 | 6.93E-005 | 1.32E-005 | 2.67E-006 |
| PU238 | 6.89E-004 | 1.18E-002 | 4.31E-003 | 2.78E-003 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.37E-005 |
| PU239 | 1.54E+000 | 9.57E-002 | 3.23E-002 | 2.25E-002 |
| PU240 | 1.94E-001 | 4.41E-002 | 1.61E-002 | 1.04E-002 |
| AM241 | 1.47E+000 | 5.05E+000 | 9.64E-001 | 5.59E-002 |
| PU241 | 7.64E-003 | 7.87E-001 | 2.87E-001 | 1.85E-001 |
| PU242 | 3.51E-003 | 1.39E-005 | 4.88E-006 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: [signature] Date: 11-22-13

ITR: Marla Gu Date: 11.25.13

## Automated Independent Technical Review

Count Sequence Number: 23875 Batch Number: 1LANDA1868
Counter ID: MCS HENC #1
Container ID: 68627
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/20/2013

| 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.<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-54,52,53 |
| Section 5 - Gamma Analysis<br><br>Analysis Status: No errors.<br><br>Ratio of Pu-239 414 to 129 keV line activities is above the limit of 2.50 | Ok<br><br>Self absorption correction used. Results valid. |

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

Expert Review by: Sherri Chandler Date: 11-21-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **68627**

BDR Number: **LA13FG2120**

Sampling Date: **11/25/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 237.39 | |
| 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\131125c\
Data File : 68627.D
Acq On : 25 Nov 2013 1:17 pm (#1); 25-Nov-13, 13:17:13 (#2)
Operator : EL
Sample :
Misc : 55 Gallon Drum Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 13:26:26 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 | 3.545 | 96 | 4088886 | 205.75 ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.851 | 117 | 3229188 | 177.50 ppmv | 0.00 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.623 | GC1 | 1785m | 237.39 ppmv | |

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

S804989

**S804989**

Container Profile 747158

File Options Reports Help

# S804989

| 747158 | 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

S804989

- S804989
  - LA00000068531 – EMPTY
  - LA00000068580
    - LASB50025

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 100.0 | % | LA00000068580 | 0.0 | kg |

Untitled - Paint

**ATTACHMENT 1**
Page 1 of 4

10-28-13c

**WCRRF WCG WASTE PROCESSING DATA SHEET**

4.1[6][B] Parent Waste Container No.: S8061989

6.2[4] Date Processed: 10-29-13

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: Adam Sagarin [signature] 876702 10-31-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5804989

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 409.4 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) 409.4 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.: S804989

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 68580 | | | |
| 10.1[4] | Daughter Drum Filter No. | LM-837 | | N/A | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-11500 | | | |
| 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 | | | | |
| | 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 | 3 oz | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | 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 | | | |
| 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 | Kitty litter glove bag gloves | | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: ~~S850~~ 10-29-13 S804989

Comments: Nitrate salts, kitty litter, glove box gloves, plastic, straws and bags, lead shielding, Room trash, 1- poly liner lid,

11.1[1] Performed By: [illegible] / [signature] 1228826 / 10-29-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins / CA 1240092 / 10/31/13 0343
SOS or designee (print) Signature Z # Date/Time

UET ing Copy
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.: 02383661
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 ±6%ccw | ±3%cw ±6%ccw |

Overpack filtered vent information:

Manufacturer: [illegible]
Model No.: 013
Serial No.: SE-1028
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 Coler / [signature] / 1266436 / 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: [illegible] ft-lb

Comments: N/C

8.1[1] Performed By: Justin Coler / [signature] / 1266436 / 10-4-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / [signature] / 1240092 / 10/31/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

10-29-13
10-28-13

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68531

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% cal & 10% cal

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

Performed By: Federico Mehlich / [signature] 1228826 / 10-29-13
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: NC

8.1[1] Performed By: Federico Mehlich / [signature] 1228826 / 10-29-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] 1240094 / 10/31/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 1**
Page 1 of 2

10-24-13 a)

## WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68580

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240119
Manufacture Date: 13

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPUL 1.5 - 25 PUL
Serial No.: L-11500
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 / Brian Cardenas — Operator (print) / Signature / Z # / Date: 191382 10-24-13 / 188004 10-24-13

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-832
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.: 68580

Comments: n/c

| | | | | | |
|---|---|---|---|---|---|
| 5.[35] | Performed By: | MICHAEL MONTOYA<br>Brian Cordova | [signature]<br>[signature] | 191352<br>1287544 | 10-24-13<br>10-24-13 |
| | | Operator (print) | Signature | Z # | Date |
| 7.1[4] | Reviewed By: | Clayton Mullins | [signature] | 1240092 | 10/31/13 |
| | | Supervisor or designee (print) | Signature | Z # | Date |

**ATTACHMENT 2**
Page 1 of 2

## WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68580

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

M&TE No.: ~~036~~ 038369 (10-22-13)
Cal. Expiration Date: 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: Frederick Ashlock / [signature] / 1221824 / 10-29-13
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.: | N/A | N/A |
| 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: / / / /
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.: 68580

6.[26] Scale File ID number: 019065

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

6.[28] Drum gross weight: 464.8 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: Frederick Schulz / [signature] 1222224 10-29-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] 1240021 10/31/13
Supervisor or designee (print) Signature Z # Date

3P72

# LTP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

**Planning and Technical Solutions**

Container ID: S804989 Container Type: STEEL DRUM (55 GAL) Gross Weight (lbs): 409.9/895
Total PE-Ci Activity: 1.05E+00 Equivalent Combustible PE-Ci: 3.92E-01
Total Fissile Gram Equivalents: 1.15E+01 Total Surface Dose Rate (mrem/hr): 3
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 indicate ~ 2 gallons of free liquid.

Potential Safety Risks: Nitrate salt drums often contain free liquids and are packaged in individual plastic bags. RTR pre-screen shows sealed container >4L and unvented liner. Net weight is ~ 240 lbs and generator's data shows 7 items of nitrate salts with weights ranging from 18 lbs.

Performed By: Susan Ramsey (signature) 100681 Date 8/14/13
LTP-PTS (Print)

**IHS Representative**

Potential IHS Safety Risks: Alpha contam, lead, Chromium, Mercury. Use caution when sorting.

Performed By: Thomas Smallwood (signature) 311659 Date 311659
IHS Representative (Print)

**LTP Engineering**

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

Engineering Comments: NA

Performed By: Walter Rhodes (signature) 122604 Date 8/5/13
LTP Engineering (Print)

**TRU Remediation Operations**

Potential Safety Risks: Use Proper PPE and Kitty Litter Ratio

Performed By: Gilbert Martinez (signature) Date 8/8/13
TRU Operations (Print)

**Operations Manager or designee**

Processing Determination: ☒ Accept ☐ Reject

OM or designee Comments: Do not push or press on waste with hands. Use tools to push or press on waste. Use heavy duty gloves during processing.

Approved By: Joe Jerez (signature) 221452 Date 8-12-13
OM or designee (Print)

# Discardable Waste Log Sheet

**DrumID: 008740**

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS-251-F1 | 10.9 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| 2 | IXFS-252-F1 | 18.63 | NITRATE SALTS | | 0.15 | 52 | 5/11 | |
| 3 | IXFS-253-F1 | 7.9 | NITRATE SALTS | | 0.83 | 52 | 5/11 | |
| 4 | IXFS-253-R1 | 13.6 | NITRATE SALTS | | 1.4 | 52 | 5/11 | |
| 5 | IXFS-254-F1 | 15.2 | NITRATE SALTS | | 4.23 | 52 | 5/11 | |
| 6 | IXFS-255-F1 | 30 | NITRATE SALTS | | 5.15 | 52 | 5/11 | |
| 7 | IXFS-256-F1 | 12.95 | NITRATE SALTS | | 0 | 54 | 5/11 | |
| | | 109.18 kg | | | | | | |

## ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date:

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S8047989 | | | | | |
| 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]) | 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: [illegible] Allegan 337115
CCP (Print) Z #

Reviewed By: [illegible]
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 Kunsau [signature] [illegible] 5/20/13
Waste Handling Operator (print) Signature Z # Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130411c\
Data File : S804989.D
Acq On : 11 Apr 2013 3 48 pm
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON LFL THROUGH UNOBSTRUCTED 072
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 11 15:58:22 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 | 1965696 | 206.00 ppm | 0.00 |
| 15) Chlorobenzene-d5 | 5.939 | 117 | 1758341 | 179.50 ppm | 0.00 |

Target Compounds

| | | | | | | Qvalue |
|---|---|---|---|---|---|---|

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

Vocgas m Thu Apr 11 15:58:28 2013

10-29-13

0609 Assuming WCRRF operations center Orlando
0615 Pre job being conducted by SOS
0643 Pre job concluded.
0726 Starting movement into 50-69
0743 movement into 50-69 is complete.
0745 mode change performed TA50-69 and WCRRF yard now in warm standby for glove changes on station 2 and 1 Left and Right.
0830 Starting glove changes on station 1 and 2 left and Right
0841 Starting movement ~~to transport vehicle~~ CV 10-29-13 out of 50-69.
0852 movement out of 50-69 complete.
0855 Lowering vehicle access gates to start loading vehicle ~~access gates~~ CV 10-29-13 transport station for movement to area G.
0938 Vehicle access gates have been restored movement out of WCRRF is complete
0944 Glove changes have been completed.
0953 mode change performed TA50-69 and WCRRF yard now in operations
1133 Bagging on S825902, Bagging off S804989
1200 Bag on, Bag off complete
1445 Starting outside rounds.
1450 Being relieved by RO Howard Smith - Orlando
1451 ASSUMING OPERATION CENTER HA SMITH
1459 STARTING INSIDE ROUNDS
1508 OUTSIDE ROUNDS COMPLETED
1519 ITEM #63 ODS, OKAY TO PROCEED PER CSE DOCUMENTATION
1521 INSIDE ROUNDS COMPLETED
1543 BAGGING OFF S825902 BAGGING ON S825730
1544 INSIDE AND OUTSIDE ROUNDS REVIEWED BY SOS
1630 RCT SUPERVISION INFORMED OPS CENTER ABOUT PERSONAL CONTAMINATION ON PPE OF TECH 31, ~~FCHAMG~~ MS 10/29/13 OPERATORS WILL FINISH BAGGING OFF AND THEN DECONTAMINATE

- CONTINUED ON NEXT PAGE - HASMITH

219

10-29-13

1646 RP-1 NOTIFIED OPERATIONS CENTER CONTAMINATION NOTED AT 1800 DPM'S BUT WITH TAPE PRESS WAS REDUCED TO LESS THAN 200 DPM'S. THE AREA WAS COVERED WITH TAPE BAG OFF | ~~BAG ON~~ HS 10 29 13 WAS COMPLETED TO PLACE PROCESS IN SAFE CONFIGURATION. LARGE AREA SWIPES WERE PERFORMED ON FLOOR. NO CONTAMINATION WAS DETECTED. ALL CAMS WERE NORMAL. ALL PERSONNEL USED HAND & FOOT MONITORS AND REPORTED NDA. OPERATORS WERE ASKED TO STAY IN THE BUILDING DURING SURVEYS ARE BEING PERFORMED BY RCT'S.
CONTAMINATION WAS NOTED ON THE GRIPS OF THE CUTTER APPROXIMATELY 500 DPM. ALL PERSONNEL REMAIN IN RESPIRATORS.

1658 RP-1 REPORTS - RCT'S ARE SURVEYING RESPIRATORS, THE OPERATORS WILL BE SURVEYED OUT AND GO THROUGH THE PCM2 TO ENSURE NO SKIN CONTAMINATION

1715 THE OPERATOR WAS CLEARED THROUGH PCM2 - NO CONTAMINATION.

1724 RP-I REPORTS ALL RESPIRATOR SURVEYS AND FLOOR SURVEYS WERE NDA | WITHIN LIMITS

1740 OPERATIONS RESUMED IN THE PROCESS

1803 BAG ON / BAG OFF COMPLETE

1811 OPERATORS EXIT BUILDING

10-29-13 / 1811 BEING RELIEVED BY OCO TERRI COLEMAN - GSMITH

RLG

NO FURTHER ENTRIES ON THIS PAGE

10-29-13

1811 Assuming WCRR operations center - JColeman

1815 Pre-job and turnover with morning shift being conducted. Safety topic - paying attention to your driving, and weather changing.

1855 Pre-job concluded.

1914 Operators entering 50-69 to begin operations on drum S825730

2035 Initiating a drum movement from 50-69 to a transportainer.

2056 Drum movement out of 50-69 complete.

2240 Bagging off 1 daughter, bagging on another daughter.

2257 Bag off/on complete.

2305 Initiating a drum movement from transportainer to 50-69.

2312 Drum movement into 50-69 complete.

10-30-13 0000 Operators out for lunch.

0115 Operators back from lunch.

0150 Beginning outside rounds.

0205 Beginning inside rounds.

0222 Item #63 is OOS, okay to proceed per CSE documentation.

0225 Outside rounds complete. Inside rounds complete.

0237 Bagging off 1 daughter, bagging on S816890.

0305 Bag off/on complete.

0430 Late entry - at 0238, both rounds reviewed by SOS.

0525 Bagging off 1 daughter, bagging on another daughter.

0535 Bag off/on complete. Everything is in a safe configuration.

0555 Mode changed to Warm in WCRRF yard and 50-69 due to the safety meeting this morning (monthly).

0612 Being relieved by aco, Clarissa Delarde, JColeman

No further entries this page

10/29/13 WCMR SOS LOG Book

0600 Assuming SOS Position

0615 Conducted shift brief Discussed status of box need to look at Gloves on station 1 And 2 they may need to be changed Also discussed ES benifits

0645 Concluded shift brief.

0726 Starting Move Into 50-69

0743 Move In Complete

0745 Mode change Complete WCRRF In warm for Glove Changes on station 1 and 2. Bible hands

0830 Starting Glove changes

0841 starting Moveout of 50-69

0852 Move out Complete.

0855 Starting shipment to G.

0938 Shipment out Complete

0946 Glove Changes Complete

0953 Mode change Complete WCRRF In operations

1133 Bagging in 5825902 Bagging off 5804989

1200 Bag in/off complete

1445 Starting Rounds

1545 Bagging off/in 5825730

1544 Reviewed Inside And outside Round

1676 RCT Informed of Personal Contamination on Tech 31 PPE operators will continue bag off and then Due Further Investigate

1646 RP-1 Noted operator had 18[00] DPM on Right wrist RCT's Did tape Pressed and brought levels Down to Less than 200 DPM Area on PPE was taped over And IAS was performed no contamination was Detected Individual was ~~served~~ surveyed out and passed through PCM A 30 point survey was conducted.

1715 Operator Cleared PCM no contamination

1714 RP-1 notified RM smear's NDA

1740 operators continuing operations bagging off/on

1603 Bag on/off complete

HCM 1815 Relieved by Clayton Mullins

No Further entries on this page

10-29-13 Day shift

0610 Reviewed the shift turnover checklist and assumed the WCRR SOM position
John Guadagnoli

0645 Completed attending the pre-job brief conducted by the SOS (Gilbert) Discussed shift turnover, noting stations #1 left hand and station #2 right and left hand require changing. There is one transfer scheduled out. The ES/PM, discussed Fire Suppression, and Tank Capacity. RCTs discussed bag on of parents and to ensure the bag is ~~[illegible]~~ long enough. The RCT noticed yesterday that one pigtail during bagoff was short. Training of new operators was discussed and the use of the ALARA Center to support in bag offs. Arrangements will be required to utilize the center. Safety message is to watch out for each other.

0708 Completed the daily AREA 6 call in with SOM updating RCD status.

0740 Inside operators report stations 1 and stations 2 require changing both pair.

0745 Mode Change WCRR Yard and SF/6 transition from Operations/Operations to WARM/WARM

0747 late entry for 0743, Operators complete the move in of 3 Parent drums - 5832320, 5825730, and 5825902.

0801 Initiated meeting with CSE (Crawford) (procedure writer) R. Smart and J. Vigil.

0921 Reviewed and approved WO# 468539-02 - Equipment Servicing to have crafts initiate work on the snow blower.

0940 The transfer out was completed, 15 drums total.

0944 Inside Operators report glove changes - were noted completed.

0953 Mode Change: WCRR YARD and SF/6 Facility transition from WARM/WARM to Operations/Operations.

1045 Completed debrief with FAL REP (R. Tower). He reviewed past critical lifts and record keeping, Noted ATTACHMENT 1 of DOP-0233, step 4.3. [5][B] should be marked N/A only applicable when 300 PEC, or greater are in the WCG. Also with Procedure DOP-0236 - ATTACHMENT 1 for unloading Sabor 85 Gal Drum, when de-nesting, the title of ATTACHMENT 1 is needed - WCRRF WCG critical lift Plan Concurrence sheet. As a suggestion, the WCG should be removed. Notification was made to the SOS. The SOM provided information to the procedure writer R. Smart.

1105 Completed extending Shift Orders WCRR-SH-13-003 R2 Manual Drum Movements and WCRR-SH-13-005 R0 Precautions to Prevent Bag Tears; through ~~[illegible]~~ 11-05-13.

1132 Inside Operations report bagging off and bagging on PARENT 5825902

1200 Operations Complete the bag on, and continued to process.

(Continued on Next Page)

10-29-13 DAYSHIFT (Cont.)

1201 Participated with teleconference call, with Production Control, OM, SOMs and J. Vigil. Updates were provided, regarding facility

1356 Completed review and sign off of the Operation AID LOGBOOK, Quarterly and Monthly.

1543 Operators report bagging off S825902 and bagging on S825730

1630 RP-1 supervisor notified the Operations Center of an Operator noted contaminated on his Right wrist PPE sleeve, identified after daughter drum bagg off routine smear of hands/arms.

1646 RP-1 reports contamination noted at 1800dpm and with tape press's, it was brought down to < 200 dpm, the area was covered with tape bag off/bag on was completed (of the daughter drum) to place the evolution in a safe configuration.
LAS was performed on the floor - no contamination detected.
CAMs were reported normal
All personnel went thru the Hand Foot monitor and reported NDA
All personnel were reminded to stay in one are during surveys.
Survey are being performed by RCTs.
Contamination was noted on the grips of the cutter (500dpm)
All personnel will remain in respirators.

1658 RP-1 reports - RCTs are surveying respirators, The Operator will be surveyed out and go thru the PCM2 to ensure no skin contamination.

1715 The operator was cleared through the PCM2 - No contamination.

1724 RP1 reports all respirator surveys and floor surveys were NDA/within limits
Upon obtaining results, operations is approved to continue bag off's
The old cutter was thrown away and new cutter provided.

1745 Complete follow up with WLATs wall to wall inventory - provided input to OM - all noted set - Empty containers to be scanned in ARETIC on upon entry after prepping in 50/69, In addition verification of current procedures and forms - utilized - Notified OM,

1803 All bag offs were conducted successfully and Parent Drum S825730 was Bagged on

1815 Completed shift turn over with oncoming SOM. Relieved of WCRR SOM duties by R. Axtell [signature]

No further Entries this page
[signature]

10/29/13 Night Shift

1815 Reviewed shift turnover checklist, approved and posted Night shift operations watchbill and assumed WCRR SOM position.

1850 Attended prejob brief conducted by SOS. Dayshift SOS and operators / RCT's conducted turnover w/ night shift personnel. ES/IH safety topic covered driving safety. Discussed Design Features and ISI requirements @ WCRR for TSR related topic. Briefed activated shift orders and talked about current condition of WCG. Requested when operators are prepping empties in Arctic that location assigned is 50-37 until drums are actually moved into 50-69.

2056 Completed movement of 7 drums out of 50-69 to transportainer

2257 Completed bag off of 1 daughter - continuing to process

2312 Operators moved 3 drums from transportainers into 50-69.

10/30/13 0000 Operators breaking for lunch

0115 Resuming operations

0305 All bag offs completed for parent # 5825730 (2 daughter total) Bagged on drum # 5816890.

0522 Reviewed AM round sheets and signed off compliance tracking worksheet.

0525 Late Entry @ 0315 Verified that empty 85 gal drums w/ Item ID #'s 10180412 and 10180413 are in 50-69. Neither drum has been used for receiving room trash. [illegible]

0535 Completed bagging off 1 daughter - continuing to process in regard to placing WCG in a Safe Configuration - Parent on glovebox is reported to be ≈ 50% full. Lid is being placed back on parent drum - all other waste is out of glovebox.

0555 Completed Mode Change ! WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Warm.

10/30/13 0607 Relieved by J. Guadagnoli as SOM.

No further entries this page
[illegible]

10/29/13 WCRR SOS LOG Book

0600 Assuming SOS Position

0615 Conducted shift brief Discussed status of box need to look at Glove's on station 1 And 2 they may need to be changed Also discussed ES benifits

0645 Concluded shift brief.

0726 Starting Move Into 50-69

0743 Move In Complete

0745 Mode change Complete WCRRF In warm for Glove Changes on station 1 and 2. Bible hands

0830 Starting Glove changes

0841 starting Moveout of 50-69

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1200 Bag in/off complete

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1740 operators continuing operations bagging off/on

1603 Bag on/off complete

HCA 1815 Relieved by Clayton Mullins

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-HERTR-13-0119 |
| Examination Date: | 12/9/2013 |
| Waste Container ID: | 68580 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0119 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.: 211.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 177.6 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: 68580

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

IM:

AM:

OM: Scrap lead

OI:

C:

R: Leaded rubber gloves

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): | 20.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 5.0 |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 146.6 |
| Soils (S): | |
| Total WMP Weight: | 177.6 |

# CCP Radiography Data Sheet



Waste Container ID: 68580

| 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 | [signature] | 12/9/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 68580 | Count Sequence Number: | 24029 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 12/20/2013 11:52:24 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: 177.6 kg | Net: | 177.6 kg |
| Container: | Volume: 208.0 l | Full: | 90.0 % |
| Density: | 0.950 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: | 24029 | 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: | 68580 | Analysis Date: | 12/20/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 177600.0 g | | |
| Pu mass | 1.20E+001 | +- | 2.51E+000 g |
| TRU Alpha Activity | 4.36E+000 | +- | 1.94E+000 Ci |
| TRU Activity Concentration | 2.46E+004 | +- | 1.09E+004 nCi/g |
| Pu-239 Equivalent Activity | 4.39E+000 | +- | 1.94E+000 Ci |
| Pu-239 FGE | 1.14E+001 | +- | 2.36E+000 g |
| Decay heat | 1.43E-001 | +- | 6.46E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 6.75E-002 | 4.76E-005 | 1.06E-005 | 2.48E-006 |
| PU238 | 1.10E-003 | 1.88E-002 | 3.92E-003 | 3.49E-005 |
| PU239 | 1.13E+001 | 7.00E-001 | 1.46E-001 | 1.30E-003 |
| PU240 | 7.22E-001 | 1.64E-001 | 3.42E-002 | 3.05E-004 |
| AM241 | 1.01E+000 | 3.48E+000 | 1.94E+000 | 5.05E-002 |
| PU241 | 1.37E-002 | 1.41E+000 | 2.95E-001 | 2.63E-003 |
| PU242 | 2.41E-003 | 9.51E-006 | 1.99E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 6.70E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.85E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.40E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.20E-005 |

Errors quoted at 1.000 sigma

Operator: Marla Eg Date: 1.7.14

ITR: [illegible] Date: 1-7-14

## Automated Independent Technical Review

Count Sequence Number: 24029 Batch Number: 1LANDA1884
Counter ID: MCS HENC #1
Container ID: 68580
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.<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-52,54. |
| 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 Chamberlin Date: 1-6-14

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **68580**

BDR Number: **LA14FG2003**

Sampling Date: **1/10/2014**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 161.72 | |
| 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\140110c\
Data File : 68580.D
Acq On : 10 Jan 2014 12:50 pm (#1); 10-Jan-14, 12:50:00 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 10 13:02:02 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 | 3.545 | 96 | 3182292 | 205.75 ppmv | 0.03 |
| 15) Chlorobenzene-d5 | 5.848 | 117 | 2538289 | 177.50 ppmv | -0.01 |
| Target Compounds | | | | | Qvalue |
| 1) Hydrogen | 1.613 | GC1 | 1216m | 161.72 ppmv | |

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

S811613

# S811613

Container Profile 764417

File Options Reports Help

# S811613

| 764417 | 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

S811613

S811613
- 93950 – EMPTY
- 93949

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 99.9989555 | % | | | |

7-2-13 ω

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S811613

6.2[4] Date Processed: 7-2-13

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-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.: 018065
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: Brandon Chavez / / /
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: 581613 | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 374.4 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) | 374.4 lb |
| 6.2[7] | (S) 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

EWMO-FOD (print) | Signature | Z # | Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S811613

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 93949 | | | |
| 10.1[4] | Daughter Drum Filter No. | KM-501 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6865 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501103 | | A | |
| 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 | | | N | |
| 10.2[7][B]/10.2[6] | POC Item Description | A | | | |
| 10.2[13] | POC Assembly closed per Manufacturer's instructions. (Initial and Z#) | | | | |
| 10.2[14] | POC Assembly Gross Weight (lb) | N | | 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 | 3 gal | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N/A | | N | |
| 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% | | | |
| 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.: 581613

Comments: plastic, kitty litter, salts, lead

11.1[1] Performed By: Brandon Chavez / [signature] / 1207102 / 7-2-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: G. Mh / [signature] / 1492251 / 7/9/13 0800
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

**WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA ~~SHEET~~** 7-1-13

5.[3] Overpack drum information:

Purchase Order No.: 501323
Lot No.: 0238075
Manufacture Date: 13

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

| | Filtered Vent | 2-in. Bung |
|---|---|---|
| M&TE No.: | 100211 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | 40-200 | 10-80 |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: JL-1970
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: MICHAEL MONTOYA [signature] [signature] A91352 / 7-01-13
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: MICHAEL MONTOYA [signature] [signature] A91352 / 7-01-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins [signature] 240092 / 7/2/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date: 7/2/13 CJ

**ATTACHMENT 5**
Page 1 of 1

N/A

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: 93950

7.[24] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ± 3% CW ± 6% CCW

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

Performed By: Brandon Chavez / Brandon Chavez 2047921 7-2-13
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: 018065
Platform scale calibration expiration date: 7-31-13

7.[35][D] 85-gal overpack drum gross weight (lb): 195.0 lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez / 2047921 7-2-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / 2400921 7/2/13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 93949

**1. Drum/Lid Assembly**

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

RECORD drum information:

Purchase Request #: 501103
Lot #: 8234765
Date of Manufacture: 2012

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

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 3CPK15-25PVC
Serial #: L-6805
Date of Manufacture: 01/13

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

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

**4. Install Lid/Drum Filter**

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

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 01905
Serial #: KM-501
Date of Manufacture: 11/12

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100214 | M&TE ID #: | 038369 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±4% of Rdg. | Tolerance: | ±3% of Rdg. |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: BRIAN GALLEGOS Signature: [signature] ZI#: 267129

**5. Weigh Drum Assembly**

RECORD weight information

Tare wtight (lbs) 76.2
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] 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: BRIAN GALLEGOS Operator Sign: [signature] ZI#: 267129 Date: 7-01-13

Verifier Print: Brandon Chavez Verifier Sign: [signature] ZI#: 204742 Date: 7-2-13

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

DRUM ID#: 93949

**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: 9-11-13

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:

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 ) 397.0

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: Brandon Chavez Date 7-2-13

Verifier Print/Sign: JOE QUINTANA Date: 7/2/13

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S811613 Container Type: 55-GAL Gross Weight (lbs): 364

Inner Seal #: 008470 Filter Prefix: None Filter Serial #: None

AK Waste Stream: LA-CIN01.001 Certified RTR BDR: LA-HERTR-12-0048

TWSR Comments: None

Total PE-Ci Activity: 4.05E-01 Equivalent Combustible PE-Ci: 2.51E-03 AM-241

Total Fissile Gram Equivalents: 4.5 Total Surface Dose Rate (mr

EPA Code(s): D008 D007 D009 WR 12/11/12

NCR RTR/NDA Comment: LANL: Remediate-prohibited Item

RTR Pre-Screen Date: 12/7/2006 Comment: Impenetrable Obj, Liner Not Punctured

Certified RTR Comment: Liquid

Prohibited Items: Sealed > 4 Liters ✔ Liquid Pressurized Container ✔ Impe

Security Determination: ✔ Gre

Remediation Determination: ☐ VE ☑ PID Spli

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

TRUCON Code: None Production Control Comments: Apply Kitty litter/zeolite mixture

S811613
Drum lid has dents in it
No integrity question
No signs of bulging
Jose Jerez
6/27/13

Performed By: ~~Julie Gallegos~~ Production Control (Print) | Signature | 176905 Z Number | 9.11.12 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: 304# Generator info shows 5 items of nitrate salts, weights range from 11-97#. RTR BDR shows homogeneous solids + plastic bags along w/ prohibited liquids. Nitrate salts require repack w/ admixture. They carry waste codes for chromium, lead, + mercury. No chemicals identified.

Performed By: Valerie Rhodes WDP Engineering (Print) | Signature | 112609 Z Number | 12/11/12 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. Use proper ratio of kitty litter to waste in accordance with the procedure

Performed By: TRU Remediation Operations (Print) | Signature | 149215 Z Number | 6/28/13 Date

Jose Jerez 221402 6/28/13

HS Review: RS 206362 12.17.12

# Discardable Waste Log Sheet

**DrumID: 008470**

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | DXFS 293 F1 | 12.72 | NITRATE SALTS | | 1.63 | 52 | 5/11 | |
| 2 | DXFS 294 F1 | 5 | NITRATE SALTS | | 0.77 | 52 | 5/11 | |
| 3 | DXFS 295 F1 | 44.11 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| 4 | DXFS 296 F1 | 13.63 | NITRATE SALTS | | 2.35 | 52 | 5/11 | |
| 5 | DXFS 297 F1 | 20 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| | | 95.46 kg | | | | | | |

Attachment 2 – CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| ☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-12-0048 |
| Examination Date: | 06/12/12 |
| Waste Container ID: | S811613 |
| Video/Audio Recorded Media Number: | LA-HERTR-12-0048 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-0990-12<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: 166.5 kg.<br>Tare Wt: 58.1 kg.<br>Net Wt: 108.4 kg. |
| Rigid Liner and Liner Vent Description:<br>(e.g., "90 mil liner – NO Lid" or "NO Liner") | 90mil Liner - Vented, Lead Lined Drum |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 50 % |

## Attachment 2 – CCP Radiography Data Sheet (Continued)



Waste Container ID: S811613

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| Plastic bags |
| Homogeneous solids |

| Section 4: Packaging Material and Waste Material Parameters | | |
|---|---|---|
| Packaging Material: | | Estimated Weight (kg) |
| Steel (ST): | | 27.7 |
| Plastics (PP): | 90mil Liner and Lid | 7.4 |
| Others: | Lead Liner | 23.0 |
| Total Packaging Weight: | | 58.1 |
| 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): | | 4.0 |
| Organic Matrix (OR): | | |
| Inorganic Matrix (IN): | | 104.4 |
| Soils (S): | | |
| Total WMP Weight: | | 108.4 |

## Attachment 2 – CCP Radiography Data Sheet (Continued)



Waste Container ID: S811613

| [illegible] | 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? | ☐ | ☑ |
| [illegible] | | |
| Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 360 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? | ☐ | ☑ |
| Are there sealed containers GREATER than 4 liters? | ☐ | ☑ |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ | ☑ |

Comments: NCR-LANL-0990-12

RTR Operator:

| Eric Lyles | [signature] | 06/12/12 |
|---|---|---|
| Print Name | Signature | Date |

## 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]) | 16 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55 | | | | | |
| 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]) | ppm | ppm | ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 15[illegible] 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, 237475
CCP (Print) Z#

Reviewed By: Nathan [illegible] 86[illegible]
CCP (Print) Z#

Comments: N/A

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: Jules Gallegos Jules Gallegos 176905 5.21.13
Waste Handling Operator (print) Signature Z# Date

InstName : Unit 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130521c\
Data File : S811613.D
Acq On : 21 May 2013 1:55 pm (#1); 21 May-13, 13:55:05 (#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 14:07:34 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 | | | | | | |
| 5 Fluorobenzene | 3.568 | 96 | 4401195 | 201.25 | ppmv | 0.00 |
| 15 Chlorobenzene-d5 | 5.900 | 117 | 378126 | 177.00 | ppmv | 0.00 |
| Target Compounds | | | | | | Qvalue |
| 1 Hydrogen | 2.594 | GC1 | 1099m | 154.63 | ppmv | |

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

vocgas.m Tue May 21 14:07:48 2013

7-2-13 Continued from previous page. KCleman
0115 Operators back from lunch. Resuming operations.
0246 Bagging off 1 daughter and bagging on another daughter.
0300 Bag off/on complete.
0502 Bagging off 1 daughter and 1 POC, bagging on S813223.
0529 Bag off/on complete. PRE check Sat.
0535 Beginning inside rounds.
0538 Beginning outside rounds.
0548 Item #3 is unsat, okay to proceed, FSR in place.
0555 Inside rounds complete.
0556 Late entry at 0552, item #63 is OOS, okay to proceed. POD in place. (KC)
0604 Outside rounds complete.
7-2-13 0609 Shift turnover brief with Clarissa Velarde (CCO). KCleman

No further entries this page.

28
7-2-13

0610 Assuming WCRRF operations center Velarde
0620 Pre job being conducted by SOS.
0623 Rounds signed off by SOS.
0705 Starting movement out of 50-69
0800 Completed movement out of 50-69
0806 Permission granted to lower vehicle access gates for movement out of WCRRF
0811 Bagging off 1 daughter
0849 RCTs pausing work due contamination found by RCTs while performing weekly smears, SOS has been notified above RWP's.
0850 EP-WCRR-RM-ACP 0910 entered, Readings from RCTs are 246 alpha, 24.6 Beta. Operations have been suspended. Operators performing controlled exit per RCT's. SEM and OM have been notified. Energy solutions OM notified WCA pressure reading at 44
0926 vehicle access gates have been restored, movement to transport vehicle is complete
0950 Late entry 0917 RCTs entering 50-69 to perform decon and further surveys.
0955 Permission granted to lower vehicle access gates to receive shipment from area G.
1002 RCTs notified ops center that RCTs have found 4-5K alpha on pre filter cover. smears are being sent to HPAL.
1020 Contamination on pre filter cover is fixed contaminat
1027 RCTs have found 1DK north end rail on muggaine
1037 Being relieved by OCO Brian Fordham - Velarde
1038 Assuming WCRRF operations center B. FORDHAM
1050 SHIPMENT RECIVED TO WCRRF Complete
1245 Turning ops center over to Clarissa Velarde —— B. F.
1246 Assuming WCRRF Operations center Velarde
1250 Bagging off 1 daughter.
1311 Bag on, Bag off complete of daughter

2-13 —Continued from previous page-Orlando.
1315 Late entry 1140 RCTs received results from HPAL results were NDA. Exited EP-WCRR-RM-AOP-0210.
1356 Entering EP-WCRR-RM-AOP-0207 lightening observed by operators staring 30 minutes, suspend outside operations
1427 Exiting EP-WCRR-RM-AOP-0207 OK to resume outside operations.
1430 Starting inside rounds.
1441 Starting outside rounds
1451 Item #3 is unsat, FSR in place, okay to proceed.
1452 Inside rounds complete.
1454 Bagging off, Bagging on S811613
1510 Completed outside rounds.
1520 Bag on, Bag off complete.
1532 Starting movement into 5069.
1600 Completed movement into 5069.
1620 Starting movement out of 5069
1638 Rounds have been signed off by SOS
1650 Lights for outdoor evening shift has been approved by Lark IH and okay to use.
2-15 1805 performed shift turnover with OCO Terri Coleman.

no further entries this page

7-2-13

1805 Assuming WRR operations center. Coleman
1815 Pre-job being conducted by SOS.
1835 Pre-job concluded.
1910 Per the OM, we are now given permission to perform drum movements in and out of the facility at Night.
SOM Cancelling shift order WRR-SH-13-004. Operators entering 50-69 to Begin operations with drum # S811613 already bagged on by dayshift.
1933 Bagging off S811613, bagging on #62201.
1958 Bag off/on complete. PPE check Sat.
2055 Bagging off 62201, bagging on 60179.
2121 Bag off/on complete. PPE Check Sat.
2150 Bagging off 60179, bagging on S832590.
2215 Bag off/on complete. PPE check Sat.
2241 Initiating a drum movement from transportainer to 50-69
2243 Operators beginning a 30 minute wait period for a sealed 30 gallon container they have encountered in the WCS. All receptacles locked out and the waste package is grounded.
2257 Drum movement into 50-69 complete.
2320 30 minute wait time has elapsed. Resuming operations
7-3-13 0004 Initiating a drum movement from 50-69 to a transportainer
0015 Bagging off S832590, bagging on S802621.
0028 Drum movement out of facility complete.
0030 SOS and OM report that the roll-up door to 50-69 was not seating correctly when it is lowered. If you are on the outside looking into the highbay, it would be on the bottom left corner. They had to manipulate it several times to get it to seat properly.
0039 Bag off/on complete. PPE check Sat.
0050 Operators out for lunch.
0201 Operators back from lunch. Resuming operations.
0323 Denesting drum # 56896, then bagging it on.
0404 Bag on complete. PPE check Sat.
0440 Initiating a drum movement from 50-69 to a transportainer.
Continued on next page - Coleman

PROJECT NAME 7-2-13 DAYSHIFT

0611 Assumed the SOM duties at WCRS [illegible]

0620 Completed attending shift turnover with operations. The watch bill was reviewed and approved prior to Night shift leaving. Night shift indicated there was one container of neutralizer left. Lights were efficient and secured.

0642 Completed attending the pre-job brief. The lift table was (new unit) was noted to be too long to utilize under the GB. There is one scheduled TRU drum transfer in, and transfer out.

0746 Communicated with Eng. (V. Rhodes) entering isotopes for the receipt of 5 drums. Eng. indicated they would support, however the procedure will require a change and the responsibility is with production control.

0750 Completed review of status board in Ops Center, on-coming shift document review, and rounds. All noted SAT.

0849 RP-1 supervisor notified the Operations Center, they during weekly RMS's, removable contamination was noted from surveys on the mezzanine of FEES Flex duct work area. Removable contamination results were 246 alpha dpm and 246 Beta. The RSP limit for alpha is <20dpm.

0852 The Ops Center Operator entered ROP-0220, loss of Glovebox Integrity. Contamination detected during radiological surveys. There were no CAM alarms. Operations were suspended in 50/60 WCG. Workers were instructed to exit. Notification was made to the OM, ES/EM, SOS. The WCG pressure reading was [illegible] within range.

0915 RCTs initiated entrance to perform decon and additional surveys

0955 Courtesy call provided to EDE/IR - provided him an update

1002 RCTs repeated additional surveys were taken, 4-5K was detected with the probe. Noted contamination was noted on the cover of the pre-filters located between the WCG and exhaust fan - (i.e downstream side) Survey was being conted to determine if contamination is fixed or removable.

1020 RP-1 supervisor reports the pre-filter contamination of 4-5K is fixed, and RCTs will tape area label appropriately.

1027 RP-1 supervisor reports the North East Rail at the mezzanine was noted to have 10K direct additional tape and labeling is being conducted for the fixed area.

1132 Receipt of 5 drums from ABEN G (GET type) were completed, estimated dose estimates were noted to be with the SEDs. Review of SEDs were conducted by ES/EM, per request from SOM, based on chemicals noted.

1140 RP-1 reports that all survey conducted noting NDE and notification made to Operations to allow entry and continue operations. ROP-0220 was exited.

1150 Completed walk down of diesel generator lights with OM and [illegible] to observe relocation of light stand. Engineer (L.E.) was briefed and she will visit site for final review.

1350 Operations report the last daughter BIG off for SE13223. This drum is reported to have contained 7 gallons of liquid.

1356 Operations Center operator entered ROP-0207 for Severe Weather due to lightning. The 30/30 rule is in effect.

1427 Operation Center Operator exited ROP-0207 for Severe weather -

continued next page

1506 DOE/FR visited area and identified a few discrepancies, there was one label coming off of a low box in the LLW staging area, and two boxes were not labeled, the signs had blown off.
One caution tag at the battery charging station required information to be rewritten on the TAG, (it was faded). One Operator AID posting was noted on the Vehicle Barrier Gate - The other sign was not attached at the Vehicle Barrier Gate - Operator AID Posting 50-02-0004. Two fire extinguishers were not attached to portable generator lights, one had an extinguisher yet was not tagged that it was inspected. - Follow up with Email on extinguishers was presented to Fire Protection Engineer.
1515 The OM provided guidance on WERF YARD Illumination Values - see Email and MWL/LTH, indicates the yard is more than adequate.
1602 Conducted Shift turnover with oncoming Night shift SOM -
1605 Late entry for 0643 - during shift turnover discussed Shift Order WCRR-SH-13-03 R2 - Drum Movements and WCRR-SH-13-004-R0 Night Operations. Discussion focused on the lift table, not using the new lift and getting the new lift in to support drum movements.
1615 Secured the Day SHIFT SOM responsibilities and turned the shift over to the night shift SOM [signature]

No further entries this page

7/2/13 WCRR SOS LOG BOOK

0600 Assuming Position [illegible] M.J

0615 Conducted shift brief Recieved ~~[illegible]~~ from 7/2/13 turnover from offgoing crew.

0710 Concluded shift brief.

0623 Found reviewed by offgoing shift SOS

0705 Started movement out of SO-69

0800 Movement Complete Continuing operation on 581322

0811 Bagging off 1 daughter

0849 RCTs pausing work due to Contamination Found while performing Weekly RMIF

0850 EP-WCRR-RM-AOP-0210 entered, Readings From RCTs are 246 Alpha, 24.6 beta Operation have been suspended Operator's performing controlled exit Per RCT's SOM and OM have been notified. ES on notified. WCG pressure read at 44.

0926 Vehicle Access restored Lab entric. RCTs entering SO-69 To Perform Decon efforts

1002 RCTs notified that they Found 4-5K Alpha on Pre Filter cover smears are being sent to HPal

1020 RCT's noted that contamination was ~~[illegible]~~ Fixed.

1027 RCTs noted more contamination on north rail sheet metal bage. 10,000 Alpha direct.

1036 RCT noted north rail is also fixed contamination

1050 shipment Complete

1140 RCT's Released Room for Operation All smears NDA. and decon Complete

1250 Bagging off 1 daughter

1311 Bag on Bag off Complete

1356 Entering EP-WCRR-RM-AOP-0207 30-30 rule

1427 Exiting EP-WCRR-RM-AOP-0207 ok to resume operation outside

1454 Bagging off bagging on 581613

1520 Bag on/off complete

1630 Reviewed inside and outside Rounds

1650 Out door lights approved by land ##

1755 operators exiting Facility

Continued from next page

7/2/13
1800 turning over SOS position to Clayton Mullins
1800 Assuming SOS position. CM
1815 Beginning turnover from day shift. In Pre-Job discussed second night being cautions of yourself and co workers. Also processing the priority drums first.
1855 Completed Pre-Job.
1910 Per the OM, permission has been given to perform movements in and out of 50-69 at night. SOM cancelling shift order WCRR-SH-13-004.
1933 Bagging off 1 daughter and bagging on 62201.
1958 Bag off/on complete.
2055 Bagging off 1 ~~day~~ cm T2-13 daughter and bagging on 60179.
2120 Bag off/on complete.
2149 Bagging off 1 daughter and bagging on 5832590
2214 Bag off/on complete.
2241 Starting movement into 50-69.
2257 Movement into 50-69 complete.
0004 Starting movement out of 50-69.
0015 Bagging off 1 daughter and bagging on 5802621.
0028 Movement out of 50-69 complete.
0030 Outter roll-up door of highbay doesn't always close completely. Noticed a few times that on side was down and the other side stayed up a few inches off the ground.
0039 Bag off/on complete.
0321 Bagging off 1 daughter cm T3P3 ~~onto~~ and de-nesting then bagging on 56896.
0348 De-nested 56896, now bagging on drum.
0404 Bag off/on complete.
0440 Started movement out of 50-69.
0456 Movement out of 50-69 complete.
0543 Bagging off 1 daughter.
0548 Signed off on the rounds.
0601 Bag off complete

Continued on Next Page. C Mullins

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0090 |
| Examination Date: | 7/10/2013 |
| Waste Container ID: | 93949 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0090 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 180.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 146.6 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: 93949

**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): | 6.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 136.6 |
| Soils (S): | |
| Total WMP Weight: | 146.6 |

# CCP Radiography Data Sheet



Waste Container ID: 93949

| 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 | | 7/10/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93949 | Count Sequence Number: | 23197 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 7/11/2013 9:32:13 AM | | |
| Description 1: | 1LANDA1807 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 147.0 kg | Net: | 147.0 kg |
| Container: | Volume: 208.0 l | Full: | 85.0 % |
| Density: | 0.830 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: | 23197 | Batch Number: | 1LANDA1807 |
| 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: | 93949 | Analysis Date: | 7/11/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 147000.0 g | | |
| Pu mass | 6.39E+000 | +- | 1.38E+000 g |
| TRU Alpha Activity | 1.71E+000 | +- | 6.88E-001 Ci |
| TRU Activity Concentration | 1.17E+004 | +- | 4.68E+003 nCi/g |
| Pu-239 Equivalent Activity | 1.73E+000 | +- | 6.88E-001 Ci |
| Pu-239 FGE | 6.03E+000 | +- | 1.29E+000 g |
| Decay heat | 5.62E-002 | +- | 2.30E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 2.01E-002 | 1.43E-005 | 2.97E-006 | 1.48E-006 |
| PU238 | 5.85E-004 | 1.01E-002 | 2.18E-003 | 3.45E-005 |
| PU239 | 6.00E+000 | 3.77E-001 | 8.13E-002 | 1.29E-003 |
| PU240 | 3.83E-001 | 8.81E-002 | 1.90E-002 | 3.00E-004 |
| AM241 | 3.57E-001 | 1.24E+000 | 6.83E-001 | 2.90E-002 |
| PU241 | 7.45E-003 | 7.74E-001 | 1.67E-001 | 2.64E-003 |
| PU242 | 1.28E-003 | 5.08E-006 | 1.09E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.46E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.81E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 8.10E-007 |
| U238 | <LLD | <LLD | 0.00E+000 | 7.93E-006 |

Errors quoted at 1.000 sigma

Operator: Marla Eg Date: 7-16-13

ITR: Date: 7-18-13

## Automated Independent Technical Review

Count Sequence Number: 23197 Batch Number: 1LANDA1807
Counter ID: MCS HENC #1
Container ID: 93949
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 7/11/2013

| 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: 7-15-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **93949**

BDR Number: **LA13FG12061**

Sampling Date: **7/12/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 54.51 | |
| 74-82-8 | Methane | 9.63 | 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\130712c\
Data File : 93949.D
Acq On : 12 Jul 2013 9:56 am (#1); 12 Jul 2013 9:54 am (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 12 10:00:58 2013
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 | 1.903 | GC1 | 15548m | 54.51 | ppmv | |

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

S811734

**S811734**

Container Profile 772229

File Options Reports Help

# S811734

| 772229 | 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

S811734

- S811734
  - 94050
  - 94052 – EMPTY
  - 94051

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 49.99947775 | % | | | |

7-23-13 KZ

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S811734

6.2[4] Date Processed: 7-23-13

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:
(> 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: Kevin Belusek / Kevin Belusek / 238XX / 07/23/13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S811734

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 397.2 lb

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

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 397.2 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

EWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S811734

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 94050 | 94051 | | |
| 10.1[4] | Daughter Drum Filter No. | KL-650 | KL-502 | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-8151 | L-8133 | | A |
| 10.1[4] | Daughter Drum Purchase Order No. | 501103 | 501103 | | |
| 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 | | | N | |
| 10.2[7][B]/10.2[6] | POC Item Description | | | 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 | 3 gallons | 2 gallons | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | N | Lead Shielding | | |
| 10.3[9][A] | PCB-contaminated Waste Description | A | N | N | |
| 10.3[9][B] | PCB Item ID No. | | A | | 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 % | 75 % | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Kitty litter Stab oats | Kitty litter | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 581173H

Comments: Lead Shielding, plastic, Nitrate salts, liquids

11.1[1] Performed By: Kevin Belascak / Kevin Belascak / 238HH / 07/23/13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: [illegible] / [illegible] / 1497235 / 8/5/13 1200
SOS or designee (print) Signature Z # Date/Time

7-23-13

**ATTACHMENT 2**
Page 1 of 1

## WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413659
Lot No.: 208849
Manufacture Date: 2010

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

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

Overpack filtered vent information:

Manufacturer: Nucfil
Model No.: 01905
Serial No.: EK-1165
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: N/A / N/A / N/A / N/A
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (96 to 144 in-lb)]: KB 7-23-13 ~~120~~ N/A in-lb

5. [18] 2-in. bung plug torque value: KB 7-23-13 ~~60~~ N/A ft-lb

Comments: Drum was not prepped at TA50-69

8.1[1] Performed By: Kevin Belusak / Kevin Belusak / 23866 / 07/23/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: G Mk / [signature] / 14935 / 8/5/13
Supervisor or designee (print) Signature Z # Date

Working Copy
Date 7.23.13 HZ

**ATTACHMENT 5**
Page 1 of 1

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: 94052

7.[24] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ± 3%cw ± 6%ccw

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

Performed By: Kevin Beluscak / Kevin Beluscak / 238141 / 07/23/13
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: 10-14-14

7.[35][D] 85-gal overpack drum gross weight (lb): 177.8 lb

Comments: N/c

8.1[1] Performed By: Kevin Beluscak / Kevin Beluscak / 238141 / 07/23/13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: [illegible] / [illegible] / 149235 / 8/5/13
Supervisor or designee (print) Signature Z # Date

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

**Drum ID#:** 94050

**1. Drum/Lid Assembly**

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

RECORD drum information:
Purchase Request #: 501103
Lot #: 023976
Date of Manufacture: 2012

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

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

RECORD bag filter information:
Manufacturer: BOP
Model #: 6DUC-1.5-25DUC
Serial #: L-8151
Date of Manufacture: 3-12

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

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

**4. Install Lid/Drum Filter**

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

RECORD drum filter information:
Manufacturer: N.C.F.I
Model #: 019DS
Serial #: KL-650
Date of Manufacture: 11-1

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100216 | M&TE ID #: | 058369 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 50-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±4% or 1 ft-lb | Tolerance: | ±3% or 0.2 ft-lb |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
[x] Yes [ ] No
Print Name: Justin Cofer Signature: [signature] Z#: 266436

**5. Weigh Drum Assembly**

RECORD weight information
Tare wight (lbs) 76.2
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] 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: Justin Cofer Operator Sign: [signature] Z#: 266436 Date: 7-10-13
Verifier Print: Kevin Beluscak Verifier Sign: Kevin Beluscak Z#: 238199 Date: 7-23-13

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

DRUM ID#: 94050

**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: 9-11-13

Range/ Value (ft-lbs): ~~+/- 3% CW and +/- 6% CCW~~ 10-80

--- Tolerance +/- 3% CW and +/- 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) 255.6

Scale ID#: 0190165

✓ 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: Kevin Belowsak ~~Kevin Below~~ Date 07/23/13

Verifier Print/Sign: Steven Mondragon ~~Steven Mondragon~~ Date: 07/23/13

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

Drum ID#: 94051

**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 #: 501103
Lot #: 0234766
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 #: 6CVC/.5-25PVC
Serial #: L-8133
Date of Manufacture: 3/13

**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 #: 019B5
Serial #: KL-502
Date of Manufacture: 11/11

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 100216
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 40-200
Tolerance: ±4%cw ±6%ccw

Jam Nut / Bung torque wrench:
M&TE ID #: 038369
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 16-80
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 witght (lbs) 76.2
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: Michael Montoya Operator Sign: [signature] Z#: 191352 Date: 7-08-13
Verifier Print: Kevin Belusek Verifier Sign: Kevin Belusek Z#: 238177 Date: 7-23-13

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

DRUM ID#: 94051

**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 +/-5% CW and +/-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 ): 383.6

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: Keith Brissette Kevin Brissette Date 7-23-13

Verifier Print/Sign: Steven Mondoux Steve Mondoux Date: 7-23-13

Working Copy
7.23.13 [illegible]

**ATTACHMENT 3**
Page 1 of 1

## WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 5811734

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: 10-19-14

6.3[18] Prepared parent 55-gal drum weight (lb): 397.2

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: Kevin Belusciak / Kevin Belusciak / 1238191 / 07/23/13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: G Mk / [illegible] / 149235 / 8/5/13
Supervisor or designee (print) Signature Z # Date

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

8.1[8][D] Approved by: G Mk / [illegible] / 149235 / 8/5/13
SOS/SOM or designee (print) Signature Z # Date/Time

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

57

## Production Control

Container ID: S811734 Container Type: 55-GAL Gross Weight (lbs): 380 W

Inner Seal #: 008917 Filter Prefix: None Filter Serial #: None

AK Waste Stream: LA-CIN01.001 Certified RTR BDR: LA-HERTR-12-0092

TWSR Comments: ALSO ROOM 434

Total PE-Ci Activity: 5.94E-01 Equivalent Combustible PE-Ci: 2.23E-01 AM-241 PE-Ci: 4.82E-02

Total Fissile Gram Equivalents: 6.6 Total Surface Dose Rate (mrem/hr): 7

EPA Code(s): D008 D007 D009 WR 12/11/12

NCR RTR/NDA Comment: LANL: remediate-3 GAL. of prohibited liquid at 23" to 32"

RTR Pre-Screen Date: 6/23/2007 Comment: Impenetrable Obj,

Certified RTR Comment: Prohibited Liquid

RTR BDR shows scrap lead

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: None Production Control Comments: Nitrate Salts apply mixtures + EPA codes.

Performed By: Julie Gallegos / Julie Gallegos / 176905 / 10/18/12
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: 320# Generator info shows 5 items of nitrate salts; weights range from 15-139#. BDR shows scrap lead, plastic bags + homogeneous solids. It also shows prohibited liquids. Nitrate salts require re-pack w/ admixture. Nitrate salts carry waste codes for Chromium, lead, + mercury. No chemicals identified.

Performed By: Valerie Rhodes / Valerie Rhodes / 112607 / 12/11/12
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 hexavinar gloves during processing.

Processing Determination: ✓ Accept Reject

TRU Remediation Operations Comments: Wear PPE, Use proper ratio of kitty litter to waste.

Performed By: Gilbert Martinez / [signature] / 149225 / 5/18/13
TRU Remediation Operations (Print) Signature Z Number Date

Jose Jerez / Jose Jerez / 221452 / 5/18/13

HS Review: RO 206362 12.17.12

Document No: EP-DIV-AP-0107

# Discardable Waste Log Sheet

## DrumID: 008917

| Item# | ItemID | Net (kg) | Matrix | M Code | NM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | DXFS 312 F1 | 62.94 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| 2 | DXFS 313 F1 | 12.73 | NITRATE SALTS | | 2.02 | 52 | 5/11 | |
| 3 | DXFS 314 F1 | 10 | NITRATE SALTS | | 4.95 | 52 | 5/11 | |
| 4 | DXFS 315 F1 | 7.04 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| 5 | DXFS 316 F1 | 14.1 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| | | 106.81 kg | | | | | | |

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-12-0092 |
| Examination Date: | 8/27/2012 |
| Waste Container ID: | S811734 |
| Video/Audio Recorded Media Number: | LA-HERTR-12-0092 C&D |
| Procedure and Revision No.: | CCP-TP-053 Rev. 12 |
| NCR(s) associated with the container? (e.g., Prohibited Items) | [ ] No [X] Yes<br>NCR No.: NCR-LANL-1571-12<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.: 178.0 kg<br>Tare Wt.: 37.1 kg<br>Net Wt.: 140.9 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 Lead Lined:<br>Fiberboard Liner: [X] No [ ] Yes [X] No [ ] Yes |
| Number of Layers of Confinement: | Appears to be 2 layers |
| Volume Utilization Percentage: | 50 % |

# CCP Radiography Data Sheet



Waste Container ID: S811734

## 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, 90-mil liner with lid | 9.4 |
| Others: | 0.0 EL 8/29/12 |
| Total Packaging Weight | 37.1 |
| **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): | 116.9 |
| Soils (S): | |
| Total WMP Weight: | 140.9 |

# CCP Radiography Data Sheet



Waste Container ID: S811734

| 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? | [X] Yes [ ] 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:CCP-SO-LANL-55 Inconsistencies associated with these packaging configurations (90-mil liner with lid) will not disqualify the container from meeting the waste stream description. NCR-LANL-1571-12

RTR Operator:

| Eric Lyles | | 8/27/2012 |
|---|---|---|
| Print Name | Signature | Date 8/24/12 |

CO

**ATTACHMENT 1**
Page 1 of 1

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

5.[1] Sample Date: Feb 21 2013

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S811734 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55 gal | | | | | |
| Filtered Vent Type (5.[1]) | 73 | | | | | |
| 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]) | 33538 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: Nathan Wales (CCP (Print)) 338866 (Z #)

Reviewed By: Sara Aragon (CCP (Print)) 2379175 (Z #)

Comments: N/A

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: Julie Gallegos (Waste Handling Operator (print)) Julie Gallegos (Signature) 176405 (Z #) 2/21/13 (Date)

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130221c\
Data File : S811734.D
Acq On : 21 Feb 2013 1:26 pm (#1); 21 Feb 2013 1:24 pm (#2)
Operator : NW
Sample :
Misc : 55 GAL LFL THROUGH UNOBSTRUCTED 73 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 21 13:31:11 2013
Quant Method : C:\msdchem\1\METHODS\H2-CH4.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Thu Feb 21 08:46:27 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.927 | GC1 | 95661m | 335.38 | ppmv | |

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

H2-CH4.M Thu Feb 21 13:31:19 2013 UNIT12

7-23-13
0605 Assuming WCRRF operations center - Delaude
0606 notified that station 3 and 8 right hand gloves need to be changed.
0620 Pre job being conducted by SDS
0643 Pre job concluded by SDS.
0753 mode change being performed to warm standby in 50-69 and WCRRF yard for glove changes. Will be changing out stations 1, 2, 3, 7 and 8 right and left.
0820 Starting glove changes ~~07-23-13~~ on stations 1, 3, 5, 7, 8
1012 Assuming WCRRF operations center in training Randy Roybal.
1027 glove Changes complete.
1030 Mode Change has been performed TA 50-69 and WCRRF yard are now in operations.
1036 Starting to unload transport vehicle
1038 permission granted to lower vehicle acces gates.
1039 Operators Continueing to process S846087.
1145 Tranportaner door's closed and latched.
1147 Transport truck has been unloaded movement is Complete into transportaners.
1147 Vehicle access gates have been restored.
1220 Bagging off two Daughters and Bagging on S813539
1259 Bag off Bag on Complete.
1414 Bagging off one daughter and then continueing to process drum.
1433 Bag off Complete.
1538 Starting inside Rounds.
1559 Item #63 out of service. Pod in place ok to continue.
1625 Entering EP-WCRR-RM-AOP-0207 Due to lightning.
1651 Bagging off Bagging on S811734
1655 Exiting EP-WCRR-RM-AOP-0207 ok to resume out side operations.
1658 Starting out Side Rounds.
1702 Item #3 UNSAT FSR in place ok to proceed
1718 Outside Rounds completed.
1722 Inside and outside Rounds Complete.
1729 Bag off Complete. Bag on Complete.
Continue on next page - Randy Roybal

07/23/13

-Continued From Previous page. Randy Roybal

1809 movement out of 50-69 is complete

1810 Shift turnover perfomed with OCO Gerald Espinoza. R.

1811 Shift turnover completed with OCO Espinoza Chelsea

No Further Entries on this Page

0607 Received the shift turnover check list and assumed the WCRR Sam Position

0645 Completed attending the pre-job brief conducted by the SOS (Gilbert) - Safety item discussed, included to shake out PPE, due to insects. The team on nightshift found a sun spider, and removed from the area. There is a transfer of 10 drums coming in from AREA G. During turn-over it was reported that WCG gloves require changing. A concern brought up by the operators was the belly band on the drum lift. The hinge pins rotate and when locking in the drum, if the pins are not in the proper position, the drum can become loose while in the up position, this was observed yesterday. RCT noted that if its not in the correct position, the drum bag could be cut. Sam noted to operators that he will notify the Engineer and management, also to ensure the Pins are in the correct position and drum is secured. Operations also discussed drum ring bolts and removal process.

0708 Completed call in to TA-54 daily POD with Sam - Also merged receipt of transfer from AREA G. with SOS concurrence.

0745 Operations notify the OCO and SOS, that upon performing WCG inspections, stations 1, 2, 3, 7, 8, require changing. Station 3, had a fart cover left on from Night shift, other stations were noted with cracks/creases. Photos were taken

0753 Mode Change: WCRR YARD and SOFOG from Operations/Operations to Unavailable/Unavail to change out gloves. WCG is in a safe configuration, Two drums secure no waste in WCG

0820 Operations initiating glove changes on stations 1, 3, 5, 7, and 8.

0955 Completed discussions on gamma spec data, and requested upload of LLW data into the TRU DATA Base System (Kathleen G) is supporting and LLW I.D. numbers are to be assigned. E-mail sent.

1015 Completed discussions with SOS and Engineer - regarding tension and securing drum with belly bands. He requested the SOS to go over the following with Operators when securing the drum to the belly bands on the drum lift. • when tightening bands, ensure they are level, and ensure the bands are not on chains. • verify the trolley/carriage is not too high. • Ensure the drum is pushed back into position and there is no air gap on the trolley side. • Check the hinge pin and after securing, see if it rotates, The SOS will provide feed back to the Engineer.

1025 Inside Operations report all glove changes were completed.

1030 Mode Change: WCRR YARD and SOFOG transition from Unavailable to Operations/Operations.

1128 Completed performing a spot check of operators transferring drums from the transfer vehicle to the transportainer. All ppe were complied and communication with production control and verification of drums were noted acceptable.

1146 Drum Transfers were noted completed.

1230 Completed the LFL noon Status conference call and the Facility update call with CM/SOM.

1242 late entry 1220 - Operations completed bagging off 2 daughters generated from parent drum ~~S613537 and~~ S616067 and bagged on parent drum S613539.

1309 The first team of operators exited the facility, the second team of three operators relieved the first team. RCTs supported.

(Continued on next page)

SIGNATURE DATE
READ AND UNDERSTOOD No further entries this page DATE

PROJECT NAME 7-23-13 Dayshift Cont. NOTEBOOK NO

1433 Inside operations completed bag-off - the current parent has generated two daughters and one POC, operations are continuing to process.

1625 The Operations Center entered the 30/30 rule for Lightening.

1708 Completed meeting with MW crane personnel. Developed a path forward for 12 ~~drums~~ containers in LLW Storage. Closure of containers are needed and surveys. (DH 7-23-13)

1711 late entry for 1651 Operations completed Bagoff and bag on of Parent Drum S811734.

1729 Operations repeat one daughter bagged off and continue to process.

1755 Operations completed Move Out of 7 drums.

1800 Completed shift Operations turnover checklist with oncoming Nightshift SOM.

1807 Secured the Dayshift SOM Position [signature]

No further Entries this Page

[signature]

SIGNATURE
READ AND UNDERSTOOD

DATE
DATE

7/23/13 WCKR SOS LOG Back

0600 Assuming SOS Position [illegible]

0615 Conducted Shift brief went over Checking Glove well May Require Change etc. Also Issues with Belly Bands.

[illegible] 7-23-13 0645 Shift brief Conducted.

0753 Mode Change Complete WCKR Yard And 50-69 warm need to change out Glove on station 1, 2, 3, 7 and 8 belly bands

0820 Started Glove changes

1027 Glove Changes complete

1030 Mode change complete WCKR In operations.

1036 Started shipment In to 50-69 From G

1039 Operators continuing to process 5846087

1147 Shipment In from G Complete

1220 Bagging off 2 daughters And Continuing to process 5513539

1259 Bags off on complete

1444 Bagging off 1 daughter And Continuing to process

1459 Bags off complete

1558 Starting Inside Rounds

1625 Entering 30-36 Rule

1651 Bagging off Bagging on 5811734

1655 Exiting 30-36

1722 Reviewed Inside And outside Rounds

1729 Bags off complete

MM 1730 Turning over SOS Position to Clayton Mullins [illegible]

W turn entries on the page

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0095 |
| Examination Date: | 7/29/2013 |
| Waste Container ID: | 94050 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0095 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| 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: | 70 % |

# CCP Radiography Data Sheet



Waste Container ID: 94050

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

IM: Hardware

AM:

OM: Scrap lead

OI:

C:

R: Leaded rubber gloves

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): | 0.1 |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 1.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | 5.0 |
| Plastics (waste materials) (XPM): | 4.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 72.5 |
| Soils (S): | |
| Total WMP Weight: | 82.6 |

# CCP Radiography Data Sheet



Waste Container ID: 94050

| 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 | | 7/29/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 94050 | Count Sequence Number: | 16278 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 7/30/2013 11:02:12 AM | | |
| Description 1: | 2LANDA1202 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 82.6 kg | Net: | 82.6 kg |
| Container: | Volume: 208.0 l | Full: | 70.0 % |
| Density: | 0.570 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: | 16278 | Batch Number: | 2LANDA1202 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 94050 | Analysis Date: | 7/30/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 82600.0 g | | |
| Pu mass | 2.28E+000 | +- | 3.54E-001 g |
| TRU Alpha Activity | 1.99E+000 | +- | 9.77E-001 Ci |
| TRU Activity Concentration | 2.41E+004 | +- | 1.18E+004 nCi/g |
| Pu-239 Equivalent Activity | 2.06E+000 | +- | 9.77E-001 Ci |
| Pu-239 FGE | 2.16E+000 | +- | 3.53E-001 g |
| Decay heat | 1.34E-001 | +- | 3.53E-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 | 2.58E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 2.74E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 9.10E-007 |
| NP237 | 3.77E-002 | 2.66E-005 | 4.37E-006 | 1.49E-006 |
| PU238 | 2.09E-004 | 3.57E-003 | 7.76E-004 | 3.27E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 5.37E-006 |
| PU239 | 2.14E+000 | 1.33E-001 | 2.19E-002 | 1.21E-002 |
| PU240 | 1.37E-001 | 3.11E-002 | 6.75E-003 | 2.84E-003 |
| AM241 | 5.31E-001 | 1.82E+000 | 9.77E-001 | 2.36E-002 |
| PU241 | 2.65E-003 | 2.73E-001 | 5.93E-002 | 2.50E-002 |
| CM242 | 5.60E-004 | 1.85E+000 | 3.75E-001 | 4.72E-002 |
| PU242 | 4.57E-004 | 1.81E-006 | 3.92E-007 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: D. [illegible] Date: 8·1·13

ITR: Marla [illegible] Date: 8·2·13

## Automated Independent Technical Review

Count Sequence Number: 16278
Batch Number: 2LANDA1202
Counter ID: HENC #2
Container ID: 94050
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 7/30/2013

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

Expert Review by: Sheri Chamberlin Date: 7-31-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **94050**

BDR Number: **LA13FG12069**

Sampling Date: **7/31/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 120.63 | |
| 74-82-8 | Methane | 9.63 | 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\130731C\
Data File : 94050.D
Acq On : 31 Jul 2013 1:09 pm (#1); 31 Jul 2013 1:08 pm (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 31 13:15:34 2013
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 | 1.900 | GC1 | 34410m | 120.63 | ppmv | |

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

19

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination | [ ] RTR Replicate Scan [ ] RTR Independent Observation |
| Site ID: | LANL |
| Batch Number: | LA-RTR2-13-0095 |
| Examination Date: | 7/29/2013 |
| Waste Container ID: | 94051 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0095 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 174.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 140.6 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: 94051

| Section 3: Container Inventory and Comments (Detailed descriptions) |
|---|
| IM: |
| AM: |
| OM: Scrap lead |
| OI: |
| C: |
| R: |
| XPM: 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): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 1.6 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 129.0 |
| Soils (S): | |
| Total WMP Weight: | 140.6 |

# CCP Radiography Data Sheet



Waste Container ID: 94051

| 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 | | 7/29/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 94051 | Count Sequence Number: | 16276 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 7/30/2013 9:34:40 AM | | |
| Description 1: | 2LANDA1202 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal Drum | | |
| Weight: | Net: 141.0 kg | Net: | 141.0 kg |
| Container: | Volume: 208.0 l | Full: | 80.0 % |
| Density: | 0.850 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: | 16276 | Batch Number: | 2LANDA1202 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 94051 | Analysis Date: | 7/30/2013 |

| | | | | |
|---|---|---|---|---|
| Net Weight | 141000.0 g | | | |
| Pu mass | 8.68E+000 | +- | 2.32E+000 | g |
| TRU Alpha Activity | 4.93E+000 | +- | 2.37E+000 | Ci |
| TRU Activity Concentration | 3.50E+004 | +- | 1.68E+004 | nCi/g |
| Pu-239 Equivalent Activity | 4.95E+000 | +- | 2.37E+000 | Ci |
| Pu-239 FGE | 8.21E+000 | +- | 2.17E+000 | g |
| Decay heat | 1.63E-001 | +- | 7.87E-002 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 6.92E-002 | 4.88E-005 | 1.01E-005 | 2.57E-006 |
| PU238 | 7.95E-004 | 1.36E-002 | 3.63E-003 | 3.47E-005 |
| PU239 | 8.15E+000 | 5.05E-001 | 1.35E-001 | 1.29E-003 |
| PU240 | 5.21E-001 | 1.18E-001 | 3.15E-002 | 3.02E-004 |
| AM241 | 1.25E+000 | 4.29E+000 | 2.37E+000 | 3.57E-002 |
| PU241 | 1.01E-002 | 1.04E+000 | 2.77E-001 | 2.65E-003 |
| PU242 | 1.74E-003 | 6.87E-006 | 1.83E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 4.46E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 4.76E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.50E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.03E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 8·1·13

ITR: _____ Date: 8·2·13

## Automated Independent Technical Review

Count Sequence Number: 16276
Batch Number: 2LANDA1202
Counter ID: HENC #2
Container ID: 94051
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 7/30/2013

| 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; 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 Chamberlin Date: 7-31-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **94051**

BDR Number: **LA13FG12069**

Sampling Date: **7/31/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 195.47 | |
| 74-82-8 | Methane | 9.63 | 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\130731C\
Data File : 94051.D
Acq On : 31 Jul 2013 1:18 pm (#1); 31 Jul 2013 1:16 pm (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 31 13:21:59 2013
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) | Qvalue |
|---|---|---|---|---|---|---|---|
| Target Compounds | | | | | | | |
| 1) Hydrogen | 1.900 | GC1 | 55758m | 195.47 | ppmv | | |

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

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S811812

# S811812

Container Profile 752576

File Options Reports Help

# S811812

| 752576 | 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

S811812

S811812
- 93981
- 93982 – EMPTY
- 93980

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 49.99947775 | % | | | |

**ATTACHMENT 1**
Page 1 of 4

7-9-13

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S81/812

6.2[4] Date Processed: 7-9-13

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: D008, D007, 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: Frederick Archuleta / [signature] 122[illegible] 7-9-13
Waste Handling Tech (print) Signature Z # Date

**ATTACHMENT 1**
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 581812

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 429.0 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) 429.0 lb

6.2[7] (S) 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

EWMO-FOD (print) Signature Z # Date

## ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S811812

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 93980 | 93981 | N/A | |
| 10.1[4] | Daughter Drum Filter No. | KM-523 | KM-601 | | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6545 | L-6498 | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501103 | 501103 | | |
| 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 | 3 gallons | N/A | N/A | N/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% | 100% | | |
| 10.5[3]/10.6[2] | Description Waste Added During Processing | Stub out Bags | Stub out Bags | | |

**ATTACHMENT 1**
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 581812

Comments: Room trash, plastic, lead lining, kitty litter, 3 gallons liquid.

11.1[1] Performed By: Frederico Aguilar
Waste Handling Tech (print) Signature Z # 1228326 Date 7-9-13

11.1[7] Reviewed By: Clayton Mullins
SOS or designee (print) Signature Z # 1241092 Date/Time 7/16/13 1407

Working Copy
Date 7-8-13 W

**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.: | 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.: D13
Serial No.: EL-282
Manufacture Date: 5/11

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

5.[11] Performed By: MICHAEL MONTOYA / [signature] 191352 / 7-08-13
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: MICHAEL MONTOYA / [signature] 191352 / 7-08-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: [signature] 7-9-13 / [signature] 1228861 7-9-13
Supervisor or designee (print) Signature Z # Date
Clayton Mullins [signature] 240092 7/16/13

**ATTACHMENT 5**
Page 1 of 1

7-9-13

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: 93982

7.[24] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ±3% CCW ±6% CCW

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

Performed By: Frederick Archuleta / [signature] 122862 / 7-9-13
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: 7-31-13

7.[35][D] 85-gal overpack drum gross weight (lb): 183.0 lb

Comments: N/C

8.1[1] Performed By: Frederick Archuleta / [signature] 122862 / 7-9-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] 124097 / 7/16/13
Supervisor or designee (print) Signature Z # Date

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

**Drum ID#:** 93980

**1. Drum/Lid Assembly**

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

RECORD drum information:

Purchase Request #: 501103
Lot #: 02347105
Date of Manufacture: 13

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

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 3CPV1.5-25PVC
Serial #: L6545
Date of Manufacture: 1/17

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

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

**4. Install Lid/Drum Filter**

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

RECORD drum filter information:

Manufacturer: NULFIL
Model #: 019DS
Serial #: KM 523
Date of Manufacture: 11/12

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100216 | M&TE ID #: | 0383609 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | ±4% of Reading | Tolerance: | ±3% of Reading |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
[x] Yes [ ] No
Print Name: Gerald Esponera Signature: [signature] Z#: 237720

**5. Weigh Drum Assembly**

RECORD weight information
Tare wight (lbs) 75.8
File ID #019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] 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: Tom Mooney Operator Sign: [signature] Z#: 276702 Date: 6-28-13
Verifier Print: Frederick Mitchell Verifier Sign: [signature] Z#: 228326 Date: 7-9-13

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

DRUM ID#: 93980

**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: 9-11-13

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:

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 ) 278.0

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: [signature] Date 7-9-13

Verifier Print/Sign: [signature] Date: 7-9-13

Working Copy
Date: 6-7-13



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

Drum ID#: 93981

**1. Drum/Lid Assembly**

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

RECORD drum information:

Purchase Request #: 501103
Lot #: 0234263
Date of Manufacture: 12

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

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CFM1.5-2 SFVC
Serial #: L-6498
Date of Manufacture: 13

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

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

**4. Install Lid/Drum Filter**

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

RECORD drum filter information:

Manufacturer: NUC E.I
Model #: 018DS
Serial #: KM-601
Date of Manufacture: 12

RECORD torque wrench information:

| Filter torque wrench: | | Jam Nut / Bung torque wrench: | |
|---|---|---|---|
| M&TE ID #: | 100216 | M&TE ID #: | 038369 |
| Cal Expiration Date: | 12-18-13 | Cal Expiration Date: | 12-18-13 |
| Range (ft-lbs or in-lbs): | 40-200 | Range (ft-lbs or in-lbs): | 10-80 |
| Tolerance: | +/-4% cw +/-6% ccw | Tolerance: | +/-3% cw +/-6% ccw |

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.

[x] Yes [ ] No

Print Name: Adam Segovia Signature: Adam Segovia Z#: 276702

**5. Weigh Drum Assembly**

RECORD weight information

Tare wtght (lbs) 76.2
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] 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: Adam Segovia Operator Sign: Adam Segovia Z#: 276702 Date: 6-7-13

Verifier Print: Frederico Balaba Verifier Sign: [illegible] Z#: 278876 Date: 7-9-13

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

DRUM ID#: 93981

**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: 9-11-13

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 ): 433.8

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: [signature] Date: 7-9-13

Verifier Print/Sign: [signature] Date: 7-9-13

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# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

## Production Control

Container ID: S811812 Container Type: 55-GAL Gross Weight (lbs): 424

Inner Seal #: 008900 Filter Prefix: LAVC Filter Serial #: 1431

AK Waste Stream: LA-CIN01.001 Certified RTR BDR: LA-HERTR-12-0053

TWSR Comments: None

Total PE-Ci Activity: 2.55E+00 Equivalent Combustible PE-Ci: 1.58E-02 AM-241 PE-Ci: 2.07E-01

Total Fissile Gram Equivalents: 28.2 Total Surface Dose Rate (mrem/hr): 1

EPA Code(s): D008 D007 D009 [illegible] 12/11/12

NCR RTR/NDA Comment: LANL: remediate-Prohibited Item

RTR Pre-Screen Date: 4/19/2007 Comment: Impenetrable Obj, Liner Not Punctured

Certified RTR Comment: Unvented 90mil Rigid Liner; 8 Gallons of liquid in the bottom of the drum/in a bag.

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: None Production Control Comments: [illegible] 11/26/12 Nitrate Salts Apply mixture EPA codes.

Performed By: Julie Gallegos (Production Control (Print)) Julie Gallegos (Signature) 176905 (Z Number) 9·11·12 (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. 364# Generator info shows 6 items of nitrate salts' weights range from 13-83# RTR BDR shows lead shielding, Plastic bags, + homogenous solids. It also shows unvented liner, prohibited liquids, + 24L Contained Nitrate salts require re-pack w/ admixture. They carry waste codes for chromium, lead, + mercury. No chemicals identified.

Performed By: Valerie Rhodes (WDP Engineering (Print)) Valerie Rhodes (Signature) 112609 (Z Number) 12/11/12 (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 hexavinar gloves during processing.

Processing Determination: ☑ Accept Reject

TRU Remediation Operations Comments: Use Proper PPE. Use proper ratio of kitty litter to waste in accordance with the Procedure

Performed By: [illegible] (TRU Remediation Operations (Print)) [illegible] (Signature) 142235 (Z Number) 12/18/12 (Date)

Jose Jerez (Signature) 221452 (Z Number) 5/8/13 (Date)

HS Review: RS 206362 12.17.12

# Discardable Waste Log Sheet

## DrumID: 008900

| Item# | ItemID | Net (kg) | Matrix | M Code | RM | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | IXFS 305 F1 | 37.73 | NITRATE SALTS | | 12.63 | 52 | 5/11 | |
| 2 | IXFS 306 F1 | 6.14 | NITRATE SALTS | | 2.77 | 52 | 5/11 | |
| 3 | IXFS 307 F1 | 8.64 | NITRATE SALTS | | 2.18 | 52 | 5/11 | |
| 4 | IXFS 308 F1 | 37.05 | NITRATE SALTS | | 9.93 | 52 | 5/11 | |
| 5 | IXFS 310 F1 | 7.27 | NITRATE SALTS | | 0 | 52 | 5/11 | |
| 6 | IXFS 311 F1 | 17.05 | NITRATE SALTS | | 2.4 | 52 | 5/11 | |
| | | 113.88 kg | | | | | | |

Attachment 2 – CCP Radiography Data Sheet



| Section 1 – General Information | |
|---|---|
| ☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-12-0053 |
| Examination Date: | 06/28/12 |
| Waste Container ID: | S811812 |
| Video/Audio Recorded Media Number: | LA-HERTR-12-0053 A |
| Procedure and Revision No.: | CCP-TP-053 Rev. 11 |
| NCR(s) associated with the container?<br>(e.g., Prohibited Items) | ☐ NO ☑ YES<br>NCR No.: NCR-LANL-1163-12<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: 192.0 kg.<br>Tare Wt: 35.1 kg.<br>Net Wt: 156.9 kg. |
| Rigid Liner and Liner Vent Description:<br>(e.g., "90 mil liner – NO Lid" or "NO Liner") | 90mil Liner - Unvented |
| Number of Layers of Confinement: | Appears to be 1 layer |
| Volume Utilization Percentage: | 50 % |

## Attachment 2 – CCP Radiography Data Sheet (Continued)



**Waste Container ID:** S811812

| Section 3: Contents Inventory and Comments (Detailed descriptions) |
|---|
| Lead shielding |
| Plastic bags |
| Homogeneous solid material |

| Section 4: Packaging Material and Waste Material Parameters | | |
|---|---|---|
| Packaging Material | | Estimated Weight (kg) |
| Steel (ST): | | 27.7 |
| Plastics (PP): | 90mil Liner and Lid | 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): | | 18.0 |
| Other Inorganic Materials (OI): | | |
| Cellulosics (C): | | |
| Rubber (R): | | |
| Plastics (waste materials) (XPM): | | 8.0 |
| Organic Matrix (OR): | | |
| Inorganic Matrix (IN): | | 130.9 |
| Soils (S): | | |
| Total WMP Weight: | | 156.9 |

## Attachment 2 – CCP Radiography Data Sheet (Continued)

Page 3 of 3

Waste Container ID: S811812

| [illegible] | 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? | ☐ | ☑ |
| [illegible] | | |
| 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? | ☐ | ☑ |
| Are there sealed containers GREATER than 4 liters? | ☑ | ☐ |
| Are there indications of inadequate protection for heavy and/or sharp objects? | ☐ | ☑ |

Comments: NCR-LANL-1163-12

RTR Operator:

| Michael Simmons | [signature] | 06/28/12 |
|---|---|---|
| Print Name | Signature | Date |

**ATTACHMENT 1**
Page 1 of 1

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

5.[1] Sample Date: Feb 21 2013

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | S811812 | | | | | |
| 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]) | 305,164 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: Nathan Wales (CCP (Print)) 1238166 (Z#)

Reviewed By: Sara Aragon (CCP (Print)) 1237975 (Z#)

Comments:
1112

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: Julie Gallegos (Waste Handling Operator (print)) Julie Gallegos (Signature) 1170905 (Z#) 2.5 (Date)

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130221c\
Data File : S811812.D
Acq On : 21 Feb 2013 1:33 pm (#1); 21 Feb 2013 1:32 pm (#2)
Operator : NW
Sample :
Misc : 55 GAL LFL THROUGH UNOBSTRUCTED 72 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 21 13:37:39 2013
Quant Method : C:\msdchem\1\METHODS\H2-CH4.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Thu Feb 21 08:46:27 2013
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 1.930 | GC1 | 87178m | 305.64 | ppmv | |

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

H2 CH4 M Thu Feb 21 13 38:00 2013 UNIT12

7-9-13
0005 Assuming WCRR operations center - JColeman
0615 Pre-job being conducted by SOS.
0630 Pre-job concluded.
0724 Initiating a drum movement from 50-69 to a transportainer.
0753 Drum movement out of 50-69 complete.
0804 Initiating a drum movement from transportainer to transfer vehicle for a shipment to Area G. Permission granted to lower the vehicle access gates.
0850 The vehicle access gates have been restored. Transportainers secured. Shipment out complete.
0956 Bagging off S811834, bagging on 93139.
1038 Bag off/on complete.
1148 Bagging off 93139, bagging on S811812.
1215 Bag off/on complete.
1328 Bagging off 1 daughter, bagging on another daughter.
1332 Initiating a drum movement from transportainer to 50-69.
1336 Drum movement into 50-69 complete.
1427 Via JC 7413.
1529 Denesting 53729, then bagging off 2nd daughter off S811812, then bagging on 53729.
1555 Beginning outside rounds.
1558 Item #3 on-sat, okay to continue, PSR in place.
1611 Outside rounds complete.
1612 Suspending outside operations due to lightning in the area procedure # EP-WCRR-RM-AOP-0207. SOS, SOM notified.
1624 Denesting, bag off/on complete.
1630 Beginning another 30 minute wait for thunder.
1641 Beginning another 30-minute wait for thunder.
1700 Beginning inside rounds.
1711 Exiting EP-WCRR-RM-AOP-0207.
1719 Item #3 is OOS, okay to proceed, PO in place.
1730 Inside rounds complete.
1731 Bagging off 1 daughter, bagging on another daughter
1747 Bag off/on complete.
9-13 1804 Shift turnover brief with OCO, Gerald Espinoza - JColeman
No further entries this page. JColeman

7-9-13

1805 Assuming WCRRF Operations Center.

1813 Both rounds reviewed by SOS.

1815 Prejob being Conducted by SOS.

1845 Prejob Concluded.

1915 Notified by IC that Oracle is down, Unable to print labels at this time.

2037 Bagging off 1 daughter, bagging on drum #S813287

2115 Bag on/off Completed.

2230 Notified by IC that Oracle is back up

HM 2330 Denesting S8246161, bagging off 1 daughter and bagging on S8246161.

0032 Bag on/off Complete.

0045 Operator out for lunch.

0147 Operators entering 50-69 to Continue processing

0213 Initiating drum movement from 50-69 to transportation

0214 LATE ENTRY 2400 Operators noticed forklift was leaking hydraulic oil. Notified SOS and SOM.

0215 WCRRF SOS is Creating a Caution tag to place on forklift, also placing absorbant pads under forklift

0225 SOS placed caution tag on forklift.

0250 Operator Called to notify Ops (Ge 7/10/13) that Operator on station 1 noticed gloves were turning to a purple color. Stations 1,2,4,5 and 7 right need to

0305 Starting outside rounds

0310 Movement out of 50-69 has been Completed.

0312 Item #3 UNSAT, FSR in place, ok to proceed

0330 Completed outside rounds.

0333 FSR submitted for forklift FSR # 108951

0353 Mode Change Complete WCRRF yard and 50-69 in Warm Standby mode.

0415 Starting inside rounds.

0420 Starting glove changes.

0440 Item #63 OOS, POD in place, ok to proceed.

0442 Inside rounds are Completed.

~~0610~~ 0610 Obtained shift turnover and assumed the dayshift WCRR SOM position John Guadagnoli

~~0635~~ 0635 Completed attending the pre-job brief conducted by the SOS (Gilbert). Discussion focused on drums within the processing area 50 69 and one drum will require VE (93139). There is a transfer of 16 drums scheduled from WCRR to Area 6. The transfer in will be rescheduled (re-evaluated) for either wednesday or thursday. WCRR-SM-13-003-R2 Manual Drum movements were discussed and the status of the new versa lift drum movement device which needs load tested. 8 drums are ready to move out of 50/69.

0708 Completed daily call in - POD conference call

0745 Completed sign off of controlled documents table of contents list.

0825 Completed observing transfer conducted from the transportainer to the Transfer Which The SOM reminded the feeltruck driver to ensure he secures his seatbelt prior to movement. All other safety requirements were complied.

0829 Reviewed work package 404467-01; TR-50-54 Inspect Qtrly safe showers and eye stations The package was signed off by 50-01 management. Inspection was initiated.

0830 RP-1 supervisor informed the SOM, that one individual from P&T was not briefed on the Quarterly RWP - 2012 0069. The individual was removed/escorted from the yard and RWP brief provided. An RPO was initiated.

0850 The transfer out of 16 drums was completed.

0956 Operations initiated bag off of 5811834 (Recut) and Bag on of 93139.

1037 Completed a walkthru of the WCC staging area with the WMC. Actions for the WMC include 1) Obtain updated listing of all containers from the prior custodian, 2) It was noted that 5 - B-12 containers require waste ID #s. Notification was made to the SOS.

1148 Operations inside report initiating bagoff of 93139, generating 1 daughter

1215 Operations completed bagging on 5811812.

1356 Drum movements into 50/69 were completed, 4 drums total

1555 Per discussion with the OM and SOS, the micro-cal main hand drive requires replacement. ES will order one and request overnight delivery.

1614 Operation Center entered AOP-0207 for Severe Weather lightening.

1711 EXITED AOP-0207 for Severe weather lightening.

1715 Inventory control indicated the were have trouble printing labels. Wastehelp was contacted.

1720 RP-1 reported internal contamination identified in 85 overpack #53729 drum The internal drum 55 was denested and ~~bottom~~ overpack is empty. It was noted to have 5 Kdpm alpha removable. RCTs marked the outside of the drum, the contamination is within the RWP limits.

1731 Late entry at 1624 Drum #53729 was bagged on

1747 Inside operations completed bagging off the 1st daughter for drum 53729 and Bagged on 2nd daughter

1800 Reviewed Rounds and RCRA - all completed and within range.

1840 Completed attending pre-job conducted by the SOS Clayton

1856 Completed shift turnover with on coming SOM and ensured watchbill was satisfied Secured the WCRR SOM position and turned over responsibilities to Night Shift SOM.

John Guadagnoli

No further entries this page

SIGNATURE

7/9/13 Night Shift

1856 Reviewed shift turnover checklist, received face to face turnover from off going SOM and assumed WCRR SOM position.

1910 Discussed w/ SOS some items not turned over @ pre job brief including Quarterly Combustible Surveillance to be performed tomorrow and details of RPO issued earlier today.

2045 Inventory control made contact w/ On call personnel over data base problems. Technician contacted does not have authorities to delete files to reboot - most likely fix for problem. He will attempt to contact Data base administrator

2230 Notified by Inventory Control that data base is working again. C. Fernandez logged on remotely and was able to print labels. WCRR IC was then also able to print.

2240 Late Entry @ 2037. Bagged off last drum from parent of previous shift. Bagged on # S813287.

2330 Started denesting drum # S824661

7/13 0032 Reported to OCO that all bag offs/on completed. Next drum to process is S824661.

0045 Operators breaking for lunch

0147 Operations resuming

0213 Initiating drum movement from 50-69 to transportainers.

0225 Placed caution tag on forklift after moving out of WCRR yard due to leak of hydraulic fluid. Leak is identified on a supply hose to the mast up/down control.

0250 Operators are calling out for glove changes on stations 1, 2, 4, 5 both R & L and station #7 R due to discoloration

0333 OCO submitted FSR for forklift

0350 Operators identified that both R & L station #8 will require change out in addition to others already identified.

0353 Completed Mode Change: WCRR yard and Bldg 50-69 from Operations to Warm in preperation for glove change outs.

0530 Glove changes were completed on stations 1, 2 & 4. RP-1 conducting end of shift surveys. Will turn over remaining glove changes to on coming shift.

0610 Completed shift turnover w/ on coming SOM. Watch bill was satisfied w/ relief's identified. Per OM new watch bill will be generated once pre job is completed. Securing night shift SOM and turned over duties to day shift.

No further entries this page

7/10 13

7/9/13 WCKR 305 LOG BOOK

0600 Assuming 305 Position [illegible]

0615 Conducted shift brief Discussed lightning 30/30 rule and operators

0635 shift brief concluded

0704 Starting shipment out

0850 shipment complete

0956 Bagging off 5811834 bagging on 93139

1038 Bag off/on Complete

1148 Bagging off 93139 bagging on 5811812

1215 Bagg off/on Complete

1328 bagging off 1 daughter bagging on another

1332 Initiated drum movement into 5069

1356 Drum movements Complete

1579 Demesting 53729 And bagging on/off

1612 Suspending outdoor operation due to lightning

1624 Demesting bag off/on complete

1630 Begining Another 30 min

1641 Begging Anothe 30 min

1711 exiting 30 min wait

1731 bagging off 1 daughter bagging on another

1741 bag on/off Complete

1813 Reviewed Inside And outside Rounds

1815 Turning over 305 Position to Clayton Mullines

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-RTR2-13-0091 |
| Examination Date: | 7/11/2013 |
| Waste Container ID: | 93980 |
| Video/Audio Recorded Media Number: | LA-RTR2-13-0091 C&D |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 129.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 96.1 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: | 70 % |

# CCP Radiography Data Sheet



Waste Container ID: 93980

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

IM:

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): | |
| Aluminum-based Metals / Alloys (AM): | |
| Other Metals (OM): | 7.6 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.5 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 82.0 |
| Soils (S): | |
| Total WMP Weight: | 96.1 |

# CCP Radiography Data Sheet



Waste Container ID: 93980

| 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:

| Michael Simmons | | 7/11/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93980 | Count Sequence Number: | 23208 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 7/12/2013 8:36:48 AM | | |
| Description 1: | 1LANDA1808 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 96.1 kg | Net: | 96.1 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: | 23208 | Batch Number: | 1LANDA1808 |
| 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: | 93980 | Analysis Date: | 7/12/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 96100.0 g | | |
| Pu mass | 4.51E+000 | +- 7.56E-001 | g |
| TRU Alpha Activity | 6.70E-001 | +- 8.26E-002 | Ci |
| TRU Activity Concentration | 6.97E+003 | +- 8.60E+002 | nCi/g |
| Pu-239 Equivalent Activity | 6.74E-001 | +- 8.26E-002 | Ci |
| Pu-239 FGE | 4.23E+000 | +- 7.53E-001 | g |
| Decay heat | 2.16E-002 | +- 2.69E-003 | W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| SR90 | 4.26E-009 | 5.88E-007 | 1.91E-007 | 0.00E+000 |
| CS137 | 6.71E-009 | 5.88E-007 | 1.91E-007 | 2.05E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 1.95E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 5.95E-007 |
| NP237 | 1.29E-002 | 9.21E-006 | 1.68E-006 | 1.02E-006 |
| PU238 | 7.43E-004 | 1.28E-002 | 8.52E-003 | 8.59E-004 |
| U238 | <LLD | <LLD | 0.00E+000 | 5.30E-006 |
| PU239 | 4.22E+000 | 2.65E-001 | 4.74E-002 | 1.77E-002 |
| PU240 | 2.88E-001 | 6.63E-002 | 1.42E-002 | 4.43E-003 |
| AM241 | 9.39E-002 | 3.26E-001 | 6.57E-002 | 2.28E-002 |
| PU241 | 2.21E-003 | 2.29E-001 | 6.65E-002 | 1.53E-002 |
| PU242 | 3.22E-003 | 1.28E-005 | 2.75E-006 | 0.00E+000 |

Errors quoted at 1.000 sigma

Operator: [signature] Date: 7-20-13

ITR: [signature] Date: 7-22-13

## Automated Independent Technical Review

Count Sequence Number: 23208
Batch Number: 1LANDA1808
Counter ID: MCS HENC #1
Container ID: 93980
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 7/12/2013

| 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 | Ok |
| 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 Chandler Date: 7-16-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **93980**

BDR Number: **LA13FG12063**

Sampling Date: **7/16/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 39.58 | |
| 74-82-8 | Methane | 9.63 | 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\130716C\
Data File : 93980.D
Acq On : 16 Jul 2013 1:44 pm (#1); 16 Jul 2013 1:42 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 16 13:48:19 2013
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 | 1.900 | GC1 | 11289m | 39.58 | 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-13-0083 |
| Examination Date: | 7/12/2013 |
| Waste Container ID: | 93981 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0083 A&B |
| Procedure and Revision No.: | CCP-TP-053 Rev. 13 |
| 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 197.5 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 164.1 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: 93981

| 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): | 9.4 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 4.5 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 150.2 |
| Soils (S): | |
| Total WMP Weight: | 164.1 |

# CCP Radiography Data Sheet



Waste Container ID: 93981

| 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:

| Michael Simmons | | 7/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

# CCP Radiography Data Sheet



| Section 1: General Information | |
|---|---|
| [X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation | |
| Site ID: | LANL |
| Batch Number: | LA-HERTR-13-0083 |
| Examination Date: | 7/12/2013 |
| Waste Container ID: | 93976 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0083 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 228.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 194.6 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 % |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93981 | Count Sequence Number: | 16170 |
| Operator: | DCLTD231\Operator | | |
| Assay Start: | 7/15/2013 10:08:52 AM | | |
| Description 1: | 2LANDA1194 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gal 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: | 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: | 16170 | Batch Number: | 2LANDA1194 |
| Assay Instrument: | HENC #2 | Location: | LANL TA-54 |
| Analysis Method: | CCP-TP-063 v 14 | Software Version: | NDA 2000 V.4.0 |
| Item ID: | 93981 | Analysis Date: | 7/15/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 164000.0 g | | |
| Pu mass | 3.57E+001 | +- | 7.78E+000 g |
| TRU Alpha Activity | 7.23E+000 | +- | 2.58E+000 Ci |
| TRU Activity Concentration | 4.41E+004 | +- | 1.58E+004 nCi/g |
| Pu-239 Equivalent Activity | 7.31E+000 | +- | 2.58E+000 Ci |
| Pu-239 FGE | 3.36E+001 | +- | 7.30E+000 g |
| Decay heat | 2.35E-001 | +- | 8.61E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 7.64E-002 | 5.46E-005 | 1.20E-005 | 3.05E-006 |
| PU238 | 3.27E-003 | 5.65E-002 | 1.23E-002 | 3.52E-005 |
| PU239 | 3.35E+001 | 2.10E+000 | 4.59E-001 | 1.31E-003 |
| PU240 | 2.14E+000 | 4.92E-001 | 1.07E-001 | 3.07E-004 |
| AM241 | 1.32E+000 | 4.58E+000 | 2.54E+000 | 4.35E-002 |
| PU241 | 4.15E-002 | 4.32E+000 | 9.42E-001 | 2.69E-003 |
| PU242 | 7.14E-003 | 2.83E-005 | 6.18E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 5.40E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.87E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.84E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.33E-005 |

Errors quoted at 1.000 sigma

Operator: _____ Date: 7-18-13

ITR: _____ Date: 7-19-13

## Automated Independent Technical Review

Count Sequence Number: 16170
Counter ID: HENC #2
Container ID: 93981
Waste Matrix Code: Homo Sol. S3000
Sequence Type:

Batch Number: 2LANDA1194
Count Type:
Assay Date: 7/15/2013

| 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. | Ok |
| Ones Rate Analysis complete with warnings.<br><br>- Error calculating the Ones Rate Pu-240 Effective MDA. | 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: Sherri Chandler Date: 7-16-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **93981**

BDR Number: **LA13FG12064**

Sampling Date: **7/18/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 123.82 | |
| 74-82-8 | Methane | 9.63 | 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\130718c\
Data File : 93981.D
Acq On : 18 Jul 2013 12:58 pm (#1); 18 Jul 2013 12:56 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 18 13:13:06 2013
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 | 1.900 | GC1 | 35320m | 123.82 | ppmv | |

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

S811834

**S811834**

Container Profile 752033

File Options Reports Help

# S811834

| 752033 | 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

S811834

- S811834
  - 93976
  - 93977 – EMPTY

Task History

### Transfer Details

| Transfer Amount | Transfer Unit | Item | Measured Weight | Measured Weig... |
|---|---|---|---|---|
| 0.0010445 | % | | | |

Working Copy
Date: 7-9-13

**ATTACHMENT 1**
Page 1 of 4

## WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S811834

6.2[4] Date Processed: 7-9-13

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: D008 D007 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: Adam Sergovich [signature] 276702 7-9-13
Waste Handling Tech (print) Signature Z# Date

**ATTACHMENT 1**
Page 2 of 4

| | | |
|---|---|---|
| 4.1[6][B] | Parent Waste Container No.: 5811834 | |
| 5.[18] | Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: | 436.81 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) | 436.8 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

EWMO-FOD (print) Signature Z # Date

**ATTACHMENT 1**
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S811834

| Daughter Drums | | | | | |
|---|---|---|---|---|---|
| 10.1[4]/10.2[4] | Daughter Drum No. | 93976 | | | |
| 10.1[4] | Daughter Drum Filter No. | KL-487 | | N | |
| 10.1[4] | Daughter Drum Bag Filter No. | L-6876 | | | |
| 10.1[4] | Daughter Drum Purchase Order No. | 501103 | | A | |
| 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 | | | |
| 10.2[5] | POC ID No | | | N | |
| 10.2[7][B]/10.2[6] | POC Item Description | A | | | |
| 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 | 3gal | | | |
| 10.3[7][A] | Opaque/Non-penetrable Item Description: | Lead | | | |
| 10.3[9][A] | PCB-contaminated Waste Description | N | | N | |
| 10.3[9][B] | PCB Item ID No. | A | | | |
| 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% | | | |
| 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.: 581834

Comments: salts, plastic, kitty litter, pH-5

11.1[1] Performed By: Brandon Chavez / [signature] 1017217 7-9-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Clayton Mullins / [signature] 248092 7/10/13 1401
SOS or designee (print) Signature Z # Date/Time

**ATTACHMENT 2**
Page 1 of 1

Working Copy
Date: 7-1-13

## 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.: | 600216 | 038369 |
| Cal. Expiration Date: | 12-18-13 | 12-18-13 |
| Tolerance: | 40-200 | 10-80 |

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 883
Serial No.: JL-1954
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: MICHAEL MORTON [signature] 191352 7-01-13
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: MICHAEL MORTON [signature] 191352 7-01-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins [signature] 241092 7/16/13
Supervisor or designee (print) Signature Z # Date

**ATTACHMENT 5**
Page 1 of 1

7-9-13

## WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[18] Overpack Drum Unique Identifier No.: 93977

7.[24] Overpack drum closure ring torque wrench information:
M&TE No.: 038373
Cal. Expiration Date: 9-11-13
Range in ft-lb: 10-80
Tolerance: ±3%CW ± 6%CCW

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

Performed By: Brandon Chase / [signature] 240092 / 7-9-13
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: 018065
Platform scale calibration expiration date: 7-31-13

7.[35][D] 85-gal overpack drum gross weight (lb): 179.2 lb

Comments: N/C

8.1[1] Performed By: Brandon Chase / [signature] 240092 / 7-9-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullins / [signature] 240092 7/16/13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 93976

**1. Drum/Lid Assembly**

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

RECORD drum information:

Purchase Request #: 501103
Lot #: 0734766
Date of Manufacture: 2012

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

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

RECORD bag filter information:

Manufacturer: BOP
Model #: bcPVC 1.5 25DVC
Serial #: L-6876
Date of Manufacture: 1-13

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

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

**4. Install Lid/Drum Filter**

- [x] Place lid and ring onto drum
- [x] Tighten ring sufficiently to simply hold lid in place
- [x] Torque 2" bung plug
- [x] Apply sealant to filter threads, screw in ¾" bung hole, and torque
- [x] 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 #: KL-487
Date of Manufacture: 11/11

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 100216
Cal Expiration Date: 12-18-13
Range (ft-lbs or in-lbs): 40-200
Tolerance: ±4%cw ±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 ±6%ccw

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
[x] Yes [ ] No
Print Name: MICHAEL MONTOYA Signature: [signature] Z#: 191352

**5. Weigh Drum Assembly**

RECORD weight information
Tare wtght (lbs) 76.2
File ID #: 019065

- [x] Write the tare weight on drum using permanent marker

**6. Label Drum Assembly**

- [x] Place 1 barcode drum ID label to the left of the drum seam, ~6" from drum bottom
- [x] 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: MICHAEL MONTOYA Operator Sign: [signature] Z#: 191352 Date: 7-03-13
Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204742 Date: 7-9-13

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

DRUM ID#: 93976

**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: 9-11-13

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:

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) 502.4

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: Brandon Chace Date 7-9-13

Verifier Print/Sign: Michael Monroy Date: 7-9-13

# WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

51

## Production Control

Container ID: S811834 Container Type: 55-GAL Gross Weight (lbs): 428
Inner Seal #: 009576 Filter Prefix: None Filter Serial #: None
AK Waste Stream: LA-CIN01.001 Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS-ALSO ROOM 468
Total PE-Ci Activity: 5.97E-01 Equivalent Combustible PE-Ci: 2.24E-01 AM-241 PE-Ci: 4.84E-02
Total Fissile Gram Equivalents: 6.6 Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): D008 D007 D009 WR 12/11/12
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 9/19/2012 Comment: 4 Gal from 22" to 32"
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: None Production Control Comments: WR 11/12/12 Nitrate Salts Supply mixture + EPA codes

Performed By: Julie Gallegos (Production Control (Print)) Julie Gallegos (Signature) / 176905 (Z Number) / 10/18/12 (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, 368# Generator info shows 6 items of nitrate salts; weights range from 22-95#. No RTR BDR available to review. Nitrate salts are commonly packaged in plastic bags + ~~[illegible]~~ WR 12/12/12 contain undocumented liquids. May carry waste codes for chromium, lead, + mercury. Nitrate salts require repack w/ admixture. No chemicals identified. RTR PS shows presence of liquids

Performed By: Valerie Rhodes (WDP Engineering (Print)) Valerie Rhodes (Signature) / 112609 (Z Number) / 12/12/12 (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 gloves during processing.
Processing Determination: ✓ Accept _ Reject
TRU Remediation Operations Comments: Use proper PPE. Use proper ratio of kitty litter to waste in accordance with this procedure
Performed By: G Mh (TRU Remediation Operations (Print)) [signature] (Signature) / 148255 (Z Number) / 5/18/13 (Date)
Jose Jerez [signature] 221452 5/18/13

IHs Review: JG 206362 12.17.12

# Discardable Waste Log Sheet

**DrumID: 009576**

| Item# | ItemID | Net (kg) | Matrix | M Code | NDE | MT | Auth | Remarks |
|---|---|---|---|---|---|---|---|---|
| 1 | DXFS 341 F1 | 12.73 | NITRATE SALTS | | 0 | S2 | 5/11 | |
| 2 | DXFS 342 F1 | 13.18 | NITRATE SALTS | | 0 | S2 | 5/11 | |
| 3 | DXFS 343 F1 | 10 | NITRATE SALTS | | 1.7 | S2 | 5/11 | |
| 4 | DXFS 344 F1 | 21.18 | NITRATE SALTS | | 5.29 | S2 | 5/11 | |
| 5 | DXFS 345 F1 | 42.95 | NITRATE SALTS | | 0 | S2 | 5/11 | |
| 6 | DXFS 346 F1 | 12.5 | NITRATE SALTS | | 0 | S2 | 5/11 | |
| | | 112.54 kg | | | | | | |

**ATTACHMENT 1**
Page 1 of 1

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

5.[1] Sample Date: Feb 13 2013

| | | | | | | |
|---|---|---|---|---|---|---|
| Container No. (5.[1]) | 581834 | | | | | |
| Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1]) | 55 gal | | | | | |
| Filtered Vent Type (5.[1]) | 12 | | | | | |
| 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]) | Ø ppm | ppm | 2.13.13 ppm | ppm | ppm | ppm |
| Hydrogen Reading (< 64,000 ppm) (5.[5]) | 117'50 ppm | ppm | ppm | ppm | ppm | ppm |
| Methane Reading (< 16,000 ppm) (5.[5]) | Ø ppm | ppm | ppm | ppm | ppm | ppm |

5.[7] Certified CCP Technician:

Performed By: Gabe Romero (CCP (Print)) 236973 (Z #)

Reviewed By: Rick Jagiolski (CCP (Print)) 246088 (Z #)

Comments: n/a

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: Julie Gallegos (Waste Handling Operator (print)) Julie Gallegos (Signature) 176905 (Z #) 2-13-13 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130213C\
Data File : S811834.D
Acq On : 13 Feb 2013 2:58 pm (#1); 13 Feb 2013 2:53 pm (#2)
Operator : RJ
Sample :
InstName : Unit 8
Misc : 55 Gal drum, through unobstructed Nucfil-072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 13 15:00:55 2013
Quant Method : C:\msdchem\1\METHODS\H2-CH4.M
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

| Compound | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| Target Compounds | | | | | | Qvalue |
| 1) Hydrogen | 5.302 | GC1 | 29031m | 117.50 | ppm | |

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

H2-CH4.M Wed Feb 13 15:01:01 2013

7-8-13

1810 Assuming WCRRF Operation Center. [illegible]
1910 Operators entering 50-69 to begin Operations.
1911 LATE ENTRY 1815 Pre job being Conducted by SCS. GE
1911 LATE ~~NBTH~~ GE 1815 ENTRY 1840 Pre job Concluded. GE
2225 Initiating drum movement from transportainers to 50-69.
2325 Drum movement into 50-69 Complete.
2345 Bagging off 1 daughter and bagging on drum # 5802970.
0025 Bag on/off Complete.
0035 Operators Exiting 50-69 for lunch.
0140 Operators entering 50-69 to continue processing
0430 Starting outside rounds
0442 Bagging off 2 daughters and bagging on drum # 5811834
0445 Item # 3 UNSAT, FSR in place ok to proceed.
0458 Completed outside rounds.
0520 RCTS have notified that Red light in hi-bay is not strobing. light only illuminates.
0522 Bag on/off Complete.
0525 Starting inside rounds.
0546 Item #63 CCS, PCD in place ok to proceed.
0555 Completed inside rounds
7-9-13 0605 Performed shift turnover with OCU Tern Clemons
HIP [illegible]

No further entries this page.

PROJECT NAME 7-8-13 DAYSHIFT NOTEBOOK NO:

0556 Received shift turnover checklist and assumed the WCRR SOM position [illegible]
0635 Completed attending the pre-job brief conducted by the SOS (Gilbert). The SOS requested a slow and deliberate startup. There is one scheduled transfer out - TRU drums from WCRR to AREA G - 16 drums total. The SOM discussed DRUM movement - WCRR - SH-13-003 R2 is in effect.
0658 The SOS notified the SOM that the inventory control did not have level Access. which results in transfers in and out are notable to be conducted for MAR tracking purposes. The OM was notified. The SOS was contacting ES management.
0700 AREA G, daily POD conformation call was conducted. The transfer was cancelled.
0806 The SOS requested to perform EP WCRR-V3-DOP-0306, R7, Quarterly Function Test. The quarterly ventilation function test was requested to be merged on the POD. Surveillance Requirements 4.3.2.6 and 4.3.1.7
0835 Additional Requests were initiated to merge Surveillance Requirements 6.3.2. visibly inspect the area for structural and enforcement deterioration and 6.2.1 The physical placement of the vehicle barriers shall be inspected to ensure that their distance is at least 50 feet from the TRU waste Container Storage. All roads were reviewed.
0840 Notification was made to the CSE's of Support required after surveillances conducted.
0901 Operators initiated Surveillance Requirement 6.2.1 Vehicle Barrier placement and inspection.
1027 Outside operators completed taking photos of the vehicle barriers and the OCD is working on deciphering of photos.
1033 The Thermal Function Test was discontinued due to the micro cal requesting password, and reset not functioning. The micro cal will be surveyed and brought back out and tested
1039 Ventilation start up was completed satisfactory.
1118 Surveillance Requirement 6.2.1 - Vehicle Barrier placement and Inspection was signed off by CSE and SOM noting SAT.
1184 Notification was obtained that the TRU database is up and running.
1159 The CSE completed signoff of the procedure to visibly inspect the area for structural integrity and conformant deterioration SR - 6.3.9. completed satisfactory.
1215 Completed the daily update phone call with the OM and PM, and Area G read information from the manufacturer. The SOS requested support from the Cal-Lab to reprogram the micro cal. Calibration Lab will not by WCRR - when the unit is ready to pick up
1300 Obtained information from the OM, that the FRY network for MAR was updated to include production inventory personnel who are qualified.
1350 Completed Mode Change WCRR YARD / Bldg 50-29 from WRM/Cold to Operations/Operations ESP and Operators notified Ops Center at sight and sound of lightening
1354 Operations Center Operator entered ROP-0207 - Severe Weather - 30/30 rule in effect
1418 Production Inventory was able to access FRY database - notification was made to the OM.
1424 Operations Center Operator exited ROP-0207 - Severe Weather - 30/30.
1445 Operations Center Operator entered ROP-0207 - Severe Weather - 30/30 rule in effect.
1614 Upon re-inventory the 1st BAG-On was completed SE 226-E3
1713 RCRA inspections were reviewed and noted no new issues, and inside and outside rounds were completed.

SIGNATURE

1713 Bag offs were initiated SB 22683 generated 1D auxiliary and 1 PBC. Inside Operations will bag on 92992 - reject. This drum was rejected for liquid.

1746 Inside Operations report to the Operations Center, that bag-on was completed.

1817 Secured the night Sam position turned the responsibilities over to the night shift Sam Turnover checklist considered and unchecklist fulfilled. [illegible]

18
2-8-83

No further entries this page
[illegible]

1817 Reviewed Shift turnover Checklist and assumed WCRR SOM position.

1820 Attended pre job brief conducted by SOS. Discussed current conditions of operations w/ drum # 92992 on the WCG and # 93139 not to be processed until CCP personnel available. Safety topic was to take metal stairways slow and holding onto handrails in light of expected rain tonight.

2200 Informed by SOS that no PIC for potential critical left is available to be in 50-69 tonight therefore, will not process the one 55 gal DM that is staged. Will perform a move in of 55 gal DM's to have inventory for processing.

2325 Drum movement into 50-69 completed. Pushed in drums # S802970, S811812, and S811834. All drums are SP-57 and described as debris/solids.

7/9/13 0025 Completed bag off of drum 92992 and bag on of S802970.

0035 Operators breaking for lunch.

0140 Resuming Operations

0520 Notified by RP-1 that HSEA strobe light in High bay is lighting but not rotating when turned on. FSR being submitted by OCO.

0522 All bag offs completed and drum #S811834 is bagged on. Production totals for shift since midnight are 2 parents processed resulting in ~~2~~ 7/9/13 3 daughters and ~~0~~ POC's.

0533 Late Entry from 7/8/13 @ 2335 - OCO sent daily production report to distribution w/ 1 parent processed resulting in 1 daughter and 1 POC. OCO had difficulty e-mailing report in original format and after repeated attempts was only able to send from the archive file.

0545 SOS identified and informed SOM that onto de rounds item # 13 FE-002 HEPA Filter #1 d/p was logged as reading 0.60 inches wc for both morning and afternoon rounds on 7/8/13. Minimum Spec is > 0.6 inches wc. This morning's reading was entered as 0.70 inches wc.

0618 Turned over SOM position to oncoming shift ops Manager John Guadagnolo. Oncoming watch bill posted and approved.

No further entries this page

SIGNATURE DATE 7/9 20 13
READ AND UNDERSTOOD DATE 20

7/8/13 WCRR SOS Log Book

1800 Assuming SOS position. CA

1815 Starting Pre-Job after turnover from day shift. Discussed take it slow on first night after holiday weekend, especially with just meeting our minimum staffing requirements.

1840 Concluded Pre-Job.

~~2242225~~ Starting movement into 50-09.

2325 Movement into 50-09 complete.

2348 Bagging off and bagging on 5802970.

0025 Bag off/on complete.

0442 Bagging off 2 daughters and bagging on 5811834.

0500 RCT's have notified that the red light in the highbay is turning on but its not strobing.

0520 Bag off/on complete.

0611 Signed off on the rounds.

0613 Turning over SOS position to Gilbert Martinez 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-HERTR-13-0083 |
| Examination Date: | 7/12/2013 |
| Waste Container ID: | 93976 |
| Video/Audio Recorded Media Number: | LA-HERTR-13-0083 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: | S3150 |
| Waste Stream I.D.: | LA-CIN01.001 |
| Waste Container Weights: | Gross Wt.: 228.0 kg<br>Tare Wt.: 33.4 kg<br>Net Wt.: 194.6 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: 93976

## 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): | 43.0 |
| Other Inorganic Materials (OI) | |
| Cellulosics (C): | |
| Rubber (R): | |
| Plastics (waste materials) (XPM): | 6.0 |
| Organic Matrix (OR): | |
| Inorganic Matrix (IN): | 145.6 |
| Soils (S): | |
| Total WMP Weight: | 194.6 |

# CCP Radiography Data Sheet



Waste Container ID: 93976

| 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 | | 7/12/2013 |
|---|---|---|
| Print Name | Signature | Date |

# NDA 2000 Assay Report

## Item Information

| | | | |
|---|---|---|---|
| Item ID: | 93976 | Count Sequence Number: | 23214 |
| Operator: | D3PW2DK1\operator | | |
| Assay Start: | 7/12/2013 2:17:02 PM | | |
| Description 1: | 1LANDA1808 | | |
| Description 2: | N/A | | |
| Location: | LANL TA-54 | | |
| Comment: | AK-6 | | |
| Matrix Type: | Homo Sol. S3000 | | |
| Container Type: | 55 gallon drum | | |
| Weight: | Net: 195.0 kg | Net: | 195.0 kg |
| Container: | Volume: 208.0 l | Full: | 95.0 % |
| Density: | 0.990 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: | 23214 | Batch Number: | 1LANDA1808 |
| 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: | 93976 | Analysis Date: | 7/12/2013 |

| | | | |
|---|---|---|---|
| Net Weight | 195000.0 g | | |
| Pu mass | 1.72E+001 | +- | 4.45E+000 g |
| TRU Alpha Activity | 5.76E+000 | +- | 2.52E+000 Ci |
| TRU Activity Concentration | 2.95E+004 | +- | 1.29E+004 nCi/g |
| Pu-239 Equivalent Activity | 5.80E+000 | +- | 2.52E+000 Ci |
| Pu-239 FGE | 1.62E+001 | +- | 4.18E+000 g |
| Decay heat | 1.89E-001 | +- | 8.42E-002 W |

| Nuclide | Mass g | Activity Ci | Activity Uncert. Ci | MDA Ci |
|---|---|---|---|---|
| NP237 | 7.40E-002 | 5.29E-005 | 1.20E-005 | 2.99E-006 |
| PU238 | 1.57E-003 | 2.72E-002 | 7.06E-003 | 3.36E-005 |
| PU239 | 1.61E+001 | 1.01E+000 | 2.63E-001 | 1.25E-003 |
| PU240 | 1.03E+000 | 2.37E-001 | 6.14E-002 | 2.92E-004 |
| AM241 | 1.29E+000 | 4.48E+000 | 2.51E+000 | 5.94E-002 |
| PU241 | 2.00E-002 | 2.08E+000 | 5.39E-001 | 2.57E-003 |
| PU242 | 3.44E-003 | 1.36E-005 | 3.54E-006 | 0.00E+000 |
| SR90 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| CS137 | <LLD | <LLD | 0.00E+000 | 8.08E-007 |
| U233 | <LLD | <LLD | 0.00E+000 | 5.77E-003 |
| U234 | <LLD | <LLD | 0.00E+000 | 0.00E+000 |
| U235 | 0.00E+000 | 0.00E+000 | 0.00E+000 | 1.68E-006 |
| U238 | <LLD | <LLD | 0.00E+000 | 1.65E-005 |

Errors quoted at 1.000 sigma

Operator: [signature] Date: 7-20-13

ITR: [signature] Date: 7-22-13

## Automated Independent Technical Review

Count Sequence Number: 23214
Batch Number: 1LANDA1808
Counter ID: MCS HENC #1
Container ID: 93976
Waste Matrix Code: Homo Sol. S3000
Count Type:
Sequence Type:
Assay Date: 7/12/2013

| 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 Chamber Date: 7-16-13

**Attachment 4 – Flammable Gas Analysis Form**

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

Waste Container ID: **93976**

BDR Number: **LA13FG12063**

Sampling Date: **7/16/2013**

| CAS NUMBER | COMPOUND | Measured ppmv | Reporting Flag |
|---|---|---|---|
| 1333-74-0 | Hydrogen | 270.21 | |
| 74-82-8 | Methane | 9.63 | 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\130716C\
Data File : 93976.D
Acq On : 16 Jul 2013 1:30 pm (#1); 16 Jul 2013 1:28 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER, NucFil-019DS (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 16 13:34:13 2013
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 | 1.900 | GC1 | 77078m | 270.21 | ppmv | |

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