ERID-260938

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: SEP 0 9 2014
Symbol: ENV-DO-14-0242
LAUR: 14-26675
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 10

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

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

Enclosure 1 includes the pertinent documentation for seven (7) of the original 267 parent waste containers and all associated daughter and granddaughter waste containers. The enclosed documentation for each parent waste container is separated by a tab and documentation for the daughter containers are highlighted within each tab by colored pages. These parent containers and their daughter and granddaughter containers were listed in the *Nitrate Salt Drums with Associated Waste Stream and Location Data for 267 Original Parent and 707 Current/Remediated Daughter Containers* table (as revised and submitted to the NMED on July 17, 2014).

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

Sincerely,

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

Sincerely,

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

AMD:GET:MPH:LVH/lm

Enclosures: (1) Remediation and Repacking Documentation for Nitrate Salt-Bearing Waste Containers – Package 10

Cy: Ryan Flynn, NMED, Santa Fe, NM, (E-File)
Tom Blaine, NMED, Santa Fe, NM, (E-File)
Steve Pullen, NMED/HWB, Santa Fe, NM, (E-File)
Timothy Hall, NMED/HWB, Santa Fe, NM, (E-File)
Trais Kliphuis, NMED, Santa Fe, NM, (E-File)
Peter Maggiore, NA-LA, (E-File)
Lisa Cummings, NA-LA, (E-File)
Gene E. Turner, NA-LA, (E-File)
Eric L. Trujillo, NA-LA, (E-File)
Kirsten M. Laskey, NA-LA, (E-File)
Carl A. Beard, PADOPS, (E-File to aosburn@lanl.gov)
Michael T. Brandt, ADESH, (E-File)
Raeanna R. Sharp-Geiger, ADESH, (E-File)
Alison M. Dorries, ENV-DO, (E-File)
Jeffery D. Mousseau, ADEP, (E-File)
Daniel R. Cox, ADEP, (E-File)
Victoria A. George, REG-DO, (E-File)

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

COPY

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RECEIVED
SEP 9 2014
NMED
Hazardous Waste Bureau

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

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Remediation and Repackaging Documentation for Nitrate Salt-Bearing Waste Containers – Package 10
ENV-DO-14-0242
LA-UR-14-26675

September 2014



ENCLOSURE 1

Remediation and Repacking Documentation for Nitrate Salt-Bearing Waste Containers – Package 10

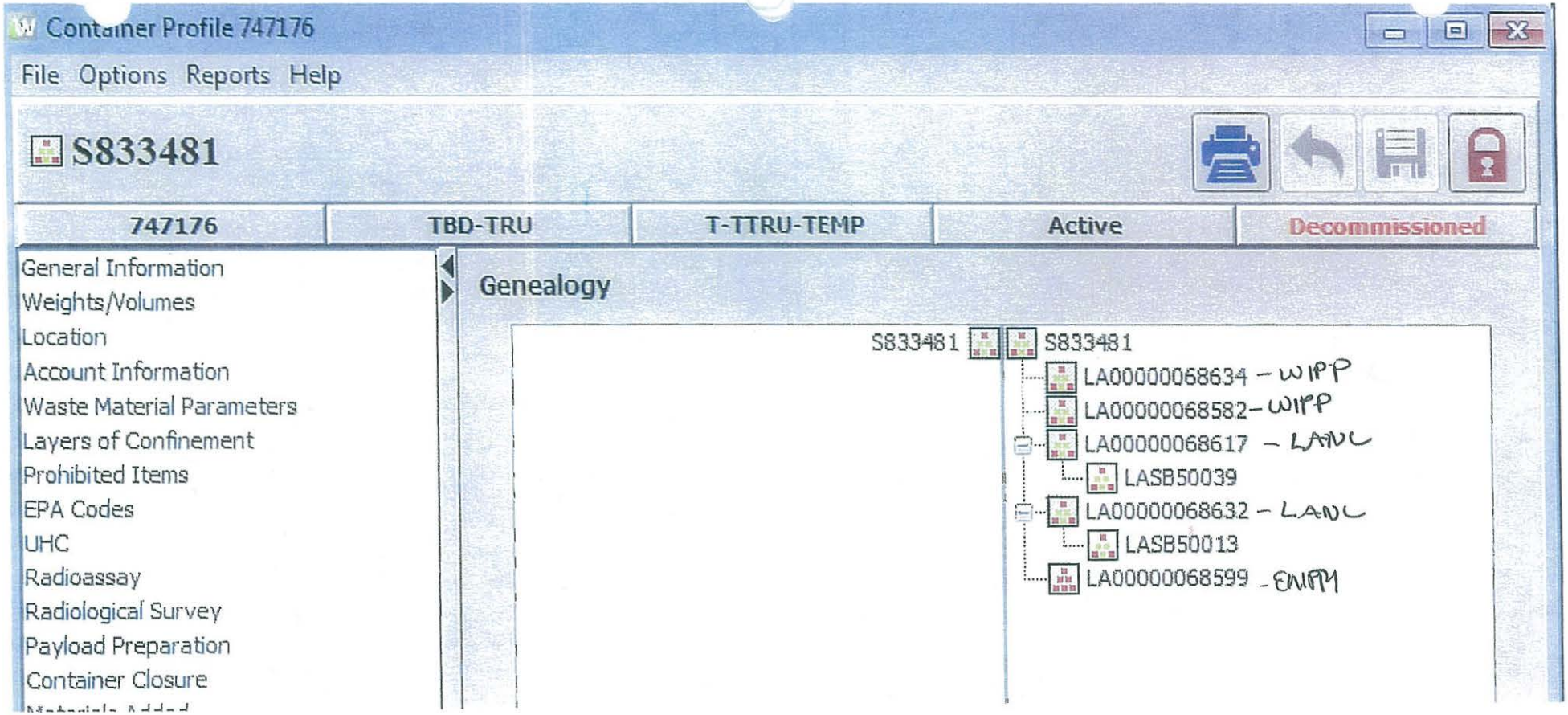
ENV-DO-14-0242

LA-UR-14-26675

Date: SEP 0 9 2014

ParentID	Intermediate Daughters	PKG_ID	Overpacked Into
S833481		68582	
S833481		68617	SB50039
S833481		68632	SB50013
S833481		68634	
S833846		68430	
S833846		68431	SB50048
S833846		68650	
S833846		68653	
S833937		93150	SB02093
S833937		93153	SB02051
S833937		93154	
S833937		93155	
S833937		93156	
S834406		92932	
S834406		92933	
S834406		92934	
S834406		92935	
S834406		92936	
S834406		92937	
S834406		92938	
S834406		92939	
S834406		92940	
S834539	90859	92133	
S834539	90859	92134	
S834539	90860	92183	
S834539	90860	92184	
S834539	90861	92188	SB01966
S834539	90862	92195	SB02027
S834539	90863	92197	
S834539	90858	92292	SB02089
S834539	90855	93465	SB02067
S834633		93080	
S834633		93081	SB02058
S834633		93082	
S834633		93083	
S834633		93084	
S834633		93085	
S834633		93086	
S834633		93087	
S834633		93088	
S834633		93089	
S835283		68317	
S835283		68348	
S835283		68350	SB50067
S835283		68377	
S835283		68389	
S835283		68390	
S835283		68392	

S833481


Container Profile 747176
File Options Reports Help
S833481
747176
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
Genealogy
S833481
S833481
LA00000068634 - WIPP
LA00000068582 - WIPP
LA00000068617 - LANL
LASB50039
LA00000068632 - LANL
LASB50013
LA00000068599 - EMRP

ATTACHMENT 1
Page 1 of 4

Working Copy
Date: 11/7/13 HS

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S8533481

6.2[4] Date Processed: 11-7-13

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] 276702 / 11-7-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 2[illegible]833481

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 389.9 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) 481.8 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] N/A [illegible]
Initials Z# Date

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

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

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5833481

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	68634	68632		
10.1[4]	Daughter Drum Filter No.	LM-848	LM-826	N	
10.1[4]	Daughter Drum Bag Filter No.	L-10144	L-10348		A
10.1[4]	Daughter Drum Purchase Order No.	501578	501578		
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☑ N/A
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer	BOP	BOP		
	Model No.	6x PVC 1.0 2 SP/C	6x PVC 1.5 2 SP/C		
	Serial No.	L-10329	L-6792		
	Date of Manufacture	6-13	1-13		
10.2[5]	POC ID No	68582	68617	N	
10.2[7][B]/10.2[6]	POC Item Description	Nitrile Sealing Kitty Liter	Nitrile Seals w/ Kitty Liter		A
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	JL 266436	EM 239911		
10.2[14]	POC Assembly Gross Weight (lb)	378.4	340.8		
10.2[15]	POC Rad. Survey Results (mrem/hr)	2,000	2,000		
10.3[3][A]	Approx. Containerized Liquid Vol./Units		N		
10.3[5][A]	Free Liquid Volume/Units	2 GALLONS	A	N	
10.3[7][A]	Opaque/Non-penetrable Item Description:	Lead Shielding	Lead Shielding	A	
10.3[9][A]	PCB-contaminated Waste Description			N	
10.3[9][B]	PCB Item ID No.			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 (%)	75%	90%	N	A
10.5[3]/10.6[2]	Description Waste Added During Processing	Kitty Litter Plastic Stub out bags	Kitty Litter Plastic Stub out bags		

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5833481

Comments: 2gallons of Liquid Nuclelid was Acid Now PH of 7 Absorbed, Nitrate Salts, Poly Liner Lid, Kitty Litter, Room trash, Degraded Lab Shielding, Knifes, Hex Armor Gloves,

11.1[1] Performed By: Adam Segovia / [signature] 1276702 / 11-8-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: Clayton Mullins / [signature] 240092 / 11/8/13 0449
SOS or designee (print) Signature Z # Date/Time

10/31/13 JE

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 501963
Lot No.: 0239364
Manufacture Date: 13

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

	Filtered Vent	2-in. Bung
M&TE No.:	100216	030249
Cal. Expiration Date:	12-18-13	8-5-13
Tolerance:	±4% cw to 6% ccw	±3% cw to 6% ccw

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: JL-1889
Manufacture Date: 10-11

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

5. [11] Performed By: GERALD ESPINOZA / _____ / RST7201 10/31/13
Waste Handling Technician (print) Signature Z # Date

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

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

Comments: N/C

8.1[1] Performed By: GERALD ESPINOZA / _____ / RST7201 10/31/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / CA / 1240921 11/8/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 5
Page 1 of 1

Work Package Date: 11-8-13 11-8-13

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68599

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038369
- Cal. Expiration Date: 12-18-13
- Range in ft-lb: 16-80
- Tolerance: +/-3% cw +/-6% ccw

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

Performed By: Adam Segovia (Waste Handling Technician (print)) (Signature) 1276202 (Z #) 11-8-13 (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): 170.6 lb

Comments: N/C

8.1[1] Performed By: Adam Segovia (Waste Handling Technician (print)) (Signature) 1276202 (Z #) 11-8-13 (Date)

8.1[7] Reviewed By: Clayton Mullins (Supervisor or designee (print)) (Signature) 1240086 (Z #) 11/8/13 (Date)

11.7.13 JL

ATTACHMENT 1
Page 1 of 2

WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 686632

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-10348
Manufacture Date: 6-13

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

	Filtered Vent	2 in. Bung
M&TE No.:	100216	036245
Cal. Expiration Date:	12-18-13	8-5-14
Range 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 / [signature] 204742 / 11-7-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 019DS
Serial No.: LM-826
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.: 68632

Comments: N/C

5.[35] Performed By: Brandon Chavez / [signature] 124112 / 11-7-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] 124092 / 11/8/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 2
Page 1 of 2

WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68632

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: ADAM Segovia (Operator (print)) [signature] (Signature) D7670211 (Z #) 11-8-13 (Date)

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

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

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

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

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.: 68632

6.[26] Scale File ID number: 018065

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

6.[28] Drum gross weight: 342.4 lbs

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

Comments: N/C

6.[32] Performed By: ADAM SEGOVIA (Operator (print)) (Signature) 1276202 (Z #) 11-8-13 (Date)

7.1[4] Reviewed By: Clayton Mullis (Supervisor or designee (print)) (Signature) 1240096 (Z #) 11/8/13 (Date)

ATTACHMENT 1
Page 1 of 2

11-7-13 JL

WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68634

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.: 6acpvc1.528pvc
- Serial No.: L-1044
- 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 / [signature] 2047121 11-7-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
- Manufacturer: NUCFIL
- Model No.: 0990S
- Serial No.: LM-848
- 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.: 688634

Comments: N/C

5.[35] Performed By: Brandon Chavez / [signature] 124742 11-7-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullis / [signature] 124094 11/8/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 2
Page 1 of 2

WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68634

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

M&TE No.: 038369
Cal. Expiration Date: 12-18-13
Range in ft-lb: 10 80
Tolerance: +/-3% +/-1%

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

Performed By: [illegible] [illegible] [illegible] 8-13
Operator (print) Signature Z # Date

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

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

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

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

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

Performed By: _____ / _____ / _____ / _____
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.: 686341

6.[26] Scale File ID number: 019065

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

6.[28] Drum gross weight: 247.4 lbs

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

Comments: N/C

6.[32] Performed By: Adam Segovia / [signature] 12670111-8-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] 134092 / 11/8/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 3
Page 1 of 1

Working Copy
Date: 11-7-13

WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: S833481

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): 389.8

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: BRIAN GALLEGOS / Brian Gallegos / 267129 11-07-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayton Mullis / CA / 241094 / 11/8/13
Supervisor or designee (print) Signature Z # Date

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

8.1[8][D] Approved by: Randy Axtell / / 109185 / 11/8/13 / 0443
SOS/SOM or designee (print) Signature Z # Date Time

SP72

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

BS 11-4-13 DB

Container ID: S833481 ✓ Container Type: 55-GAL ✓ Gross Weight (lbs): 400

Inner Seal #: 014328 ✓ Filter Prefix: LAVC ✓ Filter Serial #: 04322 ✓

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

TWSR Comments: LEACHED SOLIDS MST12 ROOM 434 ✓

Total PE-Ci Activity: 1.00E+01 Equivalent Combustible PE-Ci: 3.76E+00 AM-241 PE-Ci: 7.21E-01

Total Fissile Gram Equivalents: 115.1 ✓ Total Surface Dose Rate (mrem/hr): 3 ✓

EPA Code(s): None ✓

NCR RTR/NDA Comment: None ✓

RTR Pre-Screen Date: 6/25/2007 ✓ Comment: Liquids, Impenetrable Obj, Liquid Location: 25

Certified RTR Comment: None

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

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☑ VE ☑ PID ☐ Split ☑ Repack

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

TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label - A minimum of 1.2 volumes of kitty litter (zeolite) must be mixed with 1.0 volume of nitrate salts. ✓ Grace

Performed By: R. W. Jones 117434 12.8.11
Production Control (Print) Signature Z Number Date

SUSAN S. RAMSEY 100681 11/28/12

WDP Engineering

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

Processing Determination: ☒ Accept ☐ Reject

WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 340lb, Twelve items ranging from 12lb to 71lb.
Drums w/ nitrate salts may contain undocumented liquids.
May require RWP for >1000 and <10000 mrem/hr
Drum may have lead liner

Performed By: Valerie Rhodes Valerie Rhodes 117609 12/6/11
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 Leakproof glove during processing.

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Use proper ratio of kitty Litter to waste in accordance with procedure.

Performed By: Vanessa Velarde Vanessa Velarde 234079 1/18/12
TRU Remediation Operations (Print) Signature Z Number Date

Darrel L. Blair Darrel L Blair 218069 10/29/13

IHS Review John Arnold CSP, No IH Concerns 12/4/12
Jose Jara Jose Jara 221452 10-29-13

Noncertified TRU Waste Drum Item Information

DrumID: 014328

Item No	ItemID	Process Status	Net Wt (kg)	Matrix	Meas Code	SNM (g)	MT	Auth (Pg/Ln)		Comments
1	IXFS789-FA		31.950	NITRATE SALTS		21.99	52	6/11	G468	
2	IXFS800-FA		10.000	NITRATE SALTS		5.03	52	6/11	G468	
3	IXFS801-FA		8.980	NITRATE SALTS		4.83	52	6/11	G468	
4	IXFS803-FA		6.360	NITRATE SALTS		2.58	52	6/11	G468	
5	IXFS804-FA		5.570	NITRATE SALTS		20.53	51	6/11	G468	
6	IXFS805-FA		5.570	NITRATE SALTS		32.7	52	6/11	G468	
7	IXFS803-FD		5.450	NITRATE SALTS		0.33	54	6/11	G468	
8	IXFS807-FA		5.680	NITRATE SALTS		0.46	54	6/11	G468	
9	IXFSOX34-FA		7.050	NITRATE SALTS		9.78	52	6/11	G468	
10	IXFS806-F1		7.270	NITRATE SALTS		14.06	52	6/11	G468	
11	IXFS804-F1		10.220	NITRATE SALTS			52	6/11	G468	
12	IXFS810-FA		5.680	NITRATE SALTS		8.68	51	6/11	G468	

Noncertified Waste Drum Material Summary

Gross Wt (kg): 181.4

Material Type	SNM (grams)	Items Net Wt (kg)
51	29.21	11.25
52	90.97	87.40
54	0.79	11.13
Totals	120.97	109.78

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 1/17/12

Container No. (5.[1])	62044	60631	S832145	S833481		
Filtered Vent Type (5.[1])	1905	72	72	72		
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	Ø ppm	Ø ppm	Ø ppm	No Further Entries ppm	No Further Entries ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	Ø ppm	Ø ppm	462.19 ppm	2010.10 ppm	1/18/12 ppm	1/18/12 ppm
Methane Reading (< 16,000 ppm) (5.[5])	Ø ppm	Ø ppm	Ø ppm	Ø ppm	ppm	ppm

5.[7] Certified CCP Technician:

Performed By: ERIK LOECHELL / 234183
CCP (Print) Z#

Reviewed By: ERIK LOECHELL / 234183
CCP (Print) Z#

Comments:
N/C

6.1.2[A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

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

6.1.2[B]/6.1.3 Performed By: Alicia Herrera (Waste Handling Operator) (print) Alicia Herrera (Signature) 19850 1/18/12
Z# Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120117c\
Data File : S833481.D
Acq On : 17 Jan 2012 11:46 am (#1); 17-Jan-12, 11:46:21 (#2)
Operator : EL
Sample :
Misc : 55 GALLON LFL FROM UNDER DRUM LID 72 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 17 11:54:59 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.641	96	4450327	209.00	ppmv	0.00
15) Chlorobenzene-d5	5.954	117	3621464	185.50	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.623	GC1	15822	2010.10	ppmv	100

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

vocgas.m Tue Jan 17 11:55:04 2012

11-7-13

0603 ASSUMING WCRR OPERATIONS CENTER H.SMITH

0615 STARTING PRE-JOB BRIEFING

0645 PRE JOB BRIEFING COMPLETED

0762 OPERATORS ENTERING BUILDING TO PROCESS

0820 BAGGING OFF DAUGHTER, BAGGING ON DAUGHTER

0835 BAG OFF COMPLETE

0847 BEGINNING ~~MOVEMENT~~ 11-7-13 HS MOVEMENT OUT OF TA 50-69 TO TRANSPORTAINERS

0912 MOVEMENT INTO TA 50-75 FROM TA-50|69 IS COMPLETED

0933 BEGINNING MOVEMENT INTO TA50-69 FROM - TRANSPORTAINERS

0944 MOVEMENT INTO TA50-69 IS COMPLETED

1044 BAGGING OFF DAUGHTER, BAGGING OFF POC, BAGGING ON S832499 AND DENESTING

1157 BAG OFF, BAG ON, DENESTING COMPLETED

1459 BAGGING OFF 1 DAUGHTER, BAGGING ON 1 DAUGHTER AND CONTINUING THE PROCESS

1516 BAG OFF COMPLETED

1521 STARTING INSIDE ROUNDS

1530 STARTING OUTSIDE ROUNDS

1536 ITEM #63 INSIDE ROUNDS OOS, PERMISSION TO PROCEED PER CSE DOCUMENTATION

1551 COMPLETED OUTSIDE ROUNDS

1552 NOTIFIED BY INSIDE PIC, LEAD WINDOW BETWEEN STATIONS #1 AND #2 SHOW ONE INCH GAP, AND IS REQUESTING LEAD TAPE

1620 INSIDE AND OUTSIDE ROUNDS REVIEWED BY SOS

1630 BAGGING 1 DAUGHTER AND BAGGING OF PARENT AND INSTALLING PORT COVER

1712 HS 1656 11/7/13 BAG OFF COMPLETE

1738 BEGINNING MOVEMENT FROM TA50-69 TO TRANSPORTAINER

1739 BAGGING ON S833481

1752 MOVEMENT OUT OF TA50-69 IS COMPLETE

11-7-13 RELIEVED BY OCO TERI COLEMAN - H SMITH

NO FURTHER ENTRIES ON THIS PAGE HSMITH

11-7-13

1800 Assuming WCRR operations center - Coleman

1859 Pre-job being conducted a little late due to an RCT meet

1913 Pre-job concluded.

1951 Submitted FSR#114113 for a light bulb replacement to the entrance stairway on 50-196.

1952 Late entry-at 1946, operators entered 50-69 to begin operations on drum# S833481. (JC)

2219 Bagging off 1 daughter and 1 POC, bagging on another daughter

@ 2244 Bag on / off complete.

1813 0010 Operators out for lunch.

0139 Operators back from lunch.

0150 Beginning outside rounds and RCRA inspections.

0205 Outside rounds completed.

0238 Beginning inside rounds.

0257 Item#63 is 005, Okay to proceed per CSE documentation.

0258 Inside rounds complete.

0304 Bagging off 1 daughter and 1 POC, then placing port covers on.

0324 Both routes reviewed by SOS.

0336 Bag off complete.

0403 Initiating a drum movement from 50-69 to a transportainer.

0430 Drum movement out of 50-69 complete. All inventory has been removed from 50-69.

0436 Mode changed to Warm in WCRR yard and cold in 50-69.

1813 0530 End of day. OCU position secured. - Coleman

No further entries this page -

11-7-13 DAYSHIFT

0600 Reviewed the shift turn over checklist and assumed the SCM position for Grady-Goal

0645 Completed attending the pre-job brief conducted by the SCS (Gilbert). Discussion was focused on the prior drums processed. The 1st drum from yesterday was noted to have 7 gallons of water/liquid and the bottom 10 inches of the poly liner was frozen. Operators were required to crack the bottom of the poly liner to remove the frozen shape. It was noted that the attachment tool with the shovel extension was broken. Another adapter is needing to be procured. RCTs noted that a bag seam split when prepping a drum in the containment filter. the prior drum was re-prepped. Operators were reminded of precautions. Shift duties in effect were discussed. There are no transfers today.

0710 Completed daily call in with HRCA for SCM providing POD.

0822 Operators inside report B.g off daughter and bag on daughter and continue to process parent drum SE 33429

0835 B.g off is completed.

0911 Entered with RP-1 supervisor obtaining 3 6" pvc covers for the WTF from the HRCA Center.

0917 Operators outside initiate movement #3 of 5 DUGs - 7 drums total

0944 Operators completed movement #3 of 3 drums into SWB.

1015 Discussed with RP-1 the Radiological waste Container Storage Sign noted along the BGE side along the wall. Upon evaluation, the sign will be removed.

1122 Completed procedure Validation checklist for ACFs - (new version) Comments were discussed with the procedure writer.

1157 Inside Operators report completion of bag on, directing and bagging on Parent SE32446 - completed (Note: SE33409 generated 2 weights ISOC).

1215 Completed the daily SCM phone call with SCM and PM.

1315 Updated posting for Radiological Source Inventory sheet in DUG Room 104 located on the RADIOLOGICAL SAFE. A copy of the posting was placed in the posting LOGBOOK

1459 Operators bag off daughter, bag on another and continue to process.

1515 Operators notified the operations Center/SCS Legal indicated they were receiving dose through the lead tape of 1mr/hr and through the crack of 2mr/hr (the crack is noted on the lead glass). Operators were requesting additional lead tape for. Operations and RP-1

(Continued on NEXT page)

1550 (Cont) could not locate any lead tape, Pisces calls will made to upper-Jim's Currently obtaining the lead tape from TA-55 - test cell through Bunker. Notification was made to the CAM and a checklist number was provided to process the lead tape.

1640 The SES will send an operator over to the TA-55 access control to meet with the Test Cell Lead. - When obtained, lead tape will be applied to entries 7 and 8 to cover gaps/cracks.

1712 Inside operators completed bagging of wire drawlifter and bagging off and continue operators inside GB - clean up - Fork lift men - Parent Drum SE32449 generate Estimate

1735 Outside operators initiate a movement out (7 drums total)

1756 movement out of the facility is completed

1800 Operations completed clean up - of the glove box and bagged on Parent drum SE33481. (ready for night shift)

1810 Completed Shift Turnover checklist with oncoming SOR.

1815 Released by R. Axtell as RCRR SOR - Shift Turnover

No Further Entries this Page

TC

11/7/13 Night Shift

1815 Reviewed shift turnover checklist, approved and posted Nightshift Operations watchbill. Assumed WCRR SOM position.

1859 Due to RP-1 monthly training started pre job late.

1913 Completed pre job conducted by SOS. Safety topic by IH was tool selection. Operators discussed a better option for tightening drum bands than the allen wrench that is currently used. Nightshift production manager will look into. Discussed lead window repair options of lead tape obtained today as well as SS covers. Briefed the active shift orders and the status of the WCC of a new parent being bagged on just before shift turnover. Discussed need to have facility in Cold @ end of shift w/ allowing time for WCC maintenance and glove inspections.

1951 Informed that one of the entry way lights at break trailer 50 196 is out. OCO submitted ESR

2244 Completed bag offs of 1 daughter and 1 POC - continuing to process.

11/8/13 0010 Operators breaking for lunch

0138 Resuming operations

0242 Reviewed RCRA rounds.

0334 All bag offs are complete for parent #5833481 (2 daughters and 2 POC's total). Operators are placing port covers on WCC and wiping down / cleaning gloves for inspection.

0353 Completed reviewing round sheets for A.M.

0430 Completed movement of 6 drums from 50-69 to transportainers. 50-69 is deinventoried.

0434 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Cold.

0440 Reviewed compliance tracking worksheet, verified status board updated.

0500 SOS reported that WCC was wiped down, gloves cleaned and inspected - none required changing. Rm 102 floor was mopped and general housekeeping complete.

11/8/13 0530 Secured WCRR SOM position.

No further entries this page

RLG

PROJECT NAME WCRF SOS LOG BOOK NOTEBOOK NO.

11/7/15

0600 Assuming SOS Position drilled M.T

0615 Conducted shift brief. Discussed Status of Glovebox Also status of Lead lined windows status and Alarm Principals.

0645 Shift brief Concluded.

0702 Operators Entering 50-69 For Processing.

0820 Bagging off Daughter Bagging on Mother.

0839 Bag off/on complete.

0841 Filters out of 50-69 To transportation.

0912 Movement Complete.

0933 Moving into 50-69 from transfer lanes

0944 Move in complete.

1644 Bagging off Daughter And Pre Bagging on 5832499 and denesting

11:57 Bag off/on and denesting Complete.

1446 Relieved by Clarice Velarde

1447 Assuming WCRF SOS Position - CVelarde

1459 Bagging off Daughter, Bagging on Daughter.

1516 Bag in, Bag off Complete.

1527 Started Inside rounds and outside rounds.

1551 Completed outside rounds

1620 Rounds have been signed off.

1630 Bagging off Daughter

1712 Bag off Completed, waiting to receive lead tape

1741 Bagged on 3833481

1742 Started movement out of 50-69.

1752 Completed movement into 50-69

1806 Relieved by SOS Clayton Mullins - CVelarde

HA

no further entries this page.

SIGNATURE _____ DATE _____ 20

READ AND UNDERSTOOD _____ DATE _____ 20

WCRRF SOS Log Book

11/7/13
1807 Assuming SOS position. CA
1859 Starting Pre-Job late due to training for RCT's. Discussed end of week going into cold + good end of operations WCO maintenance, and also using the proper tool for the job.
1913 Pre-Job complete.
1951 FSR #114113 has been submitted for replacing a light bulb at the west ~~entrance~~ on 11-7-13 entrance to 50-196.
2219 Bagging off 1 daughter and 1 POC + bagging on a 2nd daughter.
2244 Bag off/on complete.
0304 Bagging off 2nd daughter and a 2nd POC to complete processing.
0336 Bag off complete.
0350 Late entry @ 0324 signed off on the ~~con~~ on 11-8-13 rounds. CMullins
0403 Starting movement out of 50-69.
0430 Movement out complete.
0436 Mode change complete, WCRRF yard is in Warm Standby and 50-69 in Cold Standby.
11/8/13 0500 Securing SOS position. CA

No Further Entries on this Page

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0128
Examination Date:	11/14/2013
Waste Container ID:	68582
Video/Audio Recorded Media Number:	LA-RTR2-13-0128 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 172.0 kg Tare Wt.: 145.1 kg Net Wt.: 26.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 68582

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 Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	24.9
Soils (S):	
Total WMP Weight:	26.9

CCP Radiography Data Sheet

Waste Container ID: 68582

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

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

RTR Operator:

Benito Maestas		11/14/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68582		Count Sequence Number:	16729	
Operator:	DCLTD231\Operator				
Assay Start:	11/18/2013 11:02:48 AM				
Description 1:	2LANDA1242				
Description 2:	POC - 172.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	26.9 kg	Net:	26.9 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.730 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:	16729	Batch Number:	2LANDA1242
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68582	Analysis Date:	11/18/2013

Net Weight	26900.0 g	
Pu mass	6.84E+001 +-	2.36E+001 g
TRU Alpha Activity	1.17E+001 +-	4.91E+000 Ci
TRU Activity Concentration	4.36E+005 +-	1.83E+005 nCi/g
Pu-239 Equivalent Activity	1.19E+001 +-	4.92E+000 Ci
Pu-239 FGE	6.49E+001 +-	2.35E+001 g
Decay heat	3.80E-001 +-	1.62E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.33E-007
U233	<LLD	<LLD	0.00E+000	7.32E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.46E-006
NP237	1.35E-001	9.54E-005	1.81E-005	1.95E-006
PU238	6.25E-003	1.07E-001	4.17E-002	8.42E-004
U238	<LLD	<LLD	0.00E+000	1.97E-005
PU239	6.47E+001	4.01E+000	1.46E+000	3.16E-002
PU240	3.65E+000	8.29E-001	3.23E-001	6.53E-003
AM241	1.98E+000	6.79E+000	4.68E+000	1.49E-001
PU241	6.66E-002	6.86E+000	2.68E+000	5.40E-002
PU242	1.37E-002	5.41E-005	2.11E-005	0.00E+000
AM243	5.24E-004	1.05E-004	2.02E-005	1.12E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/21/13

ITR: _____ Date: 11/25/13

Automated Independent Technical Review

Count Sequence Number: 16729 Batch Number: 2LANDA1242
Counter ID: HENC #2
Container ID: 68582
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/18/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Gamma data specified as input.	Results taken from quantitative gamma data.
Results taken from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information
Results are marked as invalid.	utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,51,54
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 11-19-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68582**

BDR Number: **LA13FG2123**

Sampling Date: **12/5/2013**

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\131205c\
Data File : 68582.D
Acq On : 5 Dec 2013 12:53 pm (#1); 05-Dec-13, 12:52:43 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 05 13:01:10 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	3.539	96	3845844	205.75	ppmv	0.02
15) Chlorobenzene-d5	5.848	117	3059524	177.50	ppmv	-0.01
Target Compounds						Qvalue

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

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0128
Examination Date:	11/14/2013
Waste Container ID:	68617
Video/Audio Recorded Media Number:	LA-RTR2-13-0128 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 155.0 kg Tare Wt.: 145.1 kg Net Wt.: 9.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

Waste Container ID: 68617

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

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	0.3
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	9.6
Soils (S):	
Total WMP Weight:	9.9

CCP Radiography Data Sheet

Waste Container ID: 68617

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

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

RTR Operator:

Benito Maestas		11/14/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68617		Count Sequence Number:	16719	
Operator:	DCLTD231\Operator				
Assay Start:	11/15/2013 11:24:52 AM				
Description 1:	2LANDA1241				
Description 2:	POC 155.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	9.9 kg	Net:	9.9 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.644 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:	16719	Batch Number:	2LANDA1241
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68617	Analysis Date:	11/15/2013

Net Weight	9900.0 g		
Pu mass	3.00E+000	+-	7.12E-001 g
TRU Alpha Activity	1.06E+000	+-	4.59E-001 Ci
TRU Activity Concentration	1.07E+005	+-	4.64E+004 nCi/g
Pu-239 Equivalent Activity	1.07E+000	+-	4.59E-001 Ci
Pu-239 FGE	2.86E+000	+-	6.72E-001 g
Decay heat	3.49E-002	+-	1.53E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.15E-002	8.12E-006	1.46E-006	1.04E-006
PU238	2.79E-004	4.78E-003	1.13E-003	4.14E-005
PU239	2.84E+000	1.76E-001	4.17E-002	1.52E-003
PU240	1.60E-001	3.64E-002	8.63E-003	3.15E-004
AM241	2.47E-001	8.46E-001	4.58E-001	1.73E-002
PU241	5.23E-003	5.38E-001	1.28E-001	4.66E-003
PU242	6.25E-004	2.47E-006	5.85E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.08E-007
U233	<LLD	<LLD	0.00E+000	2.03E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	6.66E-007
U238	<LLD	<LLD	0.00E+000	5.88E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 11-22-13

ITR: _____ Date: 11.22.13

Automated Independent Technical Review

Count Sequence Number: 16719 Batch Number: 2LANDA1241
Counter ID: HENC #2
Container ID: 68617
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/15/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. 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 OK
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Section 4 - MGA Analysis 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-51,52,54.

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
Ratio of Pu-239 414 to 129 keV line activities is above the limit of 2.50	Not data affecting, neutron results used.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 11/22/13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68617**

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 : 68617.D
Acq On : 18 Dec 2013 3:17 pm (#1); 18-Dec-13, 15:16:20 (#2)
Operator : EL
Sample :
Misc : POC Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 18 15:25:07 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.594	96	3481256	205.75	ppmv	0.08
15) Chlorobenzene-d5	5.891	117	2770230	177.50	ppmv	0.03
Target Compounds						Qvalue

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

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0128
Examination Date:	11/14/2013
Waste Container ID:	68632
Video/Audio Recorded Media Number:	LA-RTR2-13-0128 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 155.5 kg Tare Wt.: 33.4 kg Net Wt.: 122.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 68632

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	Scrap lead
OI:	
C:	Tape rolls
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.5
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	6.0
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	111.4
Soils (S):	
Total WMP Weight:	122.1

CCP Radiography Data Sheet

Waste Container ID: 68632

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]	11/14/2013
Print Name	Signature	Date

833481

NDA 2000 Assay Report

Item Information

Item ID:	68632		Count Sequence Number:	16717	
Operator:	DCLTD231\Operator				
Assay Start:	11/15/2013 9:53:14 AM				
Description 1:	2LANDA1241				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	122.0 kg	Net:	122.0 kg	
Container:	Volume:	208.0 l	Full:	80.0 %	
Density:		0.730 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:	16717	Batch Number:	2LANDA1241
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68632	Analysis Date:	11/15/2013

Net Weight	122000.0 g	
Pu mass	1.94E+001 +-	3.93E+000 g
TRU Alpha Activity	1.50E+001 +-	7.42E+000 Ci
TRU Activity Concentration	1.23E+005 +-	6.08E+004 nCi/g
Pu-239 Equivalent Activity	1.51E+001 +-	7.42E+000 Ci
Pu-239 FGE	1.85E+001 +-	3.92E+000 g
Decay heat	4.97E-001 +-	2.47E-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	8.99E-007
U233	<LLD	<LLD	0.00E+000	9.50E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.98E-006
NP237	2.11E-001	1.49E-004	2.82E-005	2.47E-006
PU238	1.80E-003	3.08E-002	7.99E-003	9.92E-004
U238	<LLD	<LLD	0.00E+000	2.56E-005
PU239	1.83E+001	1.14E+000	2.43E-001	3.65E-002
PU240	1.04E+000	2.35E-001	6.14E-002	7.56E-003
AM241	3.97E+000	1.36E+001	7.42E+000	7.54E-002
PU241	3.37E-002	3.48E+000	9.12E-001	1.12E-001
PU242	4.03E-003	1.59E-005	4.06E-006	0.00E+000
AM243	7.77E-004	1.55E-004	2.99E-005	1.45E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 11-22-13

ITR: _____ Date: 11-22-13

Automated Independent Technical Review

Count Sequence Number: 16717 Batch Number: 2LANDA1241
Counter ID: HENC #2
Container ID: 68632
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/15/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than n-sigma * the correction factor error.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	OK Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis 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-51,52,54.
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Fred F Date: 11/22/13

012

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68632**

BDR Number: **LA13FG2118**

Sampling Date: **11/21/2013**

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\131121c\
Data File : 68632.D
Acq On : 21 Nov 2013 1:48 pm (#1); 21-Nov-13, 13:47:49 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 26 10:18:27 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	3.574	96	4391855	205.75	ppmv	0.06
15) Chlorobenzene-d5	5.874	117	3432149	177.50	ppmv	0.01
Target Compounds						Qvalue

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

CCP Radiography Data Sheet

833481

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0128
Examination Date:	11/14/2013
Waste Container ID:	68634
Video/Audio Recorded Media Number:	LA-RTR2-13-0128 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 112.5 kg Tare Wt.: 33.4 kg Net Wt.: 79.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes 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: 68634

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal
AM:	
OM:	Scrap lead, batteries
OI:	
C:	
R:	Rubber gloves
XPM:	Plastic containers, 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):	0.2
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	8.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	4.0
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	60.9
Soils (S):	
Total WMP Weight:	79.1

CCP Radiography Data Sheet

Waste Container ID: 68634

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

RTR Operator:

Benito Maestas	B [signature]	11/14/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68634	Count Sequence Number:	16732		
Operator:	DCLTD231\Operator				
Assay Start:	11/18/2013 1:33:30 PM				
Description 1:	2LANDA1242				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	79.1	kg	Net:	79.1 kg
Container:	Volume:	208.0	l	Full:	70.0 %
Density:		0.540 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:	16732	Batch Number:	2LANDA1242
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68634	Analysis Date:	11/18/2013

Net Weight	79100.0 g		
Pu mass	1.20E+001	+- 1.81E+000	g
TRU Alpha Activity	9.18E+000	+- 4.45E+000	Ci
TRU Activity Concentration	1.16E+005	+- 5.62E+004	nCi/g
Pu-239 Equivalent Activity	9.20E+000	+- 4.45E+000	Ci
Pu-239 FGE	1.36E+001	+- 1.85E+000	g
Decay heat	3.03E-001	+- 1.48E-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	1.08E-006
U233	<LLD	<LLD	0.00E+000	8.24E-003
U234	4.63E-002	2.88E-004	5.27E-005	0.00E+000
U235	3.31E+000	7.14E-006	1.31E-006	3.08E-006
NP237	1.58E-001	1.11E-004	1.76E-005	2.16E-006
PU238	1.10E-003	1.88E-002	4.00E-003	9.27E-004
U238	<LLD	<LLD	0.00E+000	1.83E-005
PU239	1.14E+001	7.06E-001	1.12E-001	3.48E-002
PU240	6.43E-001	1.46E-001	3.09E-002	7.20E-003
AM241	2.42E+000	8.31E+000	4.44E+000	7.65E-002
PU241	1.17E-002	1.21E+000	2.57E-001	5.96E-002
PU242	2.41E-003	9.52E-006	2.02E-006	0.00E+000
AM243	5.84E-004	1.17E-004	1.90E-005	1.28E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/21/13

ITR: _____ Date: 11/25/13

Automated Independent Technical Review

Count Sequence Number: 16732 Batch Number: 2LANDA1242
Counter ID: HENC #2
Container ID: 68634
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/18/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Analysis Status: Override enabled; data marked not available but were used. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis 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-52,51,54
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	Ok No spectral distortion observed. spectrum valid.

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

Expert Review by: Sheri Chamberlain Date: 11-19-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68634**

BDR Number: **LA13FG2119**

Sampling Date: **11/22/2013**

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\131122c\
Data File : 68634.D
Acq On : 22 Nov 2013 10:42 am (#1); 22-Nov-13, 10:41:44 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

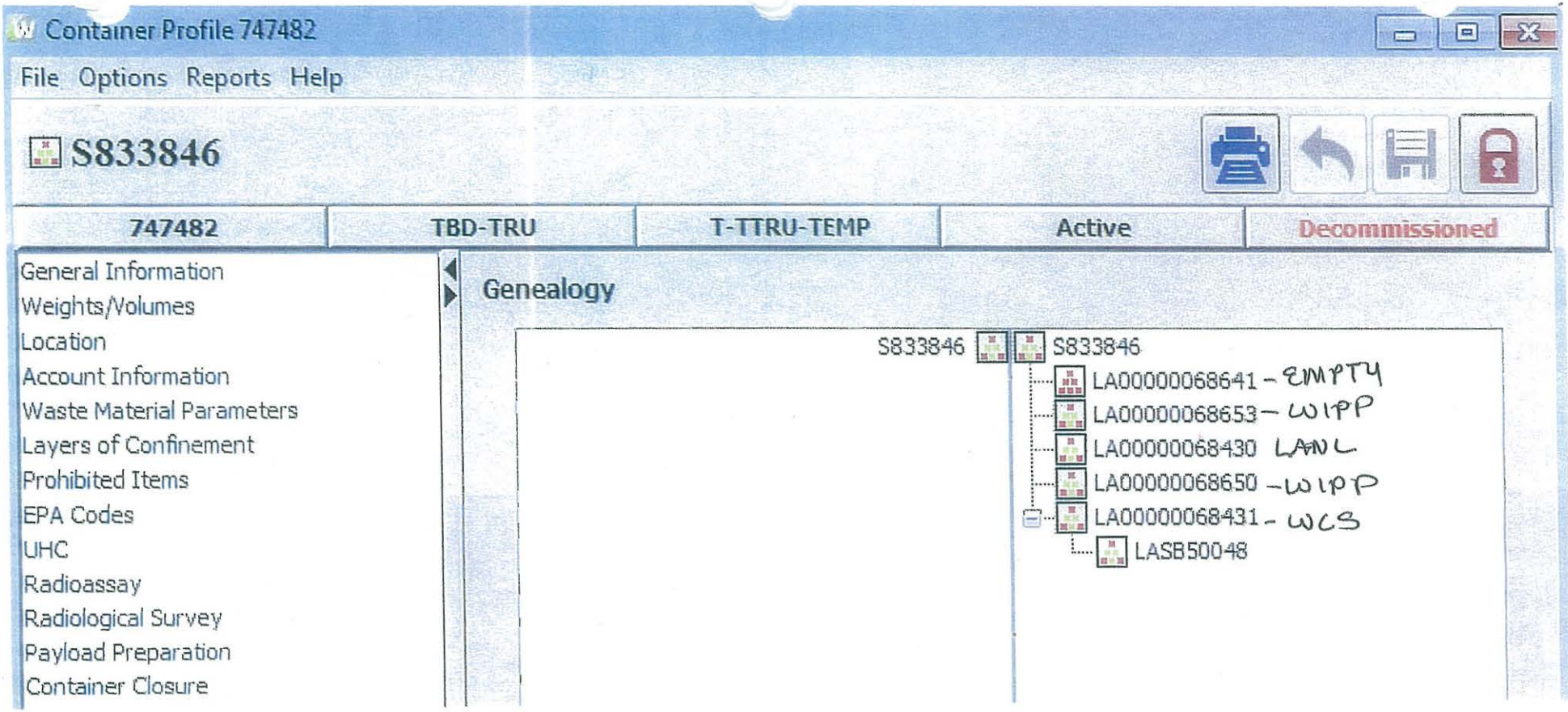
Quant Time: Nov 22 10:54:45 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.584	96	4502335	205.75	ppmv	0.07
15) Chlorobenzene-d5	5.884	117	3536620	177.50	ppmv	0.02
Target Compounds						Qvalue

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

S833846

S833846


Container Profile 747482
File Options Reports Help
S833846
747482
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
Genealogy
S833846
S833846
LA00000068641 - EMPTY
LA00000068653 - WIPP
LA00000068430 LANL
LA00000068650 - WIPP
LA00000068431 - WCS
LASB50048

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ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 5933846

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: D002, D008, D009

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

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

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

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

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

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

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

Performed By: Edward Martinez Ed Martinez 133911 11-12-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No.: C833846

5 [18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 380.2 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) 380.2 lb

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

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

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

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

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: SB33846

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	L68650	68653		
10.1[4]	Daughter Drum Filter No.	AN-676	AN-661	N/A	
10.1[4]	Daughter Drum Bag Filter No.	L-16733	L-16733	N/A	
10.1[4]	Daughter Drum Purchase Order No.	501578	501578		
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☑ N/A
10.1[14][C][d]3.11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer	BAP	BAP		
	Model No.	Expressspac	6x9VC S2SM		
	Serial No.	L-6740	L-6735		
	Date of Manufacture	1-13	1-13		
10.2[5]	POC ID No	68431	68430		
10.2[7][B]/10.2[6]	POC Item Description	alkali salts	Nitrate salts		
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and #)	KM 239911	SA 238826		
10.2[14]	POC Assembly Gross Weight (lb)	361.8	383.4		
10.2[15]	POC Rad. Survey Results (mrem/hr)	3.9	800	N/A	
10.3[3][A]	Approx. Containerized Liquid Vol./Units	N/A	N/A		
10.3[5][A]	Free Liquid Volume/Units	2 gal	N/A		
10.3[7][A]	Opaque/Non-penetrable Item Description:	Lead	Lead		
10.3[9][A]	PCB-contaminated Waste Description	N/A	N/A		
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	see comments	See Comments		
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)	60%	80%		
10.5[3]/10.6[2]	Description Waste Added During Processing	plastic stub outs Kitty Litter	stub outs Plastic Kitty Litter		

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5933846

Comments: Nitrate salts, lead, plastic, poly bag, Kitty litter, Sticker

11.1[1] Performed By: Robert Schlotz [signature] 122500 11/6/13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: [signature] [signature] 11/6/13 16:0
SOS or designee (print) Signature Z # Date/Time

ATTACHMENT 2
Page 1 of 1

11/7/13 HS

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

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

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

	Filtered Vent	2-in. Bung
M&TE No.:	100216	036243
Cal. Expiration Date:	12/18/13	8/13/14
Tolerance:	+/- 4% cw +/- 6% ccw	+/- 3% cw +/- 6% ccw

Overpack filtered vent information:

Manufacturer:	NUFIL
Model No.:	013
Serial No.:	TL1032
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: Joe Quintana Joe Quintana 239987 11/7/13
Waste Handling Technician (print) Signature Z # Date

5.[15] Filtered Vent torque value [120 in-lb (90 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: Joe Quintana Joe Quintana 239987 11/7/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Gilbert Martinez [illegible] [illegible]
Supervisor or designee (print) Signature Z # Date

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11-13-13 dz

ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68641

7.[23] Overpack drum closure ring torque wrench information:

M&TE No.: 036245
Cal. Expiration Date: 08/05/2014
Range in ft-lb: 10-80
Tolerance: +/- 3% CW and -6% CW

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

Performed By: Edward Martinez (Waste Handling Technician (print)) (Signature) Z# 05111 Date 11-13-13

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: 019045
Platform scale calibration expiration date: 10-14-14

7.[34][D] 85-gal overpack drum gross weight (lb): 1746 lb

Comments: n/c

8.1[1] Performed By: Federico Archuleta (Waste Handling Technician (print)) (Signature) Z# 22884 Date 11-13-13

8.1[7] Reviewed By: Gilbert Martinez (Supervisor or designee (print)) (Signature) Z# 14725 Date 11-13-13

ATTACHMENT 1
Page 1 of 2

11/12/13 HS

WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68650

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 02400119
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6-4PVC 1.5 - 83PVC
Serial No.: L-6733
Manufacture Date: N/C

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

	Filtered Vent	2 in. Bung
M&TE No.:	100216	036295
Cal. Expiration Date:	12-18-13	6-05-14
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: [illegible] [illegible] 49356 / 11/12/13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: Nucon
Model No.: QA90S
Serial No.: NN-676
Manufacture Date: 1/13

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

5.[29][D] 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.: 6865o

Comments: N/C

5.[35] Performed By: [illegible] [illegible] [illegible] 11/18/13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: [illegible] [illegible] [illegible] 11/18/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 2
Page 1 of 2

WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68656

6.[9] Drum closure ring torque wrench information:
- M&TE No.: 036245
- Cal. Expiration Date: 08/05/2014
- Range: 16-80 ft-lb
- Tolerance (+/-): +1.3% cw and +6% ccw

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

Performed By: Edward Martinez (Operator (print)) (Signature) 25911 (I.D.) 11-13-13 (Date)

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

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

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

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

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)) N/A (Signature) _____ (I.D.) _____ (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.: 68650

6.[26] Scale File ID number: 019065

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

6.[28] Drum gross weight: 7236 lbs

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

Comments: N/A

6.[32] Performed By: Edward Martinez (Operator (print)) (Signature) (Z #) 11-18-13 (Date)

7.1[4] Reviewed By: (Supervisor or designee (print)) (Signature) (Z #) (Date)

ATTACHMENT 1
Page 1 of 2

11/12/13 BBS

WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68653

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 03401119
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BAP
Model No.: 6x6 NC 18-25PC
Serial No.: 4-10133
Manufacture Date: 1-13

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

	Filtered Vent	2 in. Bung
M&TE No.:	100216	036245
Cal. Expiration Date:	12-18-13	8-5-14
Range:	40-200 in-lb	16-50 ft-lb
Tolerance (+/-):	+4/20 -6/30	+-3/50 +-6/100

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

Performed By: [illegible] [illegible] 12 BBS 11-12-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer:
Model No.: 0198S
Serial No.: AN-661
Manufacture Date: 1-13

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

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

5.[30] Scale File ID number: 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.: 68653

Comments: N

5.[35] Performed By: [signature] [signature] 120576 11/20/13
Operator (print) Signature Z # Date

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

ATTACHMENT 2
Page 1 of 2

WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68653

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

M&TE No.: 036245
Cal. Expiration Date: 08/05/2014
Range: 16-80 ft-lb
Tolerance (+/-): +/-3% CW and +/-6% CCW

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

Performed By: Edward Martinez (Operator (print)) Ed Martinez (Signature) 23911 (/ #) 11-12-13 (Date)

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

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

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

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

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

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

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

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

ATTACHMENT 2
Page 2 of 2

6.[3] Drum ID No.: 68653

6.[26] Scale File ID number: 019065

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

6.[28] Drum gross weight: 308.6 lbs

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

Comments: N/C

6.[32] Performed By: Frederick Mitchell [signature] 122008 11-13-13
Operator (print) Signature Z # Date

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

11-12-13 AE

ATTACHMENT 3
Page 1 of 1

WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 893384 6

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): 390.2

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: Edward Martinez — Waste Handling Technician (print) — Signature — Z # — Date: 11-8-13

8.1[7] Reviewed By: — Supervisor or designee (print) — Signature — Z # — Date

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

8.1[8][D] Approved by: — SOS/SOM or designee (print) — Signature — Z # — Date — Time

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: S833846 Container Type: 55-GAL Gross Weight (lbs): 408

Inner Seal #: 014504 Filter Prefix: LAVC Filter Serial #: 01398

AK Waste Stream: LA-MHD01.001 Certified RTR BDR: LA-RTR2-11-014

TWSR Comments: LEACHED SOLIDS MST 12 RM 434 NITRATE SALTS

Total PE-Ci Activity: 1.84E+01 Equivalent Combustible PE-Ci: 6.89E+00 AM-241 PE-Ci: 1.89E+00

Total Fissile Gram Equivalents: 181.5 Total Surface Dose Rate (mrem/hr): 6

EPA Code(s): None

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: 6/12/2007 Comment: Liquids, Impenetrable Obj, Liquid Location: 15",32"

Certified RTR Comment: Impenetrable Items, Liquid greater than 1% by volume

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: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1:2 volume of Kitty Litter/Zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) R W Jones (Signature) 117434 (Z Number) 1-2-4-12 (Date)

WDP Engineering

SUSAN S RAMSEY (WDP Engineering (Print)) Susan S Ramsey (Signature) 100681 (Z Number) 11/28/12 (Date)

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

Processing Determination: ☒ Accept ☐ Reject

WDP Engineering Comments: Nitrate Salts
Net Wt: 348 lb. Historical information shows 12 items of nitrate salts, ranging in weight from 10 lb to 34 lb. RTR inventory shows 55-gal drum has 90 mil liner and contains scrap lead, plastic bags, & homogeneous material (solid). Nitrate salts may contain undocumented liquids.

Performed By: Valerie Rhodes (WDP Engineering (Print)) Valerie Rhodes (Signature) 112647 (Z Number) 12/6/12 (Date)

TRU Remediation Operations

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

Other Specific Safety Concerns: Use Hexarmour gloves when processing waste. Do not push or press on waste with hands.

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure.

Performed By: Joe Lopez (TRU Remediation Operations (Print)) Joe Lopez (Signature) 272412 (Z Number) 1-8-13 (Date)

Robin Shultz RS 272995 1-14-13

IH's Review: John Amerland CSP, No IH concerns 12/4/12

Noncertified TRU Waste Drum Item Information

DrumID: 014504

Item No	ItemID	Process Status	Net Wt (kg)	Matrix	Meas Code	SNM (g)	MT	Auth (Pg/Ln)		Comments
1	IXFS-811-FA		14.090	NITRATE SALTS		17.83	52	6/11	G468	
2	OXF812-FA		15.450	NITRATE SALTS		50.27	52	6/11	G468	
3	IXFS-815-FA		4.550	NITRATE SALTS		7.38	53	6/11	G468	
4	IXFS-816-FA		8.180	NITRATE SALTS		1.27	52	6/11	G468	
5	IXFS-818-FA		15.000	NITRATE SALTS		21.7	52	6/11	G468	
6	IXFS-819-FA		8.400	NITRATE SALTS		18.37	54	6/11	G468	
7	IXFS-820-FA		4.550	NITRATE SALTS			54	6/11	G468	
8	8210X40FC		11.360	NITRATE SALTS		19.73	52	6/11	G468	
9	IXFS-823-FA		10.000	NITRATE SALTS		19.22	53	6/11	G468	
10	IXFS-825-FA		5.900	NITRATE SALTS			52	6/11	G468	
11	IXFS-827-FA		10.000	NITRATE SALTS		38.3	53	6/11	G468	
12	IXFS-829-FB		6.400	NITRATE SALTS		1.4	52	6/11	G468	

Noncertified Waste Drum Material Summary

Gross Wt (kg): 185.

Material Type	SNM (grams)	Items Net Wt (kg)
52	112.2	76.38
53	64.9	24.55
54	18.37	12.95
Totals	195.47	113.88

Attachment 2 – CCP Radiography Data Sheet

Section 1: General Information	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-11-0147
Examination Date:	11/15/2011
Waste Container ID:	S833846
Video/Audio Recorded Media Number:	LA-RTR2-11-0147 A
Procedure and Revision No.:	CCP-TP-053 Rev. 11
NCR(s) associated with the container? (e.g., Prohibited Items)	☐ NO ☑ YES NCR No.: NCR-LANL-3837-11 NCR No.: NCR-LANL-3992-11

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt: 170.0 kg. Tare Wt: 35.1 kg. Net Wt: 134.9 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	90mil Liner - Mechanical Vent
Number of Layers of Confinement:	~~Appears to be 1 layer~~ pg 12/1/11 pd 12/1/11 Corrected Verify
Volume Utilization Percentage:	95 %

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: S833846

Section 3: Container Inventory and Comments (Detailed descriptions)
Scrap lead
Plastic bags, horsetail
homogeneous solid material

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP): Rigid Liner:	7.4
Others:	0.0
Total Packaging Weight:	35.1
Waste Material Parameter:	Estimated Weight (kg)
Iron-based Metal / Alloys (IM):	67.9
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI):	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	20
Organic Matrix (OR):	
Inorganic Matrix (IN):	66.0
Soils (S):	
Total WMP Weight:	134.9

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: S833846

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

Comments: NCR-LANL-3837-11
NCR-LANL-3992-11

RTR Operator:

Print Name	Signature	Date
Philip Dillard		11/15/11

12/1/11

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 3/29/12

Container No. (5.[1])	72 S833846	72 S835203				
Filtered Vent Type (5.[1])	72	72				
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])	4957 ppm	6359 ppm	ppm	ppm	ppm	ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	21035 ppm	7184.79 ppm	ppm	ppm	ppm	ppm
Methane Reading (< 16,000 ppm) (5.[5])	0 ppm	0 ppm	ppm	ppm	ppm	ppm

No Thermal Events 4/2/12

5.[7] Certified CCP Technician:

Performed By: Erik Loechell / 234183
CCP (Print) Z #

Reviewed By: Sara Aragon / 237975
CCP (Print) Z #

Comments: N/C

6.1[2][A] ($) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

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

6.1[2][B]/ 6.1[3] Performed By: Alicia Herrera Alicia Herrera 198450 / 4/2/12
Waste Handling Operator (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120329c\
Data File : S833846.D
Acq On : 29 Mar 2012 3:54 pm (#1); 29-Mar-12, 15:53:51 (#2)
Operator : SA
Sample :
Misc : 55 GALLON LFL DRUM THROUGH FILTER, 72 FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 16:03:19 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Mar 06 12:05:15 2012
Response via : Initial Calibration

Compound	R.T	Qion	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.632	96	3751188	209.00	ppmv	0.01
15) Chlorobenzene-d5	5.948	117	2562393	185.50	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.618	GC1	26886m	3640.35	ppmv	
4) Methanol	0.872	31	31817	48.37	ppmv	100

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

vocgas.m Thu Mar 29 16:03:33 2012

11-12-13

1802 Assuming OCO Position - Gerald Espinoza

1815 SHIFT BRIEF AND TURNOVER BEING CONDUCTED.

1840 Prejob Concluded.

1905 OPERATORS headed BACK TO BEGIN PROCESSING.

2100 BAGGING OFF FIRST DAUGHTER BAGGING ON A SECOND DAUGHTER.

2113 NOTIFIED BY INSIDE PIC OF ELEVATED CAMS.

2121 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. Esp

0245 Assuming WCRR operations 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. Esp

0442 ITEM # 63 OOS, 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 H. Esp

NO FURTHER ENTRIES THIS PAGE.

11/12/13 Night Shift

1810 Reviewed shift turnover checklist, reviewed approved and posted night shift operations watch bill and assumed WCRR SOM position. RC→

1840 Pre job brief is conducted, IH 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 concerns 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~~ LLR 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 of 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. LLR

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

No further entries this page LLR

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.
RAG	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	~~06~~ cm 11-14-13 0600	Securing SOS position. CA

No further Entries on this Page

SIGNATURE _____ DATE _____ 20__

READ AND UNDERSTOOD _____ DATE _____ 20__

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68430
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 174.0 kg Tare Wt.: 145.1 kg Net Wt.: 28.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 68430

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic bag
OR:
IN: Homogeneous solids
S:

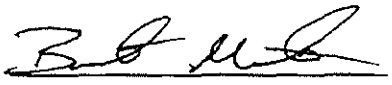
Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner/Lid; Plastic Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP); Fiberboard Liner Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material 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):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	26.9
Soils (S):	
Total WMP Weight:	28.9

CCP Radiography Data Sheet

Waste Container ID: 68430

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:

Benito Maestas		11/19/2013
Print Name	Signature	Date

833846

NDA 2000 Assay Report

Item Information

Item ID:	68430		Count Sequence Number:	23935	
Operator:	D3PW2DK1\operator				
Assay Start:	12/5/2013 10:18:16 AM				
Description 1:	1LANDA1873				
Description 2:	POC - 174.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	28.9 kg	Net:	28.9 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.740 kg /l			

System Configuration

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

Errors quoted at 1.000 sigma

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23935	Batch Number:	1LANDA1873
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:	68430	Analysis Date:	12/5/2013

Net Weight	28900.0 g	
Pu mass	3.56E+001 +-	2.42E+001 g
TRU Alpha Activity	1.10E+001 +-	5.88E+000 Ci
TRU Activity Concentration	3.79E+005 +-	2.03E+005 nCi/g
Pu-239 Equivalent Activity	1.11E+001 +-	5.88E+000 Ci
Pu-239 FGE	3.32E+001 +-	2.42E+001 g
Decay heat	3.59E-001 +-	1.95E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.17E-007
U233	<LLD	<LLD	0.00E+000	6.71E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.88E-006
NP237	1.11E-001	7.80E-005	1.49E-005	3.32E-006
PU238	6.51E-003	1.11E-001	8.32E-002	1.99E-003
U238	<LLD	<LLD	0.00E+000	2.12E-005
PU239	3.29E+001	2.04E+000	1.50E+000	3.66E-002
PU240	2.61E+000	5.93E-001	4.43E-001	1.06E-002
AM241	2.39E+000	8.21E+000	5.67E+000	2.17E-001
PU241	6.32E-002	6.51E+000	4.86E+000	1.17E-001
PU242	2.00E-002	7.90E-005	5.90E-005	0.00E+000
CM243	1.27E-006	6.20E-005	1.30E-005	1.42E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 12/10/13

ITR: _____ Date: 12-10-13

Automated Independent Technical Review

Count Sequence Number: 23935 Batch Number: 1LANDA1873
Counter ID: MCS HENC #1
Container ID: 68430
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 12/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA. Curium/Californium Neutron Analysis complete with warnings. - The Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok Not data affecting. Ok
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok

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

Expert Review by: Sheri Chamberlain Date: 12-9-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68430**

BDR Number: **LA14FG2008**

Sampling Date: **1/22/2014**

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

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

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\140122c\
Data File : 68430.D
Acq On : 22 Jan 2014 1:43 pm (#1); 22-Jan-14, 13:42:38 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 22 13:51:15 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	2944921	205.75	ppmv	0.03
15) Chlorobenzene-d5	5.858	117	2370784	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-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68431
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 164.5 kg Tare Wt.: 145.1 kg Net Wt.: 19.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68431

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):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	15.4
Soils (S):	
Total WMP Weight:	19.4

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68431

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:

Benito Maestas		11/19/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68431		Count Sequence Number:	23929	
Operator:	D3PW2DK1\operator				
Assay Start:	12/4/2013 2:45:16 PM				
Description 1:	1LANDA1872				
Description 2:	POC 164.5				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	19.4	kg	Net:	19.4 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.692	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:	23929	Batch Number:	1LANDA1872
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:	68431	Analysis Date:	12/4/2013

Net Weight	19400.0 g	
Pu mass	4.88E+001 +-	1.77E+001 g
TRU Alpha Activity	1.20E+001 +-	1.91E+000 Ci
TRU Activity Concentration	6.19E+005 +-	9.83E+004 nCi/g
Pu-239 Equivalent Activity	1.22E+001 +-	1.91E+000 Ci
Pu-239 FGE	4.54E+001 +-	1.76E+001 g
Decay heat	3.92E-001 +-	6.20E-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	9.94E-007
U233	<LLD	<LLD	0.00E+000	7.80E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.34E-006
NP237	1.52E-001	1.07E-004	1.97E-005	3.99E-006
PU238	8.91E-003	1.52E-001	6.34E-002	2.30E-003
U238	<LLD	<LLD	0.00E+000	1.98E-005
PU239	4.51E+001	2.79E+000	1.09E+000	4.22E-002
PU240	3.58E+000	8.12E-001	3.38E-001	1.23E-002
AM241	2.41E+000	8.26E+000	1.52E+000	2.25E-001
PU241	8.65E-002	8.91E+000	3.71E+000	1.35E-001
PU242	2.69E-002	1.06E-004	4.42E-005	0.00E+000
AM243	1.96E-004	3.92E-005	7.76E-006	1.05E-005

Errors quoted at 1.000 sigma

Operator: Ann Barton Date: 12/10/13

ITR: Date: 12/10/13

Automated Independent Technical Review

Count Sequence Number: 23929 Batch Number: 1LANDA1872
Counter ID: MCS HENC #1
Container ID: 68431
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 12/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 12-10-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68431**

BDR Number: **LA14FG2027**

Sampling Date: **2/26/2014**

S833846

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	944.78	
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\140226c\
Data File : 68431.D
Acq On : 26 Feb 2014 2:26 pm (#1); 26-Feb-14, 14:25:54 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 26 14:34:48 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	3.574	96	3268773	205.75	ppmv	0.06
15) Chlorobenzene-d5	5.874	117	2629660	177.50	ppmv	0.01
Target Compounds						Qvalue
1) Hydrogen	1.615	GC1	7104m	944.78	ppmv	

(#) = 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-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68650
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 102.0 kg Tare Wt.: 33.4 kg Net Wt.: 68.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	55 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68650

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R:

XPM: Plastic bags, plastic lid

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	1.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	62.6
Soils (S):	
Total WMP Weight:	68.6

CCP Radiography Data Sheet

Waste Container ID: 68650

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		11/19/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68650	Count Sequence Number:	23886		
Operator:	D3PW2DK1\operator				
Assay Start:	11/21/2013 12:23:50 PM				
Description 1:	1LANDA1869				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	68.6	kg	Net:	68.6 kg
Container:	Volume:	208.0	l	Full:	55.0 %
Density:		0.600	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:	23886	Batch Number:	1LANDA1869
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:	68650	Analysis Date:	11/21/2013

Net Weight	68600.0 g		
Pu mass	2.81E+001 +-	1.65E+001	g
TRU Alpha Activity	1.06E+001 +-	1.79E+000	Ci
TRU Activity Concentration	1.54E+005 +-	2.61E+004	nCi/g
Pu-239 Equivalent Activity	1.07E+001 +-	1.79E+000	Ci
Pu-239 FGE	2.62E+001 +-	1.65E+001	g
Decay heat	3.47E-001 +-	5.81E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	2.16E-008	2.98E-006	1.68E-006	0.00E+000
CS137	3.43E-008	2.98E-006	1.68E-006	1.27E-006
U233	<LLD	<LLD	0.00E+000	9.31E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.76E-006
NP237	1.82E-001	1.28E-004	2.17E-005	4.84E-006
PU238	5.14E-003	8.78E-002	5.70E-002	2.84E-003
U238	<LLD	<LLD	0.00E+000	2.10E-005
PU239	2.60E+001	1.61E+000	1.02E+000	5.20E-002
PU240	2.06E+000	4.68E-001	3.04E-001	1.51E-002
AM241	2.45E+000	8.41E+000	1.44E+000	3.01E-001
PU241	4.99E-002	5.14E+000	3.34E+000	1.66E-001
PU242	1.41E-002	5.56E-005	3.61E-005	0.00E+000
AM243	5.55E-004	1.11E-004	1.95E-005	1.31E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 11/26/13

ITR: DER Date: 11-27-13

Automated Independent Technical Review

Count Sequence Number: 23886 Batch Number: 1LANDA1869
Counter ID: MCS HENC #1
Container ID: 68650
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 11/21/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Analysis Status: Override enabled; data marked not available but were used. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	Ok Deadtime=57.62%, no spectral distortion observed. After EA review, spectrum valid.

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

Expert Review by: Sheri Chamberlain Date: 11-26-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68650**

BDR Number: **LA13FG2121**

Sampling Date: **11/27/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	344.72	
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

DataName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131127C\
Data File : 68650.D
Acq On : 27 Nov 2013 10:51 am (#1); 27-Nov-13, 10:50:43 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 27 10:59:21 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.548	96	4049456	205.75	ppmv	0.03
15) Chlorobenzene-d5	5.858	117	3191946	177.50	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.616	GC1	2592	344.72	ppmv	100

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0130
Examination Date:	11/19/2013
Waste Container ID:	68653
Video/Audio Recorded Media Number:	LA-RTR2-13-0130 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 14
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 140.5 kg Tare Wt.: 33.4 kg Net Wt.: 107.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 68653

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

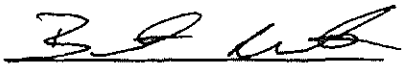
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	7.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	96.1
Soils (S):	
Total WMP Weight:	107.1

CCP Radiography Data Sheet

Waste Container ID: 68653

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		11/19/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68653		Count Sequence Number:	23930	
Operator:	D3PW2DK1\operator				
Assay Start:	12/4/2013 3:29:30 PM				
Description 1:	1LANDA1872				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	107.0 kg	Net:	107.0 kg	
Container:	Volume:	208.0 l	Full:	70.0 %	
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:	23930	Batch Number:	1LANDA1872
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:	68653	Analysis Date:	12/4/2013

Net Weight	107000.0 g		
Pu mass	5.49E+001	+- 2.50E+001	g
TRU Alpha Activity	1.86E+001	+- 1.01E+001	Ci
TRU Activity Concentration	1.74E+005	+- 9.42E+004	nCi/g
Pu-239 Equivalent Activity	1.88E+001	+- 1.01E+001	Ci
Pu-239 FGE	5.11E+001	+- 2.49E+001	g
Decay heat	6.11E-001	+- 3.35E-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	1.66E-006
U233	<LLD	<LLD	0.00E+000	1.30E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.69E-006
NP237	2.76E-001	1.95E-004	3.73E-005	6.69E-006
PU238	1.00E-002	1.71E-001	8.77E-002	3.78E-003
U238	<LLD	<LLD	0.00E+000	3.39E-005
PU239	5.07E+001	3.14E+000	1.55E+000	6.94E-002
PU240	4.02E+000	9.13E-001	4.67E-001	2.02E-002
AM241	4.20E+000	1.44E+001	9.95E+000	4.11E-001
PU241	9.73E-002	1.00E+001	5.12E+000	2.21E-001
PU242	3.02E-002	1.19E-004	6.11E-005	0.00E+000
AM243	1.18E-003	2.37E-004	4.61E-005	1.80E-005

Errors quoted at 1.000 sigma

Operator: Am Baxter Date: 12/10/13

ITR: Date: 12/10/13

Automated Independent Technical Review

Count Sequence Number: 23930 Batch Number: 1LANDA1872
Counter ID: MCS HENC #1
Container ID: 68653
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 12/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Gamma data specified as input.	Results taken from quantitative gamma data.
Analysis Status: Override enabled; data marked not available but were used.	
Results taken from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	MCA deadtime= 53.41%. No spectral distortion observed. Spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 12-5-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68653**

BDR Number: **LA13FG2125**

Sampling Date: **12/9/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	548.60	
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	8.02	U
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	1.92	U
95-47-6	o-Xylene	2.10	U
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

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

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\131209c\
Data File : 68653.D
Acq On : 9 Dec 2013 1:15 pm (#1); 09-Dec-13, 13:14:24 (#2)
Operator : EL
Sample :
Misc : 55 Gallon Drum Through Filter (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 09 13:23:12 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.548	96	3644335	205.75	ppmv	0.03
15) Chlorobenzene-d5	5.855	117	2896748	177.50	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.608	GC1	4125m	548.60	ppmv	

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

S833937

Containe 767884

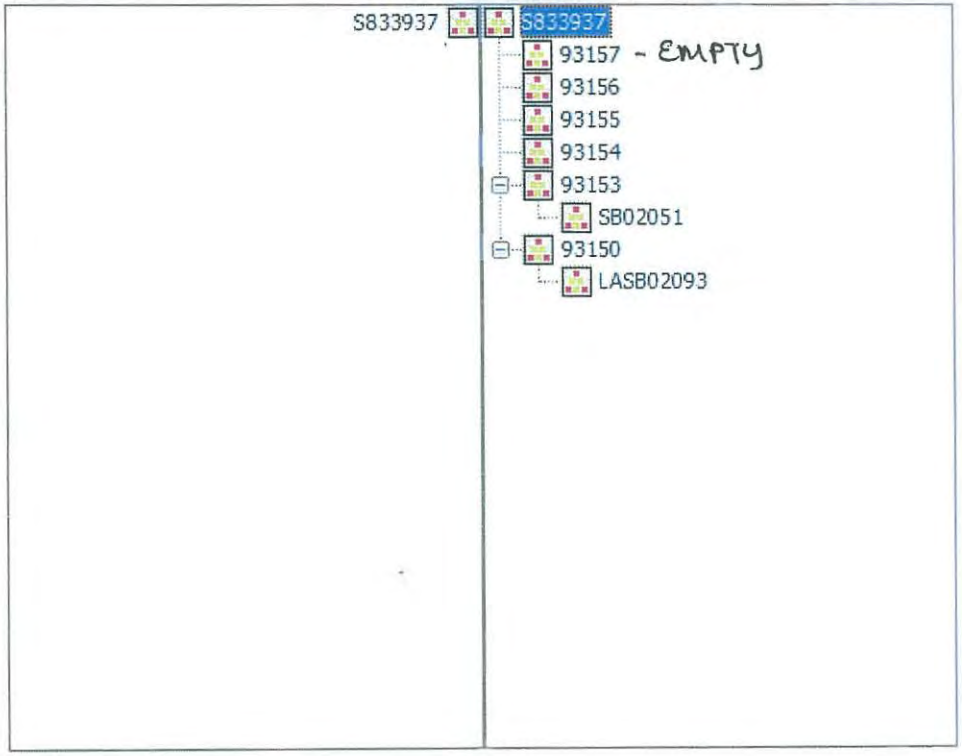
File Options Reports Help

S833937

767884	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



ATTACHMENT 1
Page 1 of 4

3-1-13 JL

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 5833937

6.2[4] Date Processed: 3/4/13

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

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

4.1[6][B] Parent Waste Container RCRA Designations: None

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

4.3[1]/4.3[2] ($) TA-50-69 is in the 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: Clayton Mullins / [signature] 240092 / 3/4/13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No. 5833937

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable 380.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (~~lb~~): 120.0 lb

6.2[5][B] Total Parent Drum Weight (lb) 500.0 lb
6.2[6]

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

_____ _____ _____
LWMO-FOD (print) Signature Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5833937

		Daughter Drums			
10.1[4]/10.2[4]	Daughter Drum No.	93150	93152		
10.1[4]	Daughter Drum Filter No.	LM-559	LM-6308		
10.1[4]	Daughter Drum Bag Filter No.	L-6314	L-6308		
10.1[4]	Daughter Drum Purchase Order No.	501011	501011		
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☑ N/A
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer	BOP	BOP	BOP	
	Model No.	3CPV.1.5-2.5PVC	3CPV.1.5-2.5PVC	3CPV.1.5-2.5PVC	
	Serial No.	L-6296	L-6303	L-5966	
	Date of Manufacture	11/12	11/12	6/11	
10.2[5]	POC ID No	D-2541/93154	D-2352/93155	D-2540/93156	
10.2[7][B]/10.2[6]	POC Item Description	nitrate salts, plastic	nitrate salts, plastic	nitrate salts, plastic	
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	cm 240092	cm 240092	cm 240092	
10.2[14]	POC Assembly Gross Weight (lb)	369.0	395.0	385.2	
10.2[15]	POC Rad. Survey Results (mrem/hr)	760.6	670.5	602.6	
10.3[3][A]	Approx. Containerized Liquid Vol./Units	2 Quarts			N/A
10.3[5][A]	Free Liquid Volume/Units	5 Gallons			
10.3[7][A]	Opaque/Non-penetrable Item Description:	lead shielding	N/A		
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[8]	Daughter Drum % Full (%)	70%	85%		
10.5[3]/10.6[2]	Description Waste Added During Processing	plastic, knives, kitty liter, hex armers	plastic, knives, kitty liter, hex armers		

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 5833937

Comments: plastic, nitrate salts

11.1[1] Performed By: Clayton Mullis / [signature] 240892 / 3/4/13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Joe Sena / [signature] 221452 / 3/5/13 1125
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.: 414996
Lot No.: 217570
Manufacture Date: 2011

5.[8] Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 03
Serial No.: 6L-417
Manufacture Date: 08/11

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

	Filtered Vent	2 in. Bung
M&TE No.:	940694	038369
Cal. Expiration Date:	9-26-13	12-18-13
Tolerance:	±4% CW ±6% CCW	±3% CW ±6% CCW

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

Performed By: Brian Gallegos / Brian Gallegos 126129 2-26-13
Waste Handling Technician (print) Signature Z # Date

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

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

Comments: N/C

8.1[1] Performed By: Brian Gallegos / Brian Gallegos 126129 2-26-13
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Joe Sosa / Joe Sosa 122432 3-5-14
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 5
Page 1 of 1

3H-1 gw

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 93157

7.[25] Overpack drum closure ring torque wrench information:

M&TE No.: 0383607
Cal. Expiration Date: 3-11-13
Range in ft-lb: 10-80
Tolerance: ±3% or ±1. ft-lb

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Gerald Espinoza / [signature] 125TTRO 3.4.13
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 0190165
Platform scale calibration expiration date: 7.31.13

7.[36][D] 85-gal overpack drum gross weight (lb): 186.0 lb

Comments: N/C

8.1[1] Performed By: Gerald Espinoza / [signature] 125TTRO 3-4-13
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Jose Jerez / [signature] 221421 3-5-13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 93150

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 #: 501011
Lot #: 82236L3
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: TDD
Model #: GCNL 1.5-2 EPDC
Serial #: L-6234
Date of Manufacture: 11-12

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: NELFS
Model #: 619DS
Serial #: LM-559
Date of Manufacture: 12/12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	048094	M&TE ID #:	038369
Cal Expiration Date:	8-22-13	Cal Expiration Date:	12-29-13
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: Joe Quintana Signature: Joe Q Z#: 239987

5. Weigh Drum Assembly

RECORD weight information
Tare wight (lbs) 75.8
File ID #: 019005
[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: Joe Quintana Operator Sign: Joe Q Z#: 239987 Date: 2/27/13
Verifier Print: Gerald Espinoza Verifier Sign: Gerald Esp Z#: 237720 Date: 3/4/13

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

DRUM ID#: 93150

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 #: 038367

Cal expiration date: 3-12-13

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

Tolerance ±3% cw ±10% 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): 254.6

Scale ID#: 0190605

✓ 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: Gerald Espinoza Date: 3-4-13

Verifier Print/Sign: Kevin Bennett Date: 3-4-13

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

Drum ID#: 93153

1. Drum/Lid Assembly

- [x] Remove and discard ¾" bung from lid
- [ ] 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 #: 501011
Lot #: 0233413
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

- [ ] 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 #: GCPVC-1.5-2.5PVL
Serial #: L16338
Date of Manufacture: 11/12

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
- [ ] Place this Attachment and blank Attachment 2 into a protective sleeve and tape to top of drum

RECORD drum filter information:

Manufacturer: Nuc-Fil
Model #: 019-DJ
Serial #: LM-6208
Date of Manufacture: 11/12

RECORD torque wrench information:

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

Jam Nut / Bung torque wrench:
M&TE ID #: 033369
Cal Expiration Date: 12/18/13
Range (ft-lbs or in-lbs): LM-566
Tolerance: +/- 3% cw
+/- 6% ccw

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
☐ Yes ☐ No
Print Name: B Foreman Signature: B Foreman Z#: 235635

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: B Foreman Operator Sign: B Foreman Z#: 235635 Date: 2/26/13
Verifier Print: Clayton Mullins Verifier Sign: [signature] Z#: 240092 Date: 3/4/13

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

DRUM ID#: 93152

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 #: 038367

Cal expiration date: 3/10/13

Range/ Value (ft-lbs): 10 - 80 / 60

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): 131.4

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: Clayton Mullins CMT Date: 3/4/13

Verifier Print/Sign: Brandon Craig Date: 3-4-13

72
NR
6.10.12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: S833937 ✓ Container Type: 55-GAL ✓ Gross Weight (lbs): 415
Inner Seal #: 013301 ✓ Filter Prefix: LAVC ✓ Filter Serial #: 04337 ✓
AK Waste Stream: LA-MHD01.001 ✓ Certified RTR BDR: No BDR ✓
TWSR Comments: LEACHED SOLIDS MST 12 RM 434 NITRATE SALTS ✓
Total PE-Ci Activity: 1.28E+01 ✓ Equivalent Combustible PE-Ci: 4.78E+00 ✓ AM-241 PE-Ci: 1.31E+00
Total Fissile Gram Equivalents: 130.2 ✓ Total Surface Dose Rate (mrem/hr): 4 ✓
EPA Code(s): None ✓
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/12/2007 Comment: Liquids, Impenetrable Obj, Liquid Location: 22"
Certified RTR Comment: None

Prohibited Items: ☒ Sealed > 4 Liters ☑ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ~~☑ VE~~ ☑ PID ☐ Split ~~☑ Repack~~
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1:2 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones 10/31/12 117434 12.8.11
Production Control (Print) Signature Z Number Date

Susan S. Ramsey Susan S. Ramsey 100681 10/31/12

WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: Leached solids - nitrate salts
Net Wt: 355lb. Fourteen items ranging from 5lb to 62lb.
Drums w/ nitrate salts may contain undocumented liquids
May require RWP for >1000 and <10000 mrem/hr @ 30 cm
Poss may have lead liner

Performed By: Valerie Rhodes Valerie Rhodes 112609 12/15/11
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 Hexchem gloves during processing.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper mixture ratio of kitty litter to waste in accordance with procedures.

Performed By: Jose Jerez Jose Jerez Z14572 11-28-12
TRU Remediation Operations (Print) Signature Z Number Date

LL Z# 249750 12/11/12
IHS Review Johnny Arnaldo CSP, may contain lead, Mercury, Chromium.
11/5/12

Noncertified TRU Waste Drum Item Information

DrumID: 013301

Item No	ItemID	Process Status	Net Wt (kg)	Matrix	Meas Code	SNM (g)	MT	Auth (Pg/Ln)		Comments
1	IXFS829FC		4.100	NITRATE SALTS		7.18	52	6/11	G468	
2	IXFS-830-FA		27.960	NITRATE SALTS		55.73	52	6/11	G468	
3	IXFS-831-FI		10.450	NITRATE SALTS		0.	52	6/11	G468	
4	IXFS832OX41FA		13.680	NITRATE SALTS		13.78	52	6/11	G468	
5	IXFS833FA		5.450	NITRATE SALTS		0.	54	6/11	G468	
6	IXFS-835-FA		8.630	NITRATE SALTS		3.07	51	6/11	G468	
7	IXFS-836-FA		16.370	NITRATE SALTS		5.99	52	6/11	G468	
8	IXFS-837-FA		2.050	NITRATE SALTS		7.93	54	6/11	G468	
9	IXFS-838-FA		5.450	NITRATE SALTS		26.	52	6/11	G468	
10	IXFS-839-FA		8.180	NITRATE SALTS		0.08	52	6/11	G468	
11	IXFS-840-FA		2.560	NITRATE SALTS		4.01	54	6/11	G468	
12	IXFS-841-FA		2.560	NITRATE SALTS		6.37	52	6/11	G468	
13	IX842-OX43-FA		3.640	NITRATE SALTS		0.26	52	6/11	G468	
14	IXFS-845-FA		3.180	NITRATE SALTS		8.98	54	6/11	G468	

Noncertified Waste Drum Material Summary

Gross Wt (Kg): 188.2

Material Type	SNM (grams)	Items Net Wt (kg)
51	3.07	8.63
52	115.39	92.39
54	20.92	13.24
Totals	139.38	114.26

ATTACHMENT 1
Page 1 of 1

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

5 [1] Sample Date: 3/29/12

Container No. (5.[1])	S825021	S833981	S841292	S823221	S832150	S824660
Filtered Vent Type (5.[1])	72	72	72	72	72	72
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	Ø ppm	Ø ppm	Ø ppm	245 ppm	Ø ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	123.62 ppm	435.44 ppm	Ø ppm	459.31 ppm	619.31 ppm	382.91 ppm
Methane Reading (< 16,000 ppm) (5.[5])	Ø ppm	Ø ppm	Ø ppm	Ø ppm	Ø ppm	Ø ppm

5.[7] Certified CCP Technician:

Performed By: Erik Loechell / 234183
CCP (Print) Z #

Reviewed By: Sara Aragon 237975
CCP (Print) Z #

Comments:
n/a

6.1[2][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

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

6.1[2][B]/ 6.1[3] Performed By: Alicia Herrera Alicia Herrera 10940, 4/2/12
Waste Handling Operator (print) Signature Z # Date

InstName : Unit 2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120329c\
Data File : S833937.D
Acq On : 29 Mar 2012 1:43 pm (#1); 29-Mar-12, 13:42:43 (#2)
Operator : SA
Sample :
Misc : 55 GALLON LFL DRUM THROUGH FILTER, 72 FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 14 05:14 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Mar 06 12:05:15 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.580	96	4563431	209.00	ppmv	-0.04
15) Chlorobenzene-d5	5.906	117	2966659	185.50	ppmv	0.04
Target Compounds						Qvalue
1) Hydrogen	1.610	GC1	3216m	435.44	ppmv	

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

vocgas m Thu Mar 29 14:05:27 2012

3-4-13

0550 Assuming UCRR operations center. Kleeman
0615 Pre job being conducted by SOS.
0652 Pre job concluded.
0715 Beginning inside rounds.
0721 Outside rounds being initiated
0725 Item #3 is unsat. FSR in place, okay to proceed.
0726 Item #61 is OOS. POD in place, okay to proceed.
0737 Inside rounds complete.
0747 Outside rounds complete.
0754 Both rounds reviewed by SOS.
0810 Initiating a drum movement from transportainer to the transfer vehicle for a shipment to area 6.
0824 Bagging on S833937.
0840 Bag on complete. PPE check is Sat.
0858 Notified by tech 38, that while performing glovebox inspection, they have identified 3 gloves that need to be replaced - (L) on station 3, (L) + (R) on station 1. SOS is inside 5069 and is aware.
0859 Notified Sam.
1004 Beginning glove changes.
1006 Permission granted to lower the vehicle access gates.
1057 Glove changes are complete.
1103 Mask change complete. We are now in operations in UCRRF yard and 5069.
1104 Rate entry - at 0818 - went to operations, at 0910 changed from operations to warm in 5069 and UCRRF yard (c)
1427 RCT reports the zip ties are failing.
1503 Bagging off S833937 and PEC's.
1642 Bag off complete.
1645 Beginning outside rounds.
1646 Beginning inside rounds.
1655 Item #3 unsat, FSR in place, okay to proceed.
1703 Item #61 is OOS, POD in place, okay to proceed.
1705 Outside rounds complete.
1725 Initiating a drum movement from 5069 to a transportainer

Continued on next page. Kleeman

3-4-13 Continued from previous page. KColeman
1727 Both rounds completed + reviewed by SDS.
1731 Late entry at M05, inside rounds complete. (SC)
1734 Mode change complete. WCRF yard is now warm and 5069 is cold.
1734 All inventory has been removed from 5069.
3-4-13 1830 End of day. Occupation secured. KColeman

No further entries

0600 Reviewed Shift turnover Checklist and assumed the WCRR SOM position. RC

0615 Attended pre-job brief conducted by SOS. Safety topic was w/ spring approaching sunscreen use is a good idea. Talked about last weeks processing on Friday afternoon and not to be rushed when approaching end of day - leaving a drum on the box is always an option.

0739 Requested J. Sisneros contact utilities for info on date written on valve plastic seals concerning Monthly Valve Alignment performed 2/28/13 - confirm this date was the initial installation date and not valve manipulation - Also requested new Agreement Letter between Utilities and WCRR.

0818 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm/Warm to Operations/Operations.

0859 Notified by OCC that operators identified Left hand glove on station 3 and both Station 1 gloves requiring change out.

0910 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations/Operation to Warm/Warm.

0920 Released Expedited WO # 448097-07 Carpenter Work in Bldg 50-54 to replace Bathroom / Change Room signs.

1032 Released Expedited WO # 448096-02 for Inspection/Certificate of Slings/Rigging equipment - Only for Admin Area - not to be used for inside WCRR Footprint.

1041 Signed off for RPO Closeout on cracked WCG window from 2/28/13

1100 Notified that glove change outs completed.

1103 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm/Warm to Operations/Operations.

1150 Called into PM w/ OM to update on WCRR ops.

1500 SP-57 Inventory/Production Manager finalizing list for Thursday shipment. Will send E-mail along w/ tomorrows scheduled drums - after discussion w/ OM and PM looking @ dropping heavy SP-57 Layers of Containment Drums. Notified OSP&T.

1734 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations/Operations to Warm/Cold.

1800 Secured SOM position. RC

JS 3-4-13

No further entries this page

SIGNATURE RC DATE 3/4/ 20 13

READ AND UNDERSTOOD _____ DATE _____ 20 _____

3-4-13 WCRR 505 Log Book

0600 Assuming 505 position for the day. Jan J.W.

0615 Starting Pre-Job brief. One shipment scheduled out Processing Solution Package #72 and if we have enough Fine Process Solution Package #57 with Liquids then Cats and dogs. Discussed events that happened on Friday with the last drum and the processing of it. Safety Topic on wearing Sun screen.

0650 Pre-Job Complete.

0756 Signed off on inside and outside rounds

0818 Mode Change. WCRR Yard and 50-69 are in Ops.

0820 Scale verification inside of 50-69 has been completed and signed.

0822 Starting Bag on of first drum.

0858 Operator notifying operations center that they need to do glove changes on station one right and left and station 3 left.

1004 Starting glove Changes

1100 Glove Changes have been completed

1103 Mode Change Complete. WCRR Yard and 50-69 are in Operations after the glove change.

1118 Late Entry. 0918 Mode Change to warm to perform glove changes on Station 1 left and right and station three left.

1331 Discussion with Lead Operator inside states that the drum being processed is messy and will take a while to cleanup once all of the material has been bagged off. Generation will probably be of about 4 POC's however by the time it is completed we will not have enough time to bag on another Parent. We will also need to be in Cold tonight for maintenance work to be performed tomorrow morning.

1727 Signed inside and outside rounds. One drum processed generated 2 daughters and 2 POC's

1734 Mode Change. WCRR Yard in WARM 50-69 in Cold.

3-4-13 1815 Securing 505 position. Jan J.W.

No further entries on this page.

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information	
[X] RTR Examination	[ ] RTR Replicate Scan [ ] RTR Independent Observation
Site ID:	LANL
Batch Number:	LA-RTR2-13-0040 3.18.13 BM 3.18.13 BM
Examination Date:	3/9/2013
Waste Container ID:	93150
Video/Audio Recorded Media Number:	LA-RTR2-13-0040 3.18.13 BM 3.18.13 BM A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 114.0 kg Tare Wt.: 33.4 kg Net Wt.: 80.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 93150

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C: Cloth material

R: Rubber gloves

XPM: 90 mil plastic 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 Liner (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):	26.0
Other Inorganic Materials (OI)	
Cellulosics (C):	8.5
Rubber (R):	6.0
Plastics (waste materials) (XPM):	1.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	39.1
Soils (S):	
Total WMP Weight:	80.6

CCP Radiography Data Sheet

Waste Container ID: 93150

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 — Print Name BENITO MARTAS

Signature

3/9/2013 — Date 3-18-13

NDA 2000 Assay Report

Item Information

Item ID:	93150	Count Sequence Number:	15289		
Operator:	DCLTD231\Operator				
Assay Start:	3/15/2013 11:03:20 AM				
Description 1:	2LANDA1119				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	80.6	kg	Net:	80.6 kg
Container:	Volume:	208.0	l	Full:	70.0 %
Density:		0.550	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:	15289	Batch Number:	2LANDA1119
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93150	Analysis Date:	3/15/2013

Net Weight	80600.0 g	
Pu mass	1.03E+001 +-	2.09E+000 g
TRU Alpha Activity	3.90E+000 +-	1.67E+000 Ci
TRU Activity Concentration	4.83E+004 +-	2.07E+004 nCi/g
Pu-239 Equivalent Activity	3.93E+000 +-	1.67E+000 Ci
Pu-239 FGE	9.67E+000 +-	1.94E+000 g
Decay heat	1.28E-001 +-	5.56E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	6.95E-002	4.96E-005	7.95E-006	1.07E-006
PU238	1.42E-003	2.46E-002	4.98E-003	4.83E-005
PU239	9.60E+000	6.04E-001	1.22E-001	1.18E-003
PU240	6.98E-001	1.60E-001	3.25E-002	3.15E-004
AM241	8.95E-001	3.11E+000	1.66E+000	4.01E-002
PU241	1.71E-002	1.78E+000	3.60E-001	3.49E-003
PU242	5.07E-003	2.01E-005	4.07E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	3.64E-007
U233	<LLD	<LLD	0.00E+000	4.50E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.45E-006
U238	<LLD	<LLD	0.00E+000	1.11E-005
AM243	8.85E-004	1.79E-004	2.89E-005	6.26E-006

Errors quoted at 1.000 sigma

Operator: D R Cable Date: 3.18.13

ITR: Date: 3-19-2013

Automated Independent Technical Review

Count Sequence Number: 15289 Batch Number: 2LANDA1119
Counter ID: HENC #2
Container ID: 93150
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/15/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	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-52,54,51
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Shari Chambers Date: 3-18-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93150**

BDR Number: **LA13FG2028**

Sampling Date: **3/21/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	886.68	
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\130321c\
Data File : 93150.D
Acq On : 21 Mar 2013 12:13 pm (#1); 21-Mar-13, 12:12:47 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 12:21:26 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.506	96	3869739	201.25	ppmv	-0.06
15) Chlorobenzene-d5	5.852	117	3359987	177.00	ppmv	-0.05
Target Compounds						Qvalue
1) Hydrogen	1.541	GC1	6302m	886.68	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-RTR2-13-0083
Examination Date:	6/18/2013
Waste Container ID:	93153
Video/Audio Recorded Media Number:	LA-RTR2-13-0083 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 59.5 kg Tare Wt.: 33.4 kg Net Wt.: 26.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

Waste Container ID: 93153

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	Tape roll
R:	Rubber gloves
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):	0.1
Rubber (R):	6.0
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	14.0
Soils (S):	
Total WMP Weight:	26.1

CCP Radiography Data Sheet

Waste Container ID: 93153

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	6/18/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93153	Count Sequence Number:	23066		
Operator:	D3PW2DK1\operator				
Assay Start:	6/21/2013 1:45:52 PM				
Description 1:	1LANDA1795				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gallon drum				
Weight:	Net:	26.1	kg	Net:	26.1 kg
Container:	Volume:	208.0	l	Full:	50.0 %
Density:		0.250 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:	23066	Batch Number:	1LANDA1795
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:	93153	Analysis Date:	6/21/2013

Net Weight	26100.0 g	
Pu mass	1.30E+001 +-	2.63E+000 g
TRU Alpha Activity	3.31E+000 +-	1.22E+000 Ci
TRU Activity Concentration	1.27E+005 +-	4.67E+004 nCi/g
Pu-239 Equivalent Activity	3.35E+000 +-	1.22E+000 Ci
Pu-239 FGE	1.22E+001 +-	2.44E+000 g
Decay heat	1.08E-001 +-	4.07E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	4.46E-002	3.19E-005	3.46E-006	1.42E-006
PU238	1.79E-003	3.10E-002	6.25E-003	4.55E-005
PU239	1.21E+001	7.61E-001	1.54E-001	1.12E-003
PU240	8.80E-001	2.02E-001	4.09E-002	2.97E-004
AM241	6.67E-001	2.32E+000	1.21E+000	2.87E-002
PU241	2.13E-002	2.21E+000	4.47E-001	3.25E-003
PU242	6.52E-003	2.59E-005	5.22E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.15E-007
U233	<LLD	<LLD	0.00E+000	3.15E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	8.22E-007
U238	<LLD	<LLD	0.00E+000	9.02E-006
AM243	8.55E-004	1.73E-004	1.92E-005	4.16E-006

Errors quoted at 1.000 sigma

Operator: D. R. [signature] Date: 6.27.13

ITR: Ami Barton Date: 7/1/13

Automated Independent Technical Review

Count Sequence Number: 23066 Batch Number: 1LANDA1795
Counter ID: MCS HENC #1
Container ID: 93153
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 6/21/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis 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-52,54,51
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

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

Expert Review by: Sheri Chamberlain Date: 6-26-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93153**

BDR Number: **LA13FG8036**

Sampling Date: **6/26/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	146.56	
74-82-8	Methane	213.40	U
67-56-1	Methanol	119.90	
60-29-7	Ethyl Ether	1.25	U
75-35-4	1,1-Dichloroethylene	5.71	U
67-64-1	Acetone	16.90	U
75-34-3	1,1-Dichloroethane	4.24	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	Methyl ethyl ketone	9.86	U
110-82-7	Cyclohexane	5.84	U
71-43-2	Benzene	1.04	
107-06-2	1,2-Dichloroethane	1.51	U
71-36-3	1-Butanol	1.36	U
108-10-1	Methyl isobutyl ketone	9.34	U
108-88-3	Toluene	13.36	
108-90-7	Chlorobenzene	1.69	U
100-41-4	Ethylbenzene	2.62	U
108-38-3/106-42-3	m- and p-Xylene	1.48	U
95-47-6	o-Xylene	1.76	U
108-67-8	1,3,5-Trimethylbenzene	3.14	U
95-63-6	1,2,4-Trimethylbenzene	3.92	U

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130626C\
Data File : 93153.D
Acq On : 26 Jun 2013 10:57 am
Operator : RJ
Sample :
InstName : Unit 8
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 26 11:05:43 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	1800839	203.25	ppm		0.00
15) Chlorobenzene-d5	5.940	117	1485744	176.00	ppm		0.00
Target Compounds							Qvalue
1) Hydrogen	5.234	GC1	38731m	146.56	ppm		
4) Methanol	0.788	31	32871	119.90	ppm		100
12) Benzene	2.874	78	5855	1.04	ppm	#	85
17) Toluene	4.776	92	55681	13.36	ppm		99

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5833937

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0042	
Examination Date:	3/11/2013	
Waste Container ID:	93154	
Video/Audio Recorded Media Number:	LA-RTR2-13-0042	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 167.0 kg Tare Wt.: 145.1 kg Net Wt.: 21.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 93154

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM: Scrap lead

OI:

C:

R:

XPM:

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	2.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	19.9
Soils (S):	
Total WMP Weight:	21.9

CCP Radiography Data Sheet

Waste Container ID: 93154

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
s the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐ Yes ☒ No
CH or RH TRAMPAC	
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐ Yes ☒ No
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐ Yes ☒ No
Are there sealed containers GREATER than 4 liters?	☐ Yes ☒ No
Are there indications of inadequate protection for heavy and/or sharp objects?	☐ Yes ☒ No

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

RTR Operator:

Benito Maestas		3/11/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93154	Count Sequence Number:	15263		
Operator:	DCLTD231\Operator				
Assay Start:	3/13/2013 10:00:21 AM				
Description 1:	2LANDA1117				
Description 2:	POC = 167.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	21.9	kg	Net:	21.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.705	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:	15263	Batch Number:	2LANDA1117
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93154	Analysis Date:	3/13/2013

Net Weight	21900.0 g		
Pu mass	2.35E+001	+- 5.42E+000	g
TRU Alpha Activity	6.67E+000	+- 2.67E+000	Ci
TRU Activity Concentration	3.05E+005	+- 1.22E+005	nCi/g
Pu-239 Equivalent Activity	6.75E+000	+- 2.67E+000	Ci
Pu-239 FGE	2.20E+001	+- 5.04E+000	g
Decay heat	2.19E-001	+- 8.91E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.25E-002	5.18E-005	9.61E-006	1.42E-006
PU238	3.23E-003	5.59E-002	1.29E-002	4.65E-005
PU239	2.18E+001	1.37E+000	3.17E-001	1.14E-003
PU240	1.59E+000	3.65E-001	8.42E-002	3.03E-004
AM241	1.41E+000	4.88E+000	2.65E+000	4.68E-002
PU241	3.89E-002	4.04E+000	9.34E-001	3.36E-003
PU242	1.15E-002	4.57E-005	1.05E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.91E-007
U233	<LLD	<LLD	0.00E+000	5.75E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.85E-006
U238	<LLD	<LLD	0.00E+000	1.40E-005
AM243	9.07E-004	1.83E-004	3.42E-005	8.72E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3-15-13

ITR: _____ Date: 3/18/13

Automated Independent Technical Review

Count Sequence Number: 15263 Batch Number: 2LANDA1117
Counter ID: HENC #2
Container ID: 93154
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/13/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis 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-52,54,51
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 3-14-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93154**

BDR Number: **LA13FG2047**

Sampling Date: **5/1/2013**

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\130501c\
Data File : 93154.D
Acq On : 1 May 2013 2:49 pm (#1); 01-May-13, 14:49:08 (#2)
Operator : GR
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 01 14:57:37 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.529	96	3928656	201.25	ppmv	-0.04
15) Chlorobenzene-d5	5.868	117	3369881	177.00	ppmv	-0.03
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 3-8-13 BM
Batch Number:	LA-RTR-13-0041
Examination Date:	3/9/2013
Waste Container ID:	93155
Video/Audio Recorded Media Number:	LA-RTR-13-0041 3-13-13 BM A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 178.0 kg Tare Wt.: 145.1 kg Net Wt.: 32.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 93155

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

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

RTR Operator:

Michael Simmons — 3/9/2013

Print Name Benito Maestas — Signature [signature] — Date 3-18-13

CCP Radiography Data Sheet

Waste Container ID: 93155

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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP); Liner/Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	30.9
Soils (S):	
Total WMP Weight:	32.9

NDA 2000 Assay Report

Item Information

Item ID:	93155	Count Sequence Number:	22292
Operator:	D3PW2DK1\operator		
Assay Start:	3/15/2013 11:30:36 AM		
Description 1:	1LANDA1732		
Description 2:	POC, 178.0		
Location:	LANL TA-54		
Comment:	AK-6, Not Precision		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 32.9 kg	Net:	32.9 kg
Container:	Volume: 208.0 l	Full:	95.0 %
Density:	0.761 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:	22292	Batch Number:	1LANDA1732
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93155	Analysis Date:	3/15/2013

Net Weight	32900.0 g	
Pu mass	4.60E+001 +-	8.56E+000 g
TRU Alpha Activity	9.41E+000 +-	3.26E+000 Ci
TRU Activity Concentration	2.86E+005 +-	9.91E+004 nCi/g
Pu-239 Equivalent Activity	9.55E+000 +-	3.26E+000 Ci
Pu-239 FGE	4.30E+001 +-	7.96E+000 g
Decay heat	3.06E-001 +-	1.09E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	8.80E-002	6.28E-005	1.22E-005	3.24E-006
PU238	6.34E-003	1.10E-001	2.04E-002	4.43E-005
PU239	4.28E+001	2.69E+000	5.01E-001	1.09E-003
PU240	3.11E+000	7.15E-001	1.33E-001	2.89E-004
AM241	1.70E+000	5.89E+000	3.22E+000	6.77E-002
PU241	7.62E-002	7.93E+000	1.48E+000	3.20E-003
PU242	2.26E-002	8.95E-005	1.67E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	8.36E-007
U233	<LLD	<LLD	0.00E+000	6.80E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.99E-006
U238	<LLD	<LLD	0.00E+000	1.81E-005
AM243	1.47E-003	2.97E-004	5.85E-005	9.47E-006

Errors quoted at 1.000 sigma

Operator: Dan R. Ulf Date: 3.18.13

ITR: Jim Barton Date: 3/18/13

Automated Independent Technical Review

Count Sequence Number: 22292 Batch Number: 1LANDA1732
Counter ID: MCS HENC #1
Container ID: 93155
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/15/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis 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-52,54,51
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 3-18-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93155**

BDR Number: **LA13FG2044**

Sampling Date: **4/25/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	310.10	
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\130425c\
Data File : 93155.D
Acq On : 25 Apr 2013 3:07 pm (#1); 25-Apr-13, 15:07:18 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 25 15:15:40 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.542	96	4366066	201.25	ppmv	-0.03
15) Chlorobenzene-d5	5.881	117	3752563	177.00	ppmv	-0.02
Target Compounds						Qvalue
1) Hydrogen	1.603	GC1	2204m	310.10	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-RTR2-13-0042
Examination Date:	3/11/2013
Waste Container ID:	93156
Video/Audio Recorded Media Number:	LA-RTR2-13-0042 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 172.5 kg Tare Wt.: 145.1 kg Net Wt.: 27.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 93156

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	
R:	
XPM:	
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner/Lid Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP), Liner/Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	27.4
Soils (S):	
Total WMP Weight:	27.4

CCP Radiography Data Sheet

Waste Container ID: 93156

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

RTR Operator:

Benito Maestas		3/11/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93156		Count Sequence Number:	15295	
Operator:	DCLTD231\Operator				
Assay Start:	3/15/2013 3:31:00 PM				
Description 1:	2LANDA1119				
Description 2:	POC- 172.5				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	27.4	kg	Net:	27.4 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.733	kg /l		

System Configuration

Counter:	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:	15295	Batch Number:	2LANDA1119
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93156	Analysis Date:	3/15/2013

Net Weight	27400.0 g		
Pu mass	2.88E+001	+- 6.52E+000	g
TRU Alpha Activity	8.14E+000	+- 3.26E+000	Ci
TRU Activity Concentration	2.97E+005	+- 1.19E+005	nCi/g
Pu-239 Equivalent Activity	8.23E+000	+- 3.26E+000	Ci
Pu-239 FGE	2.69E+001	+- 6.06E+000	g
Decay heat	2.67E-001	+- 1.09E-001	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.26E-002	5.18E-005	9.85E-006	1.59E-006
PU238	3.97E-003	6.86E-002	1.55E-002	4.87E-005
PU239	2.68E+001	1.68E+000	3.81E-001	1.19E-003
PU240	1.95E+000	4.47E-001	1.01E-001	3.18E-004
AM241	1.71E+000	5.94E+000	3.24E+000	4.91E-002
PU241	4.77E-002	4.96E+000	1.12E+000	3.52E-003
PU242	1.41E-002	5.60E-005	1.27E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.68E-007
U233	<LLD	<LLD	0.00E+000	6.60E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.11E-006
U238	<LLD	<LLD	0.00E+000	1.66E-005
AM243	1.35E-003	2.72E-004	5.20E-005	1.00E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 3.18.13

ITR: _____ Date: 3-19-2013

Automated Independent Technical Review

Count Sequence Number: 15295 Batch Number: 2LANDA1119
Counter ID: HENC #2
Container ID: 93156
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/15/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis 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-52,54,51
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chambers Date: 3-18-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93156**

BDR Number: **LA13FG2050**

Sampling Date: **5/7/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	829.70	
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	8.02	U
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	1.92	U
95-47-6	o-Xylene	2.10	U
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

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

InstName : Unit-2

Quantitation Report (QT Reviewed)

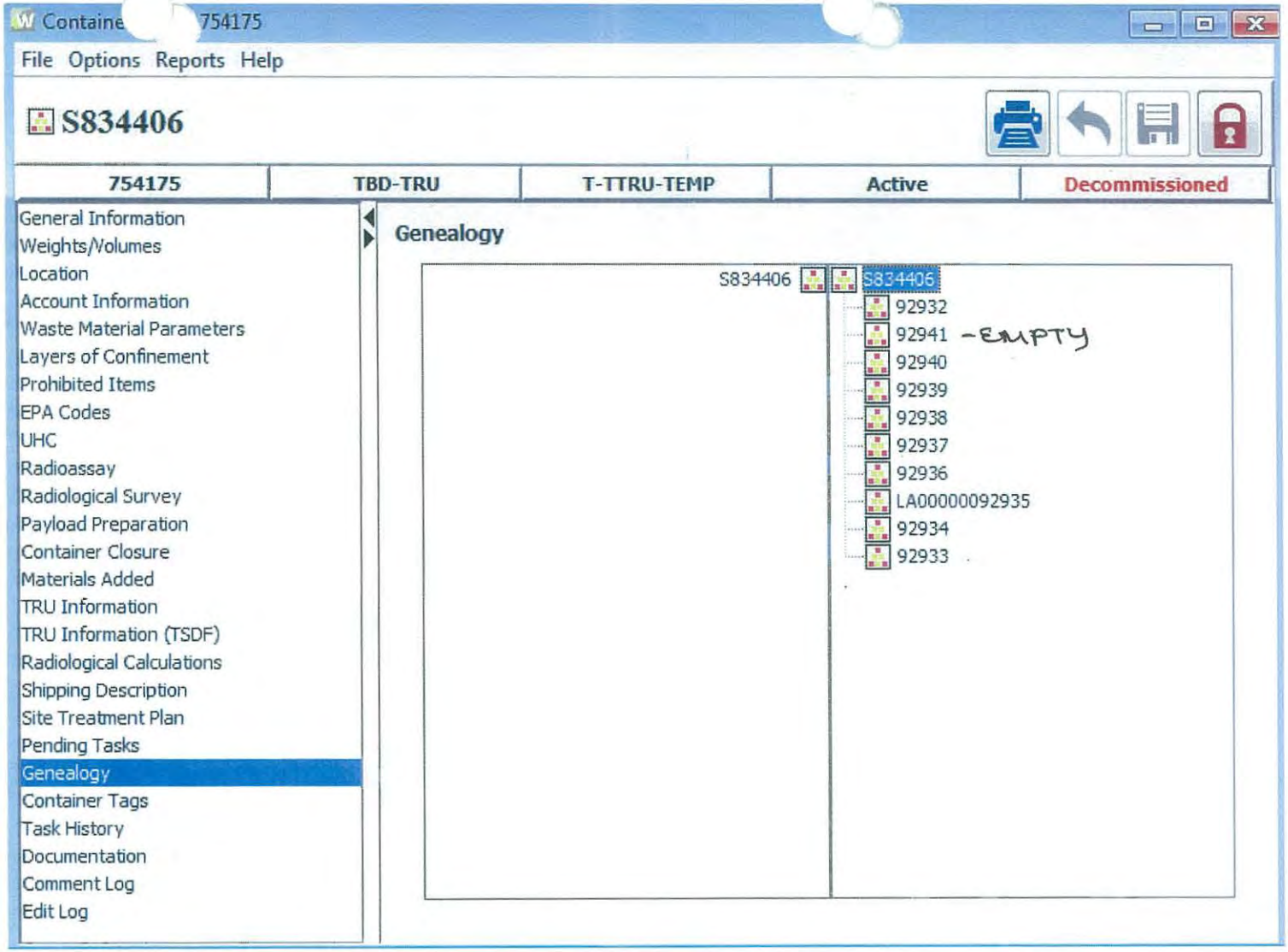
Data Path : C:\msdchem\1\DATA\130507C\
Data File : 93156.D
Acq On : 7 May 2013 4:21 pm (#1); 07-May-13, 16:20:27 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 10 12:49:39 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.581	96	3957447	201.25	ppmv	0.01
15) Chlorobenzene-d5	5.910	117	3455482	177.00	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.617	GC1	5897	829.70	ppmv	100

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

S834406


Containe 754175
File Options Reports Help
S834406
754175
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
S834406
S834406
92932
92941 -EMPTY
92940
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92936
LA00000092935
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Copy
2-14-13a

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S834406

6.2[4] Date Processed: 2-14-13

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

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

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

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

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

4.3[4][B] Platform Scale: Equipment No.: 019005
Cal. Due Date: 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 BG 2-14-13 ☐ N/A

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

Performed By: Brian Gallegos / Brian Gallegos / 210229 / 2-14-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B]	Parent Waste Container No. S834406	
5.[18]	Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable:	333.0 lb
6.2[5][A]	Parent Drum Lead Blanket Weight (lb)	0 lb
6.2[5][B]	Total Parent Drum Weight (lb)	333.0 lb
6.2[6]		
6.2[7]	($) Total Parent Drum Weight 624 lb (SR 4.5.1)	☑ SAT ☐ UNSAT
6.2[28]	Approval to leave a parent drum attached to the WCG overnight	

N/A

FWMO-FOD (print) Signature 7 = Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S834406

		Daughter Drums			
10.1[4]/10.2[4]	Daughter Drum No.	92932	92933		
10.1[4]	Daughter Drum Filter No.	KL-354	AM-715	N/A	
10.1[4]	Daughter Drum Bag Filter No.	L-6207	L-1760	N/A	
10.1[4]	Daughter Drum Purchase Order No.	501011	446113		
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	BOP	BOP	BOP
	Model No.	6CRVC1.5-2SPVC	6CRVC1.5-2SPVC	6CRVC1.5-2SPVC	6CRVC1.5-2SPVC
	Serial No.	L-6190	L-6200	L-6217	L-6198
	Date of Manufacture	11/12	11/12	11/12	11/12
10.2[5]	POC ID No	92934	92935	92936	92937
10.2[7][B]/10.2[6]	POC Item Description	SALTS	SALTS	SALTS	SALTS
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	BG 267129	BG 267129	BG 267129	BG 267129
10.2[14]	POC Assembly Gross Weight (lb)	366.4	379.8	371.0	357.4
10.2[15]	POC Rad. Survey Results (mrem/hr)	2200	1700	1000	1000
10.3[3][A]	Approx. Containerized Liquid Vol./Units	N/A	N/A		
10.3[5][A]	Free Liquid Volume/Units	3 LITERS	1 LITER		
10.3[7][A]	Opaque/Non-penetrable Item Description:	LEAD SHIELDING	N/A		
10.3[9][A]	PCB-contaminated Waste Description	N/A	N/A	N	
10.3[9][B]	PCB Item ID No.				A
10.3[10]	Remaining Waste Description	SEE COMMENTS	SEE COMMENTS		
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)	50%	25%		
10.5[3]/10.6[2]	Description Waste Added During Processing	BAG OUT STUBS, KITTY LITTER	KITTY LITTER		

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No. 5834406

Comments: ROOM TRASH, PLASTIC, NITRATE SALTS, KITTY LITTER, LEAD SHIELDING, ~~HEX~~ 2-14-13 EG HEX ARMOURS, KNIVES

11.1[1] Performed By: BRIAN GALLEGOS (Waste Handling Tech (print)) (Signature) 267129 (7 #) 2-14-13 (Date)

11.1[7] Reviewed By: (SOS or designee (print)) (Signature) (7 #) (Date Time)

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S834406

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.				
10.1[4]	Daughter Drum Filter No.				
10.1[4]	Daughter Drum Bag Filter No.			A	
10.1[4]	Daughter Drum Purchase Order No.				
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	BOP	BOP	
	Model No.	6CPVC15-25PVC	6CPVC15-25PVC	6CPVC15-25PVC	
	Serial No.	L-6194	L-6193	L-6192	
	Date of Manufacture	11/12	11/12	11/12	
10.2[5]	POC ID No	92938	92939	92940	
10.2[7][B]/10.2[6]	POC Item Description	SALTS	SALTS	SALTS	A
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	BG 2671129	BG 2671129	BG 2671129	N
10.2[14]	POC Assembly Gross Weight (lb)	359.8	359.4	366.2	
10.2[15]	POC Rad. Survey Results (mrem/hr)	1100	1000	1100	
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description		N		
10.3[9][B]	PCB Item ID No.			A	
10.3[10]	Remaining Waste Description				
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)				
10.5[3]/10.6[2]	Description Waste Added During Processing				

ATTACHMENT 1
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4.1[6][B] Parent Waste Container No.: N/A

Comments: N/A

11.1[1] Performed By: _____ _____ _____ _____
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: _____ _____ _____ _____
SOS or designee (print) Signature Z # Date Time

2/5/13 cm

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: BG 2-1413 415525 415825
Lot No.: 0220645
Manufacture Date: 2011

5.[8] Overpack filtered vent information:

Manufacturer: nuclear
Model No.: QLS
Serial No.: 31-951
Manufacture Date: 10 H1

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

	Filtered Vent	2 in. Bung
M&TE No.:	040494	038369
Cal. Expiration Date:	9/26/13	12/15/12
Tolerance:	+/- 4% +/- 6% lbs-in	+/- 5% +/- 6% lbs-in

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

Performed By: Miguel Gonzales [signature] 1223363 12/5/13
Waste Handling Technician (print) Signature Z# Date

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

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

Comments: N/C

8.1[1] Performed By: Miguel Gonzales [signature] 1223363 12/5/13
Waste Handling Technician (print) Signature Z# Date

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

8.1[7] Reviewed By: G Mk [signature] 149351 2.15.13
Supervisor or designee (print) Signature Z# Date

2-14-13c) ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92941

7.[25] Overpack drum closure ring torque wrench information:
M&TE No.: 83367
Cal. Expiration Date: 3-16-13
Range in ft-lb: 10-80
Tolerance: ±3% of 2 to 80 ft-lbs

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brian Gallegos (B. Gallegos) 260129 2-14-13
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019005
Platform scale calibration expiration date: 7-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 171.2 lb

Comments: N/C

8.1[1] Performed By: Brian Gallegos (B. Gallegos) 260129 2-14-13
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: G Mh (M Mh) 149275 2.15.13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 92932

1. Drum/Lid Assembly

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

RECORD drum information:

Purchase Request #: 501011
Lot #: 0233413
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:

Manufacturer: BOP
Model #: Ecopvc-L525pvc
Serial #: L-6207
Date of Manufacture: 11-12

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 019DS
Serial #: KL-354
Date of Manufacture: 11-11

RECORD torque wrench information:

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

Jam Nut / Bung torque wrench:
M&TE ID #: 038384
Cal Expiration Date: 12-18-13
Range (ft-lbs) or in-lbs): 10-80
Tolerance: ±3% cw ±6% ccw

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

☑ Yes ☐ No

Print Name: Brandon Chavez Signature: [signature] Z#: 204702

5. Weigh Drum Assembly

RECORD weight information

Tare wtght (lbs) 75.8
File ID #: 019005

☑ Write the tare weight on drum using permanent marker

6. Label Drum Assembly

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

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

Operator Print: Brandon Chavez Operator Sign: [signature] Z#: 204702 Date: 2-10-13

Verifier Print: Brian Quiggos Verifier Sign: [signature] Z#: 26712-9 Date: 2-13-13

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

DRUM ID#: 92932

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 #: 038367

Cal expiration date: 3-16-13

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

Tolerance ±3'·cw ±6'·ccw

2. DRUM LABELING

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

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

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

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

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

RCRA Label:

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

OR

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

NOTE: Check only one of the above two boxes.

3. WEIGH DRUM ASSEMBLY

Record weight information:

Gross Weight(lbs) 200.4

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: D. Holley Date: 2-14-13

Verifier Print/Sign: B. Foster Date: 2/14/13

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

Drum ID#: 92933

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 #: 416113
Lot #: 0225223
Date of Manufacture: 1-12

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 #: GCPVC 1.5 2SPVC
Serial #: L-1160
Date of Manufacture: 6-12

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 019-D3
Serial #: 241-715
Date of Manufacture: 1-12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	040695	M&TE ID #:	035061
Cal Expiration Date:	9-12-12	Cal Expiration Date:	9-18-12
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	15-75
Tolerance:	±6% cw ±6% ccw	Tolerance:	±6% cw ±6% ccw

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

☑ Yes ☐ No

Print Name: BRIAN GALLEGOS Signature: B. Gallegos Z#: 267129

5. Weigh Drum Assembly

RECORD weight information

Tare wight (lbs) 75.8
File ID #: 019065

☑ Write the tare weight on drum using permanent marker

6. Label Drum Assembly

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

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

Operator Print: BRIAN GALLEGOS Operator Sign: B. Gallegos Z#: 267129 Date: 8-29-12

Verifier Print: B. FORSNAM Verifier Sign: B. Forsnam Z#: 235255 Date: 8/14/13

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

DRUM ID#: 92933

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 #: 038367

Cal expiration date: 3-16-13

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

Tolerance ±3% CW ± 6% CCW

2. DRUM LABELING

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

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

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

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

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

RCRA Label:

✓ 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): 114.8

Scale ID#: 08045

✓ 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: 2-14-13

Verifier Print/Sign: B. Fosh Date: 2/14/13

14-1300

ATTACHMENT 3
Page 1 of 1

WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 583406

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: 7-31-13

6.3[18] Prepared parent 55-gal drum weight (lb): 333.0

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

Comments: N/C

8.1[1] Performed By: Brian Gallegos / [signature] 126129 2-14-13
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: [signature] / [signature] 149755 2.15.13
Supervisor or designee (print) Signature Z # Date

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

8.1[8][D] Approved by: [signature] / [signature] 149755 2.15.13 1000
SOS/SOM or designee (print) Signature Z # Date Time

72
NC
10-12

ATTACHMENT 1

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: S834406 Container Type: 85-GAL Gross Weight (lbs): 357
Inner Seal #: 013961 Filter Prefix: LAVC Filter Serial #: 01065
AK Waste Stream: ~~LA-MHD01.001~~ Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 RM 434
Total PE-Ci Activity: 1.43E+01 Equivalent Combustible PE-Ci: 5.37E+00 AM-241 PE-Ci: 1.36E+00
Total Fissile Gram Equivalents: 146.9 Total Surface Dose Rate (mrem/hr): 4
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 1/16/2007 Comment: Impenetrable Obj, Liner Not Punctured,
Certified RTR Comment: None

Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☑ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE ☑ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1:2 volumes of kitty litter/zeolite must be mixed with 100 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) Signature 117434 (Z Number) 10.6.12 (Date)

WDP Engineering

Susan S Ramsey 100681 10/31/12

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 waste wt = 90.94 kg (201 lbs) in 12 items. Max item wt = 20.0 kg (44 lbs). No comp RTR data. Failed RTR pre-screen. Max rem/hr WDP for > mrem/hr. Multiple items with high swipes. Note: Nitrate salts sometimes contain unaccounted liquids. Note: [redacted] for high-dose shipment.

Performed By: Susan L. Gaines (WDP Engineering (Print)) Signature 1130252 (Z Number) 11-1-12 (Date)

TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns: Do not push on press on waste with hands. Use heavy gloves during processing.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Ensure personnel are wearing proper PPE. Use proper ratio of kitty litter to waste in accordance with the procedure.

Performed By: (TRU Remediation Operations (Print)) Signature (Z Number) (Date)

IHS Review John Amalbert CSP, may contain Pb, mercury, chromium, WCRRF 11/5/12

Noncertified TRU Waste Drum Item Information

DrumID: 013961

Item No	ItemID	Process Status	Net Wt (kg)	Matrix	Meas Code	SNM (g)	MT	Auth (Pg/Ln)		Comments
1	IXFS847FA		20.000	NITRATE SALT		45.8	52	6/11	G468	
2	IXFS848FA		6.400	NITRATE SALT		9.02	52	6/11	G468	
3	IXFS849FA		5.680	NITRATE SALT			52	6/11	G468	
4	IX0500X45FA		12.730	NITRATE SALT		27.07	53	6/11	G468	
5	IXFS851FA		2.950	NITRATE SALT		9.69	53	6/11	G468	
6	IXFS853FA		3.640	NITRATE SALT		5.18	56	6/11	G468	
7	IXFS854FA		4.090	NITRATE SALT		1.83	52	6/11	G468	
8	855OX46-FA		12.270	NITRATE SALT		13.54	52	6/11	G468	
9	IXFS857FA		5.000	NITRATE SALT		5.64	52	6/11	G468	
10	860-OX47-FA		7.730	NITRATE SALT		8.43	52	6/11	G468	
11	IXFS858FA		8.180	NITRATE SALT		31.41	52	6/11	G465	
12	IXFS859FA		2.270	NITRATE SALT			54	6/11	G465	

Noncertified Waste Drum Material Summary

Gross Wt (kg): 161.8

Material Type	SNM (grams)	Items Net Wt (kg)
52	115.67	69.35
53	36.76	15.68
54	0.	2.27
56	5.18	3.64
Totals	157.61	90.94

ATTACHMENT 1
Page 1 of 2

HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 10.14.10

7.[7] Certified CCP Technician:

CCP (Print)	Signature	Z #	Date
Gabe Romero		1276973	10-2010
	/	/	/

Container No. (7.[1]):	S834406	S835814	S832333
Container Type (SWB, 110/85/55-gal) (7.[1]):	55gal	55gal	55gal
Current Filter Vent No. (7.[1]):	72	72	72
New Filter Vent No.: (7.[8][A]):	72	72	72
WIPP-Approved Filter Vent (7.[8][B]):	☑ SAT ☐ UNSAT	☑ SAT ☐ UNSAT	☑ SAT ☐ UNSAT
VOC	Value (ppm) (7.[10])		
Benzene	1.97	7.31	3.82
Chlorobenzene			
Cyclohexane			
1,1-Dichloroethane			
1,2-Dichloroethane			
1,1-Dichloroethylene			
cis-1,2-Dichloroethylene			
Ethyl benzene			
Ethyl ether			
Toluene			
1,2,4-Trimethylbenzene			
1,3,5-Trimethylbenzene			
m- and p-Xylene			
o-Xylene			
Acetone	20.61	33.03	22.58
1-Butanol			
Methanol			
Methyl ethyl ketone			
Methyl isobutyl ketone			
Total CCP VOC value (ppm) (7.[11]):	22.58	40.34	26.40

ATTACHMENT 1
Page 2 of 2

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

Container Number (7.[1]):		5834406	5825814	5832233
Hydrogen Reading (ppm) (7.[10]):		7552.38 ppm	412.47 ppm	495.85 ppm
Methane Reading (ppm) (7.[10]):		Ø ppm	Ø ppm	Ø ppm
Total VOC Reading (ppm) (7.[11]):		28.58 ppm	40.34 ppm	26.40 ppm
Filter Type (7.[9][F][c]/7.[9][G][a]):		72	72	72
WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]):		SAT	SAT	SAT
Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]):		N/A	N/A	N/A
Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]):		N/A	N/A	N/A
Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]):		N/A	N/A	N/A
VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b])		☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A
Filter Torque Value (7.[9][F][a]/7.[9][G][d]) *		N/A	N/A	N/A

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

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

11.1[1] Performed By: Alicia Herrera (Waste Handling Operator (print)) (Signature) 198450 (Z #) 10.19.10 (Date)

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

☑ No deficiencies

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

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

11.1[7][B]/ 11.1[8] Reviewed By: Kenny Romero (Waste Handling Supervisor (print)) (Signature) 117886 (Z #) 10.27.10 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\101014c\
Data File : S834406.D
Acq On : 14 Oct 2010 11:41 am (#1); 14-Oct-10, 11:40:38 (#2)
Operator : RG
Sample :
Misc : 55 GAL. SAMPLE INSIDE 85 GAL. OVERPACK (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 14 11:50:25 2010
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Wed Aug 18 13:26:05 2010
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.668	96	3512512	207.75	ppmv	0.02
15) Chlorobenzene-d5	6.001	117	2283755	180.75	ppmv	0.03
Target Compounds						Qvalue
1) Hydrogen	1.648	GC1	57878m	7552.38	ppmv	
7) Acetone	1.349	58	44093	20.61	ppmv	95
12) Benzene	3.332	78	31482	1.97	ppmv	93

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

vocgas.m Thu Oct 14 11:51:03 2010

2-14-13

0600 Assuming WCRRF Operations Center - Orlando.
0615 Pre job being conducted by SOS.
0616 Starting Outside rounds.
0635 Item 3 is unsat, FSR in place, OK to continue.
0640 Starting inside rounds.
0643 Completed outside rounds.
0658 Item 41 is OOS, POD in place, OK to continue with rounds
0704 Inside rounds complete.
0720 Inside and outside rounds signed off by SOS.
0729 Mode change performed TA50-69 and WCRRF yard now in operations.
0747 Starting movement into 50-69.
0758 Completed movement into 50-69.
0813 Starting shipment to transport vehicle, permission granted to leave vehicle across gates
0826 Starting the denoting of 5 drums.
0845 Operators notifying ops center that drum 5851517 will not be getting denoted top of drum is to degraded will put the lid back on and reject.
0928 Vehicle access gates have restored, movement to transport vehicle is complete.
0930 RCT notifying ops center that results from 2-12-13 Chem wipes are NDA.
0932 Denoting is complete, bagging on 3825026
0941 bag on complete, PPE Check is sat.
1029 starting movement of 50-69.
1033 bagging off 3825026, bagging on 3834406.
1037 movement out of 50-69 completed.
1050 bag on, bag off complete, PPE Check is sat
1213 bagging off 3834406 and 7 Pads, bagging on 3814927
1240 bag on, bag off complete. PPE check is sat
1414 Operator notifying ops center that tool drum reading at 100 mr at contact will need to change out tool drum.
1530 Operators will be bagging off 2 daughters from 3843406 then will depart and continue

- Continued on next page -Orlando

2-14-13 -Continued from previous page- CRelands to process and bag off 5 toxie pacs. TOOL drum has become a daughter and new 55 will become a tool drum.

0557 Starting outside rounds.
1603 Bag off of 2 daughters complete, PPE check is sat
1607 Item # 3 is unsat, FSR in place, OK to continue
1610 Starting inside rounds PPE Check is sat
1648 Completed inside rounds.
1647 Starting to ~~Burst~~ @ 2-14-13 Nrest 5811725
1648 SOM will be seeking permission to leave 5814927 bagged ok.
1701 Permission has been granted from FOD to leave drum bagged on.
1713 Starting bag off of 7 POCS PPE Check is sat.
1727 Inside and outside rounds signed off by SOS
~~1835~~ ~~1845~~ 2-14-13 Bag off complete
2-14-13 1842 Mode change being performed SD-LCA and WCRF yard in warm.
2-14-13 1900 End of day WCRF operations Center secure-CRC

HLA

SS

No further entries this page

10. 79 PROJECT NAME 2/14/13 NOTEBOOK NO

0600 Assumed WCRR SOM position. [signature]

0605 Attended pre job brief conducted by SOS. Discussed yesterday unauthorized access incident and having a questioning attitude. Process plan is to denest those drums in 85 gal overpacks and work off. Current inventory is 5 SP-57 drums overpacked and 2 other SP drums.

0645 RP-1 reported no rabbit was caught in trap overnight - no evidence of rabbit inside building.

0700 Called into TA-54 SOM daily briefing and statused WCRR work for the day. DVS work statused as well.

0729 Completed mode change: WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations.

0932 Bagging on 1st drum of day (Operators denested 4 drums)

0935 RP-1 Supervisor reported that materials/wipes sent to HPAL on 2/12/13 from Operator #39 hand resulted in < MDA for Pu and Am - confirming Radon contamination.

1000 MSS planner and pipefitter on site to scope work for VSS repairs - VS-V-141 and PDI-15,31.

1100 Notified by OCO and SOS while denesting drums this morning #S85/517 was rejected and closed back up due to significant degradation of inner lid and ring.

1200 Called into daily call in to PM and OM - statused WCRR and DVS operations.

1530 Notified by OCO that drum being processed is producing multiple POC's and the tool drum will be utilized/processed as an additional daughter.

1648 Notified by inside PIC that they estimate 6-7 POC's to be produced. Will run out of time to process drum on ~~Tue~~ Wed WCG - requested to obtain FOD approval.

1701 Received FOD approval to leave drum bagged on WCG overnight.

1842 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Warm.

1900 Secured SOM position. [signature]

2/15/13

No further entries this page

SIGNATURE [signature] DATE 2/14 20 13

READ AND UNDERSTOOD _____ DATE _____ 20 _____

2-15-13 (14) Gm2 (13) WCRR SOS LOG BOOK

0600 Assuming SOS Position
0615 Conducted Shift brief went over Postings in Facility
0645 Concluded Shift brief
0720 reviewed Inside And outside Rounds
0729 Mode Change COMplete WCRRF In operations
0826 Started denesting Process
0845 Operators Inside ~~operators~~ notified that drum number 85151 will be rejected due to rust operators don't Feel IT Can be Pulled out safely
0932 Denesting Complete bagging on 58.25026
0941 PPE Check set
1033 bagging off and bagging on 5834406
1213 bagging off and bagging on 5814927
1230 SOS Turnover with Jose Jerez
1233 Concluded turnover with Gilbert Dequtiuez. Assuming SOS position for the afternoon.
1243 Bag on complete.
1414 Operators notifying that the tool drum will need to be changed out due to elevated readings.
1550 Operators will be bagging off 2 ~~two~~ daughters then continuing to process. Waste material frozen and having to use kitty litter. Estimating possibly having 6 to 7 POC's coming off of this parent.
1647 Operators notifying that they will not be able to process the parent that was bagged on to the glovebox to get the kitty litter on due to running out of time. Will need to request permission from the FOD to leave the drum bagged on overnight.
1701 Permission granted from FOD for Drum to be left on overnight.
1713 Starting to bag off POC's
1727 Signed off on Both inside and outside rounds.
1835 Bag off Complete total of 7 POC's
1842 Mode Change. WCRR Yard and *50-69 in WARM.
Processed 2 Parents, generated 3 daughter and 7 POC's
2-14-13 1900 Securing SOS position for the day.
Do further entries on this Page.

Reviewed 2/15/13

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-RTR2-13-0030
Examination Date:	2/21/2013
Waste Container ID:	92932
Video/Audio Recorded Media Number:	LA-RTR2-13-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 91.0 kg Tare Wt.: 33.4 kg Net Wt.: 57.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 92932

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		2/21/2013
Print Name	Signature	Date

CCP Radiography Data Sheet

Waste Container ID: 92932

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):	20.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	32.6
Soils (S):	
Total WMP Weight:	57.6

5834406

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92932		Count Sequence Number:	22183	
Operator:	D3PW2DK1\operator				
Assay Start:	3/4/2013 1:46:41 PM				
Description 1:	1LANDA1723				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	57.6 kg	Net:	57.6 kg	
Container:	Volume:	208.0 l	Full:	50.0 %	
Density:		0.550 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:	22183	Batch Number:	1LANDA1723
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:	92932	Analysis Date:	3/4/2013

Net Weight	57600.0 g	
Pu mass	8.95E+000 +-	2.06E+000 g
TRU Alpha Activity	3.73E+000 +-	1.64E+000 Ci
TRU Activity Concentration	6.48E+004 +-	2.84E+004 nCi/g
Pu-239 Equivalent Activity	3.76E+000 +-	1.64E+000 Ci
Pu-239 FGE	8.38E+000 +-	1.92E+000 g
Decay heat	1.23E-001 +-	5.46E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	5.00E-002	3.57E-005	5.75E-006	1.68E-006
PU238	1.32E-003	2.28E-002	5.25E-003	4.92E-005
PU239	8.31E+000	5.23E-001	1.21E-001	1.13E-003
PU240	6.19E-001	1.42E-001	3.28E-002	3.07E-004
AM241	8.77E-001	3.05E+000	1.63E+000	3.63E-002
PU241	1.43E-002	1.49E+000	3.43E-001	3.22E-003
PU242	3.76E-003	1.49E-005	3.44E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.16E-007
U233	<LLD	<LLD	0.00E+000	3.44E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	9.67E-007
U238	<LLD	<LLD	0.00E+000	1.04E-005
AM243	1.92E-004	3.88E-005	6.47E-006	4.62E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3-7-13

ITR: _____ Date: 3-8-13

Automated Independent Technical Review

Count Sequence Number: 22183 Batch Number: 1LANDA1723
Counter ID: MCS HENC #1
Container ID: 92932
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information
Results are marked as invalid.	utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

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

Expert Review by: Sheri Chamberlain Date: 3-7-13

Attachment 4 – Flammable Gas Analysis Form

5834406

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

Waste Container ID: **92932**

BDR Number: **LA13FG8016**

Sampling Date: **3/8/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	170.61	
74-82-8	Methane	213.40	U
67-56-1	Methanol	27.87	U
60-29-7	Ethyl Ether	1.25	U
75-35-4	1,1-Dichloroethylene	5.71	U
67-64-1	Acetone	16.90	U
75-34-3	1,1-Dichloroethane	4.24	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	Methyl ethyl ketone	9.86	U
110-82-7	Cyclohexane	5.84	U
71-43-2	Benzene	0.71	U
107-06-2	1,2-Dichloroethane	1.51	U
71-36-3	1-Butanol	1.36	U
108-10-1	Methyl isobutyl ketone	9.34	U
108-88-3	Toluene	3.09	U
108-90-7	Chlorobenzene	1.69	U
100-41-4	Ethylbenzene	2.62	U
108-38-3/106-42-3	m- and p-Xylene	1.48	U
95-47-6	o-Xylene	1.76	U
108-67-8	1,3,5-Trimethylbenzene	3.14	U
95-63-6	1,2,4-Trimethylbenzene	3.92	U

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130308c\
Data File : 92932.D
Acq On : 8 Mar 2013 1:19 pm
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 20 13:41:48 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	2257000	206.00	ppm	0.00
15) Chlorobenzene-d5	5.933	117	2041433	179.50	ppm	0.00
Target Compounds						Qvalue
1) Hydrogen	5.306	GC1	42155m	170.61	ppm	

(#) = 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-13-0017
Examination Date:	2/26/2013
Waste Container ID:	92933
Video/Audio Recorded Media Number:	LA-HERTR-13-0017 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 52.0 kg Tare Wt.: 33.4 kg Net Wt.: 18.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	15 %

CCP Radiography Data Sheet

Waste Container ID: 92933

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	18.6
Soils (S):	
Total WMP Weight:	18.6

CCP Radiography Data Sheet

Waste Container ID: 92933

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		2/26/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92933	Count Sequence Number:	22344		
Operator:	D3PW2DK1\operator				
Assay Start:	3/22/2013 3:41:16 PM				
Description 1:	1LANDA1736				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	18.6	kg	Net:	18.6 kg
Container:	Volume:	208.0	l	Full:	15.0 %
Density:		0.600	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:	22344	Batch Number:	1LANDA1736
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:	92933	Analysis Date:	3/22/2013

Net Weight	18600.0 g
Pu mass	1.41E+000 +- 2.25E-001 g
TRU Alpha Activity	9.10E-001 +- 1.42E-001 Ci
TRU Activity Concentration	4.89E+004 +- 7.62E+003 nCi/g
Pu-239 Equivalent Activity	9.14E-001 +- 1.42E-001 Ci
Pu-239 FGE	1.32E+000 +- 2.24E-001 g
Decay heat	3.02E-002 +- 4.73E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	3.05E-009	4.20E-007	2.37E-007	0.00E+000
CS137	4.79E-009	4.20E-007	2.37E-007	2.55E-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	5.86E-007
NP237	2.27E-002	1.62E-005	2.76E-006	9.39E-007
PU238	2.07E-004	3.58E-003	7.94E-004	4.45E-004
U238	<LLD	<LLD	0.00E+000	5.68E-006
PU239	1.31E+000	8.22E-002	1.41E-002	1.02E-002
PU240	9.74E-002	2.24E-002	4.97E-003	2.79E-003
AM241	2.31E-001	8.02E-001	1.41E-001	2.32E-002
PU241	2.25E-003	2.34E-001	5.18E-002	2.91E-002
PU242	5.92E-004	2.35E-006	5.21E-007	0.00E+000
AM243	1.18E-004	2.39E-005	4.16E-006	2.70E-006

Errors quoted at 1.000 sigma

Operator: Ann Barton Date: 3/26/13

ITR: Mark Gonzales Date: 3-26-13

Automated Independent Technical Review

Count Sequence Number: 22344 Batch Number: 1LANDA1736
Counter ID: MCS HENC #1
Container ID: 92933
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/22/2013

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
No Warnings Reported.	
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	MGA analysis failed. AK isotopics applied. The AK information
Results are marked as invalid.	utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	After EA review, fill height acceptable, results consistent with neutron.

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

Expert Review by: Sheri Chamberlain Date: 3-26-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92933**

BDR Number: **LA13FG2032**

Sampling Date: **3/28/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	90.37	U
74-82-8	Methane	142.14	U
67-56-1	Methanol	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\130328c\
Data File : 92933.D
Acq On : 28 Mar 2013 1:47 pm (#1); 28-Mar-13, 13:46:51 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 28 13:55:10 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.604	96	3931173	201.25	ppmv	0.04
15) Chlorobenzene-d5	5.926	117	3417381	177.00	ppmv	0.03

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-RTR2-13-0032	
Examination Date:	2/25/2013	
Waste Container ID:	92934	
Video/Audio Recorded Media Number:	LA-RTR2-13-0032	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data		
Container Type:	55 Gallon Drum	
TRUCON Code:	LA226	
Waste Matrix Code:	S3110	
Waste Stream I.D.:	LA-MIN02-V.001	
Waste Container Weights:	Gross Wt.: 166.0 kg Tare Wt.: 145.1 kg Net Wt.: 20.9 kg	
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes	
Number of Layers of Confinement:	Appears to be 1 layer	
Volume Utilization Percentage:	75 %	

CCP Radiography Data Sheet

Waste Container ID: 92934

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	20.9
Soils (S):	
Total WMP Weight:	20.9

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 92934

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

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

RTR Operator:

Michael Simmons		2/25/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92934	Count Sequence Number:	15184
Operator:	DCLTD231\Operator		
Assay Start:	3/4/2013 3:38:54 PM		
Description 1:	2LANDA1110		
Description 2:	POC - Gross Wt. = 166.0		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000 - -		
Container Type:	55 gal Drum		
Weight:	Net: 20.9 kg	Net:	20.9 kg
Container:	Volume: 208.0 l	Full:	95.0 %
Density:	0.700 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:	15184	Batch Number:	2LANDA1110
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92934	Analysis Date:	3/4/2013

Net Weight	20900.0 g		
Pu mass	3.72E+000	+- 1.95E+000	g
TRU Alpha Activity	2.08E+000	+- 9.82E-001	Ci
TRU Activity Concentration	9.95E+004	+- 4.70E+004	nCi/g
Pu-239 Equivalent Activity	2.09E+000	+- 9.82E-001	Ci
Pu-239 FGE	3.49E+000	+- 1.95E+000	g
Decay heat	6.88E-002	+- 3.28E-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	2.73E-007
U233	<LLD	<LLD	0.00E+000	3.13E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.06E-006
NP237	2.92E-002	2.09E-005	3.86E-006	8.28E-007
PU238	5.48E-004	9.47E-003	5.50E-003	5.04E-004
U238	<LLD	<LLD	0.00E+000	7.82E-006
PU239	3.46E+000	2.17E-001	1.23E-001	1.16E-002
PU240	2.58E-001	5.93E-002	3.44E-002	3.15E-003
AM241	5.16E-001	1.79E+000	9.74E-001	2.79E-002
PU241	5.96E-003	6.20E-001	3.60E-001	3.30E-002
PU242	1.57E-003	6.22E-006	3.61E-006	0.00E+000
AM243	1.02E-004	2.07E-005	4.03E-006	4.35E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3.7.13

ITR: _____ Date: 3.8.13

Automated Independent Technical Review

Count Sequence Number: 15184 Batch Number: 2LANDA1110
Counter ID: HENC #2
Container ID: 92934
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. 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 Ok
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Analysis Status: Override enabled; data marked not available but were used. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	 Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 3-7-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92934**

BDR Number: **LA13FG2044**

Sampling Date: **4/25/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	482.88	
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\130425c\
Data File : 92934.D
Acq On : 25 Apr 2013 12:57 pm (#1); 25-Apr-13, 12:56:33 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 25 13:05:26 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.535	96	5122142	201.25	ppmv	-0.03
15) Chlorobenzene-d5	5.878	117	4263363	177.00	ppmv	-0.02
Target Compounds						Qvalue
1) Hydrogen	1.602	GC1	3432m	482.88	ppmv	

(#) = 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-RTR2-13-0030
Examination Date:	2/21/2013
Waste Container ID:	92935
Video/Audio Recorded Media Number:	LA-RTR2-13-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 171.5 kg Tare Wt.: 145.1 kg Net Wt.: 26.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 92935

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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	22.4
Soils (S):	
Total WMP Weight:	26.4

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 92935

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		2/21/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92935		Count Sequence Number:	22184	
Operator:	D3PW2DK1\operator				
Assay Start:	3/4/2013 2:28:34 PM				
Description 1:	1LANDA1723				
Description 2:	POC - Gross Wt. = 171.5 Kg				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	26.4 kg	Net:	26.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.728 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:	22184	Batch Number:	1LANDA1723
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:	92935	Analysis Date:	3/4/2013

Net Weight	26400.0 g		
Pu mass	3.34E+001	+- 1.33E+001	g
TRU Alpha Activity	8.25E+000	+- 3.21E+000	Ci
TRU Activity Concentration	3.12E+005	+- 1.22E+005	nCi/g
Pu-239 Equivalent Activity	8.34E+000	+- 3.21E+000	Ci
Pu-239 FGE	3.12E+001	+- 1.33E+001	g
Decay heat	2.70E-001	+- 1.07E-001	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.73E-007
U233	<LLD	<LLD	0.00E+000	6.42E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.91E-006
NP237	9.56E-002	6.83E-005	1.30E-005	3.07E-006
PU238	4.91E-003	8.49E-002	3.83E-002	1.36E-003
U238	<LLD	<LLD	0.00E+000	1.68E-005
PU239	3.10E+001	1.95E+000	8.34E-001	3.12E-002
PU240	2.31E+000	5.31E-001	2.39E-001	8.49E-003
AM241	1.64E+000	5.68E+000	3.09E+000	6.70E-002
PU241	5.34E-002	5.55E+000	2.50E+000	8.88E-002
PU242	1.40E-002	5.57E-005	2.51E-005	0.00E+000
AM243	7.27E-004	1.47E-004	2.83E-005	8.39E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3-7-13

ITR: _____ Date: 3/8/13

Automated Independent Technical Review

Count Sequence Number: 22184 Batch Number: 1LANDA1723
Counter ID: MCS HENC #1
Container ID: 92935
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 3-7-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92935**

BDR Number: **LA13FG12036**

Sampling Date: **5/2/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1987.00	
74-82-8	Methane	9.63	U
67-56-1	Methanol	441.79	
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	19.30	
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	5.13	
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

CAS Number	IDENTIFIED TIC COMPOUND	Est. Amount ppmv
79-20-9	Methyl Acetate	24.93
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
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\130502C\
Data File : 92935.D
Acq On : 2 May 2013 3:12 pm (#1); 2 May 2013 3:11 pm (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 15:21:03 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	4.060	96	8147968	207.75	ppmv	0.00
15) Chlorobenzene-d5	6.636	117	6689680	178.75	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.893	GC1	566755m	1987.00	ppmv	
4) Methanol	0.821	31	342191	441.79	ppmv	100
7) Acetone	1.354	58	57054	19.30	ppmv	75
17) Toluene	5.577	92	134198	5.13	ppmv	94

(#) = 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-RTR2-13-0031
Examination Date:	2/22/2013
Waste Container ID:	92936
Video/Audio Recorded Media Number:	LA-RTR2-13-0031 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 168.0 kg Tare Wt.: 145.1 kg Net Wt.: 22.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 92936

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	22.9
Soils (S):	
Total WMP Weight:	22.9

CCP Radiography Data Sheet

Waste Container ID: 92936

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

RTR Operator:

Michael Simmons		2/22/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92936		Count Sequence Number:	15448	
Operator:	DCLTD231\Operator				
Assay Start:	4/4/2013 2:49:27 PM				
Description 1:	2LANDA1132				
Description 2:	POC - GROSS WT = 168.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S300Q				
Container Type:	55 gal Drum				
Weight:	Net:	22.9 kg	Net:	22.9 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.710 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:	15448	Batch Number:	2LANDA1132
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92936	Analysis Date:	4/4/2013

Net Weight	22900.0 g		
Pu mass	5.00E+001	+- 9.26E+000	g
TRU Alpha Activity	9.03E+000	+- 2.87E+000	Ci
TRU Activity Concentration	3.94E+005	+- 1.25E+005	nCi/g
Pu-239 Equivalent Activity	9.18E+000	+- 2.87E+000	Ci
Pu-239 FGE	4.68E+001	+- 8.60E+000	g
Decay heat	2.93E-001	+- 9.57E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.64E-002	5.46E-005	1.02E-005	1.69E-006
PU238	7.35E-003	1.27E-001	2.35E-002	5.09E-005
PU239	4.65E+001	2.92E+000	5.41E-001	1.17E-003
PU240	3.46E+000	7.95E-001	1.47E-001	3.18E-004
AM241	1.49E+000	5.19E+000	2.82E+000	5.35E-002
PU241	7.98E-002	8.29E+000	1.54E+000	3.32E-003
PU242	2.10E-002	8.35E-005	1.55E-005	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	6.49E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.14E-006
U238	<LLD	<LLD	0.00E+000	1.67E-005
AM243	5.62E-004	1.14E-004	2.15E-005	9.98E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 4-8-13

ITR: _____ Date: 4-9-13

Automated Independent Technical Review

Count Sequence Number: 15448 Batch Number: 2LANDA1132
Counter ID: HENC #2
Container ID: 92936
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 4/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers Date: 4-8-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92936**

BDR Number: **LA13FG2047**

Sampling Date: **5/1/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1455.66	
74-82-8	Methane	142.14	U
67-56-1	Methanol	174.87	
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\130501c\
Data File : 92936.D
Acq On : 1 May 2013 2:27 pm (#1); 01-May-13, 14:26:18 (#2)
Operator : GR
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 01 14:35:15 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.509	96	3876201	201.25	ppmv	-0.06
15) Chlorobenzene-d5	5.848	117	3301864	177.00	ppmv	-0.05
Target Compounds						Qvalue
1) Hydrogen	1.607	GC1	10346	1455.66	ppmv	100
4) Methanol	0.837	31	68462	174.87	ppmv	100

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0030	
Examination Date:	2/21/2013	
Waste Container ID:	92937	
Video/Audio Recorded Media Number:	LA-RTR2-13-0030	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 161.5 kg Tare Wt.: 145.1 kg Net Wt.: 16.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 92937

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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	12.4
Soils (S):	
Total WMP Weight:	16.4

CCP Radiography Data Sheet

Waste Container ID: 92937

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		2/21/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92937		Count Sequence Number:	15139	
Operator:	DCLTD231\Operator				
Assay Start:	2/27/2013 9:57:07 AM				
Description 1:	2LANDA1107				
Description 2:	POC - GROSS WT = 161.5				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. -S3000				
Container Type:	55 gal Drum				
Weight:	Net:	16.4 kg		Net:	16.4 kg
Container:	Volume:	208.0 l		Full:	95.0 %
Density:		0.677 kg /l			

System Configuration

Counter:	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:	15139	Batch Number:	2LANDA1107
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92937	Analysis Date:	2/27/2013

Net Weight	16400.0 g		
Pu mass	2.73E+001	+- 9.84E+000	g
TRU Alpha Activity	7.95E+000	+- 3.14E+000	Ci
TRU Activity Concentration	4.85E+005	+- 1.91E+005	nCi/g
Pu-239 Equivalent Activity	8.00E+000	+- 3.14E+000	Ci
Pu-239 FGE	2.51E+001	+- 8.96E+000	g
Decay heat	2.61E-001	+- 1.05E-001	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	8.69E-002	6.21E-005	1.12E-005	1.59E-006
PU238	8.77E-003	1.52E-001	5.46E-002	8.85E-005
PU239	2.49E+001	1.57E+000	5.63E-001	9.14E-004
PU240	2.37E+000	5.44E-001	1.96E-001	3.17E-004
AM241	1.64E+000	5.68E+000	3.08E+000	5.55E-002
PU241	3.56E-002	3.70E+000	1.33E+000	2.16E-003
PU242	1.91E-002	7.57E-005	2.72E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.16E-007
U233	<LLD	<LLD	0.00E+000	6.30E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.08E-006
U238	<LLD	<LLD	0.00E+000	1.52E-005
AM243	6.96E-004	1.41E-004	2.57E-005	9.78E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 2/28/13

ITR: _____ Date: 3/5/13

Automated Independent Technical Review

Count Sequence Number: 15139 Batch Number: 2LANDA1107
Counter ID: HENC #2
Container ID: 92937
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/27/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. FRAM results applied. FRAM results attached.
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 2-28-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92937**

BDR Number: **LA13FG2050**

Sampling Date: **5/7/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1446.80	
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\130507C\
Data File : 92937.D
Acq On : 7 May 2013 2:17 pm (#1); 07-May-13, 14:16:42 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 14:25:17 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.607	96	4144894	201.25	ppmv	0.04
15) Chlorobenzene-d5	5.926	117	3608019	177.00	ppmv	0.03
Target Compounds						Qvalue
1) Hydrogen	1.612	GC1	10283m	1446.80	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-RTR2-13-0030
Examination Date:	2/21/2013
Waste Container ID:	92938
Video/Audio Recorded Media Number:	LA-RTR2-13-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 163.0 kg Tare Wt.: 145.1 kg Net Wt.: 17.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 92938

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
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):	13.8
Soils (S):	
Total WMP Weight:	17.9

CCP Radiography Data Sheet

Waste Container ID: 92938

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		2/21/2013
Print Name	Signature	Date

S833406

NDA 2000 Assay Report

********** Item Information **********

Item ID:	92938		Count Sequence Number:	22185	
Operator:	D3PW2DK1\operator				
Assay Start:	3/4/2013 3:10:37 PM				
Description 1:	1LANDA1723				
Description 2:	POC - Gross Wt. = 163 Kg				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	17.9 kg	Net:	17.9 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.685 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:	22185	Batch Number:	1LANDA1723
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:	92938	Analysis Date:	3/4/2013

Net Weight	17900.0 g	
Pu mass	1.40E+001 +-	2.32E+000 g
TRU Alpha Activity	3.42E+000 +-	1.28E+000 Ci
TRU Activity Concentration	1.91E+005 +-	7.16E+004 nCi/g
Pu-239 Equivalent Activity	3.47E+000 +-	1.28E+000 Ci
Pu-239 FGE	1.31E+001 +-	2.16E+000 g
Decay heat	1.12E-001 +-	4.28E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	4.50E-002	3.21E-005	5.90E-006	1.93E-006
PU238	2.06E-003	3.56E-002	5.91E-003	5.00E-005
PU239	1.30E+001	8.17E-001	1.36E-001	1.15E-003
PU240	9.67E-001	2.22E-001	3.69E-002	3.12E-004
AM241	6.76E-001	2.35E+000	1.27E+000	4.23E-002
PU241	2.24E-002	2.33E+000	3.87E-001	3.27E-003
PU242	5.88E-003	2.34E-005	3.88E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.00E-007
U233	<LLD	<LLD	0.00E+000	3.89E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.19E-006
U238	<LLD	<LLD	0.00E+000	1.13E-005
AM243	1.86E-004	3.75E-005	7.09E-006	5.47E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3-7-13

ITR: _____ Date: 3/8/13

Automated Independent Technical Review

Count Sequence Number: 22185 Batch Number: 1LANDA1723
Counter ID: MCS HENC #1
Container ID: 92938
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/4/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellanecus	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 3-7-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92938**

BDR Number: **LA13FG2044**

Sampling Date: ***4/25/2013***

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	634.83	
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\130425c\
Data File : 92938.D
Acq On : 25 Apr 2013 1:33 pm (#1); 25-Apr-13, 13:32:20 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 25 13:41:18 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.558	96	4656886	201.25	ppmv	0.00
15) Chlorobenzene-d5	5.897	117	3976279	177.00	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.599	GC1	4512m	634.83	ppmv	

(#) = 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-RTR2-13-0031
Examination Date:	2/22/2013
Waste Container ID:	92939
Video/Audio Recorded Media Number:	LA-RTR2-13-0031 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 164.5 kg Tare Wt.: 145.1 kg Net Wt.: 19.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 92939

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	
R:	Rubber glove
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):	2.5
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	14.9
Soils (S):	
Total WMP Weight:	19.4

CCP Radiography Data Sheet

Waste Container ID: 92939

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

RTR Operator:

Michael Simmons		2/22/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92939	Count Sequence Number:	15123		
Operator:	DCLTD231\Operator				
Assay Start:	2/25/2013 2:31:11 PM				
Description 1:	2LANDA1105				
Description 2:	POC (164.5)				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	19.4	kg	Net:	19.4 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.692	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:	15123	Batch Number:	2LANDA1105
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92939	Analysis Date:	2/25/2013

Net Weight	19400.0 g		
Pu mass	3.31E+001	+-	1.28E+001 g
TRU Alpha Activity	7.60E+000	+-	2.79E+000 Ci
TRU Activity Concentration	3.92E+005	+-	1.44E+005 nCi/g
Pu-239 Equivalent Activity	7.63E+000	+-	2.78E+000 Ci
Pu-239 FGE	3.08E+001	+-	1.18E+001 g
Decay heat	2.48E-001	+-	9.25E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	8.04E-002	5.74E-005	1.05E-005	1.48E-006
PU238	1.07E-002	1.85E-001	7.18E-002	1.04E-004
PU239	3.06E+001	1.93E+000	7.45E-001	1.08E-003
PU240	2.42E+000	5.56E-001	2.15E-001	3.12E-004
AM241	1.42E+000	4.93E+000	2.67E+000	5.30E-002
PU241	2.57E-002	2.68E+000	1.04E+000	1.50E-003
PU242	1.76E-002	6.97E-005	2.70E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.37E-007
U233	<LLD	<LLD	0.00E+000	5.92E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.96E-006
U238	<LLD	<LLD	0.00E+000	1.30E-005
AM243	4.59E-004	9.27E-005	1.73E-005	9.18E-006

Errors quoted at 1.000 sigma

Operator: Jan Barton Date: 3/4/13

ITR: Date: 3/5/13

Automated Independent Technical Review

Count Sequence Number: 15123 Batch Number: 2LANDA1105
Counter ID: HENC #2
Container ID: 92939
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/25/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	 Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	 Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	 Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. FRAM results applied. FRAM results attached.
Section 5 - Gamma Analysis Analysis Status: No errors.	 Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chambers Date: 2-26-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92939**

BDR Number: **LA13FG2033**

Sampling Date: **4/3/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1545.43	
74-82-8	Methane	142.14	U
67-56-1	Methanol	261.15	
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
141-43-5	Monoethanolamine	29.94
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
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\130403c\
Data File : 92939.D
Acq On : 3 Apr 2013 3:04 pm (#1); 03-Apr-13, 15:03:27 (#2)
Operator : GR
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 03 15:13:09 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.539	96	3583078	201.25	ppmv	-0.03
15) Chlorobenzene-d5	5.881	117	3091176	177.00	ppmv	-0.02
Target Compounds						Qvalue
1) Hydrogen	1.610	GC1	10984	1545.43	ppmv	100
4) Methanol	0.831	31	94509m	261.15	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-RTR2-13-0030
Examination Date:	2/21/2013
Waste Container ID:	92940
Video/Audio Recorded Media Number:	LA-RTR2-13-0030 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 165.5 kg Tare Wt.: 145.1 kg Net Wt.: 20.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 92940

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Scrap metal, hardware
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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
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):	16.3
Soils (S):	
Total WMP Weight:	20.4

CCP Radiography Data Sheet

Waste Container ID: 92940

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		2/21/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92940	Count Sequence Number:	15141		
Operator:	DCLTD231\Operator				
Assay Start:	2/27/2013 11:31:01 AM				
Description 1:	2LANDA1107				
Description 2:	POC - GROSS WT = 165.5				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	20.4	kg	Net:	20.4 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.697	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:	15141	Batch Number:	2LANDA1107
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92940	Analysis Date:	2/27/2013

Net Weight	20400.0 g		
Pu mass	1.11E+001	+- 5.00E+000	g
TRU Alpha Activity	3.62E+000	+- 1.49E+000	Ci
TRU Activity Concentration	1.77E+005	+- 7.32E+004	nCi/g
Pu-239 Equivalent Activity	3.63E+000	+- 1.49E+000	Ci
Pu-239 FGE	1.03E+001	+- 4.96E+000	g
Decay heat	1.19E-001	+- 4.97E-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	3.19E-007
U233	<LLD	<LLD	0.00E+000	4.18E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.39E-006
NP237	4.12E-002	2.94E-005	5.43E-006	1.06E-006
PU238	5.62E-003	9.72E-002	7.48E-002	2.58E-003
U238	<LLD	<LLD	0.00E+000	9.19E-006
PU239	1.02E+001	6.43E-001	3.12E-001	1.71E-002
PU240	8.71E-001	2.00E-001	1.48E-001	5.31E-003
AM241	7.70E-001	2.67E+000	1.45E+000	3.75E-002
PU241	1.19E-002	1.24E+000	6.12E-001	3.28E-002
PU242	8.49E-003	3.37E-005	2.44E-005	0.00E+000
AM243	2.38E-004	4.80E-005	9.06E-006	6.02E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 2/28/13

ITR: _____ Date: 3/5/13

Automated Independent Technical Review

Count Sequence Number: 15141 Batch Number: 2LANDA1107
Counter ID: HENC #2
Container ID: 92940
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 2/27/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. FRAM results applied. FRAM results attached.
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 2-28-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92940**

BDR Number: **LA13FG2050**

Sampling Date: **5/7/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	727.83	
74-82-8	Methane	142.14	U
67-56-1	Methanol	136.24	
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)

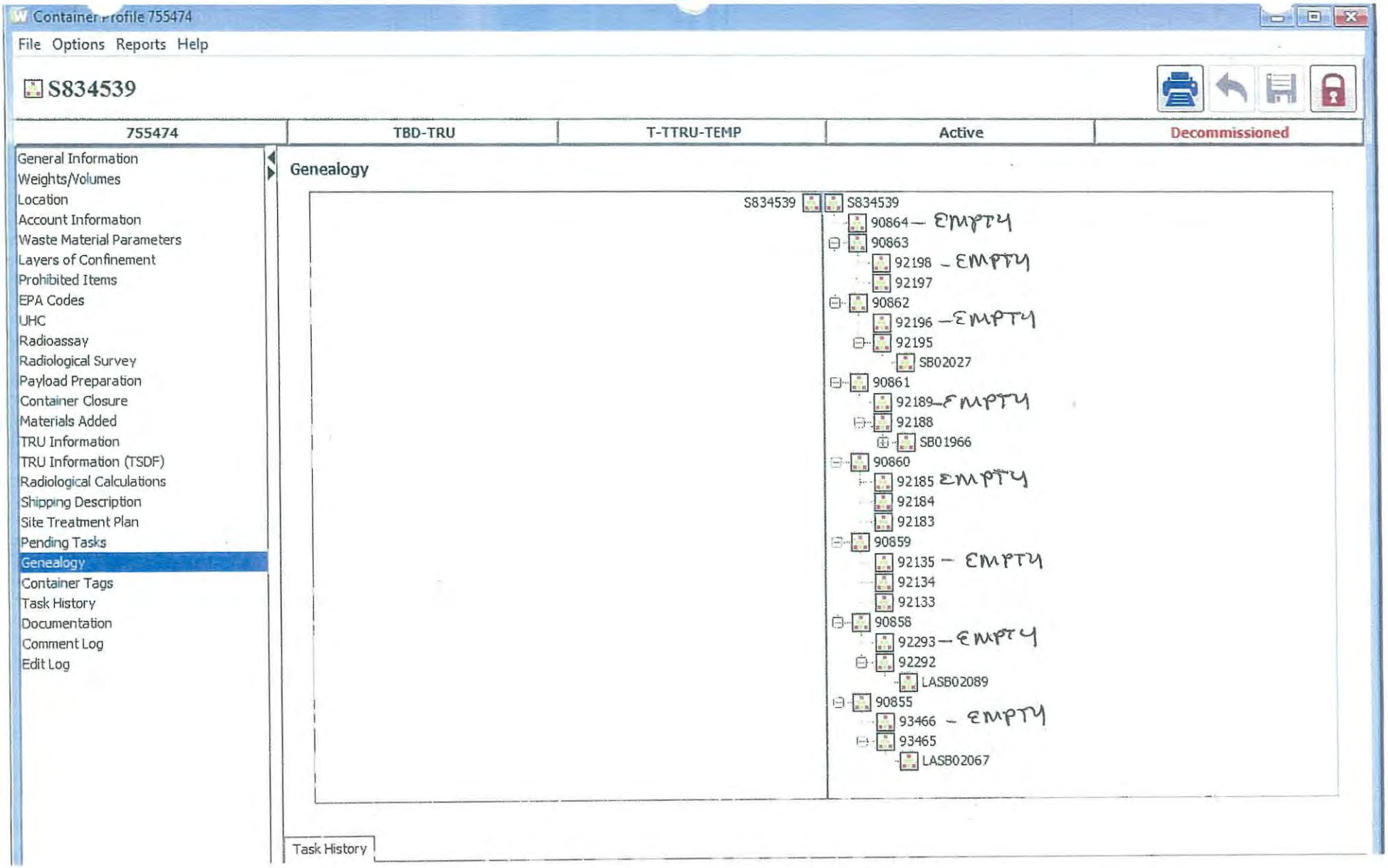
Data Path : C:\msdchem\1\DATA\130507C\
Data File : 92940.D
Acq On : 7 May 2013 2:06 pm (#1); 07-May-13, 14:05:26 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 07 14:14:10 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.574	96	4124643	201.25	ppmv	0.00
15) Chlorobenzene-d5	5.904	117	3581390	177.00	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.608	GC1	5173	727.83	ppmv	100
4) Methanol	0.828	31	56758m	136.24	ppmv	

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

S834539


Container Profile 755474
File Options Reports Help
S834539
755474
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
S834539
S834539
90864 – EMPTY
90863
92198 – EMPTY
92197
90862
92196 – EMPTY
92195
SB02027
90861
92189 – EMPTY
92188
SB01966
90860
92185 EMPTY
92184
92183
90859
92135 – EMPTY
92134
92133
90858
92293 – EMPTY
92292
LASB02089
90855
93466 – EMPTY
93465
LASB02067
Task History

Working Copy
Date: 2-6-12 cw

ATTACHMENT 1
Page 1 of 3

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: S834539

6.2[4] Date Processed: 2-6-12

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

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

4.1[6][B] Parent Waste Container RCRA Designations: NONE

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

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

4.3[4][B] Platform Scale: Equipment No.: a19065
Cal. Due Date: 9-3-12

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

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

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

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

Performed By: Michael Romero Michael Romero 182723 / 2-6-12
Waste Handling Tech (print) Signature Z # Date

5.[16] Prepared Parent Drum Weight (lb): 318.8 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

ATTACHMENT 1
Page 2 of 3

4.1[6][B] Parent Waste Container No.: S834539

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 318.8 lb

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

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	90855			
10.1[4]	Daughter Drum Filter No.	CL-1424		N/A	
10.1[4]	Daughter Drum Bag Filter No.	WO 1609			
10.1[4]	Daughter Drum Purchase Order No.	414992			
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	Bop	Bop	Bop
	Model No.	3-1.5-2	3-1.5-2	3-1.5-2	3-1.5-2
	Serial No.	WO 1488	WO 2507	WO 2528	WO 2514
	Date of Manufacture	6/11	10/11	10/11	10/11
10.2[5]	POC ID No	90858	90859	90860	90861
10.2[7][B]/10.2[6]	POC Item Description	Plastic salts	Plastic salts	Plastic salts	Plastic salts
10.2[7][D]/10.2[8][D]	Bag-out Bag Filter No.	N/A	N/A	N/A	N/A
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	MR 182723	MR 182723	MR 182723	MR 182723
10.2[14]	POC Assembly Gross Weight (lb)	351.6	356.4	347.8	363.4
10.2[15]	POC Rad. Survey Results (mrem/hr)	1100	551	501	250
10.3[3][A]	Approx. Containerized Liquid Vol./Units			N/A	
10.3[7][A]	Opaque/Non-penetrable Item Description:	Lead shielding			
10.3[5][A]	Free Liquid Volume/Units	7 gallons			
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[12]/ 10.5[5]	Daughter Drum % Full (%)	50			
10.5[4]	Description Waste Added During Processing	plastic			

Working Copy
Date: 2-4-12

ATTACHMENT 1
Page 1 of 3

WCRRF WCG WASTE PROCESSING DATA SHEET

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

6.2[4] Date Processed: _____

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: _____

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

4.3[4][B] Platform Scale: Equipment No.: _____
Cal. Due Date: _____

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

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

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

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

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

5.[16] Prepared Parent Drum Weight (lb): _____ lb

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

ATTACHMENT 1
Page 2 of 3

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

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

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

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.				
10.1[4]	Daughter Drum Filter No.			N/A	
10.1[4]	Daughter Drum Bag Filter No.				
10.1[4]	Daughter Drum Purchase Order No.				
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	BOP	BOP	
	Model No.	3-1.5-2	3-1.5-2	3-1.5-2	
	Serial No.	wo 2529	wo 2527	wo 2512	
	Date of Manufacture	10/11	10/11	10/11	
10.2[5]	POC ID No	90862	90863		
10.2[7][B]/10.2[6]	POC Item Description	Plastic Salts	Plastic Salts	Plastics Salts N/A	
10.2[7][D]/10.2[8][D]	Bag-out Bag Filter No.	N/A	N/A	N/A MR	
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	MR 182723	MR 182723	MR 2-6-12 182723	
10.2[14]	POC Assembly Gross Weight (lb)	374.4	366.0		
10.2[15]	POC Rad. Survey Results (mrem/hr)	1/0/	750		
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[5][A]	Free Liquid Volume/Units				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.		N/A		
10.3[10]	Remaining Waste Description				
10.3[13]/10.4[12]/ 10.5[5]	Daughter Drum % Full (%)				
10.5[4]	Description Waste Added During Processing				

ATTACHMENT 1
Page 3 of 3

4.1[6][B] Parent Waste Container No.: S834539

Comments: Lead, plastic, Salts

11.1[1] Performed By: Michael Romero Michael Romero 182723 1/26-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: [illegible] [illegible] 149225 2-9-12
SOS/SOM (print) Signature Z # Date/Time

Attachment 1. Checklist for Overpacking Drums Into an 85–Gal Overpack

85-Gallon Overpack ID Number 90864

RECORD Drum Filter information: NUCE:1-013

Filter ID Number: ES-2204

Date of Manufacture: 10/98

TORQUE WRENCH INFORMATION

Filter Torque Wrench		Drum Lid Ring Bolt	
M&TE ID#		M&TE ID#	028373
Cal Expiration Date		Cal Expiration Date	5-30-12
Tolerance	N/A	Tolerance	±32 CW ±47 CCW
Torque wrench is within acceptable range as displayed on Calibration Certificate	☐ Yes ☐ No ☐ N/A	Torque wrench is within acceptable range as displayed on Calibration Certificate	☑ Yes ☐ No

Bung Torque Wrench	
M&TE ID#	N/A
Cal Expiration Date	
Tolerance	
Torque wrench is within acceptable range as displayed on Calibration Certificate	☐ Yes ☐ No ☐ N/A

Previously used 85-gallon container inspected (as applicable) ☑ SAT ☐ UNSAT

Filter vent torque value: (new container only) _____ in-lb ☑ N/A

Drum lid 2-inch bung torque value: (If applicable) _____ ft-lb ☑ N/A

Drum lid ring-bolt torque value: 60 ft-lb

Drum lid ring threaded end touching jam nut: ☐ YES ☑ NO

Drum lid ring ends touching: ☐ YES ☑ NO

Technician Name (print)	Signature	Initials	ID#	Date
Brian Fordham	B. Fordham	B.F.	255635	2-6-12
Michael Romero	Michael Romero	M R	1182723	2-6-12

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

Drum ID#: 90855

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 #: 414992
Lot #: 217304
Date of Manufacture: 11

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 #: 3cpul.5-2spvc
Serial #: WA1609
Date of Manufacture: 6/11

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 0190S
Serial #: CL-1424
Date of Manufacture: 3/11

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	040695	M&TE ID #:	040691
Cal Expiration Date:	9-12-12	Cal Expiration Date:	8-2-12
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	10-80
Tolerance:	±3%cw ±6%ccw	Tolerance:	±3%cw ±6%ccw

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

☑ Yes ☐ No

Print Name: Timmy Romero Signature: [signature] Z#: 234253

5. Weigh Drum Assembly

RECORD weight information

Tare witght (lbs) 74.6
File ID #: 019045

- ☑ 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: Timmy Romero Operator Sign: [signature] Z#: 234253 Date: 1-4-12

Verifier Print: Michael Romero Verifier Sign: [signature] Z#: 182723 Date: 2-6-12

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

DRUM ID#: 90855

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: ~~9-10-12~~ MR- 2-6-12 5-30-12

Range/ Value (ft-lbs): 20-80

--- Tolerance ±3% cw ±6% ccw

2. DRUM LABELING

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

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

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

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

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

RCRA Label:

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

OR

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

NOTE: Check only one of the above two boxes.

3. WEIGH DRUM ASSEMBLY

Record weight information:

Gross Weight(lbs.): 1654

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: B Foreman Date: 2-6-12

Verifier Print/Sign: Michael Romero Date: 2-6-12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: S834539 | Container Type: 85-GAL | Gross Weight (lbs): 374
Inner Seal #: 015780 | Filter Prefix: LAVC | Filter Serial #: 02204; 02574
AK Waste Stream: LA-MHD01.001 | Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST 12 RM 434 NITRATE SALTSQ
Total PE-Ci Activity: 1.42E+01 | Equivalent Combustible PE-Ci: 5.31E+00 | AM-241 PE-Ci: 1.69E+00
Total Fissile Gram Equivalents: 131.7 | Total Surface Dose Rate (mrem/hr): 4
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 3/26/2007 | Comment: Sealed Ctr > 4L, 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: POC

Performed By: R. W. Jones (Production Control (Print)) | Signature | 117434 (Z Number) | 12-1-11 (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: Leached solids - nitrate salts
Net Wt: 314 lb. Five items with heaviest weighing 115lb and others ranging from 11lb to 76lb.
55 gal drum overpacked in 85 gal drum
May require RWP for >1000 and <10000 mrem/hr @ 30cm
Drums containing nitrate salts may contain undocumented liquids
Total SNM mass is 142g; one item is 84 g

Performed By: Valerie Rhodes (WDP Engineering (Print)) | Valerie Rhodes (Signature) | 112609 (Z Number) | 12/12/11 (Date)

TRU Remediation Operations

☑ Waste Container Information Evaluated ☐ Less Than 170 lbs ☐ RTR Video Available
Other Specific Safety Concerns:

Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments:

Performed By: Vanessa Valverde (TRU Remediation Operations (Print)) | Signature | 234079 (Z Number) | 12/12/11 (Date)

Discardable Waste Log Sheet

DrumID: 015780

Item#	ItemID	Net (kg)	Matrix	M Code	NM	MT	Auth	Remarks
1		52.71	NITRATE SALTS		83.83	52	6/11	
2		34.33	NITRATE SALTS		34.33	53	6/11	
3		5.19	NITRATE SALTS		5.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	
		111.78 kg						

1 9 5 1 0 0 3 3

ATTACHMENT 1
Page 1 of 2

HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 1/18/11

7.[7] Certified CCP Technician:

CCP (Print)	Signature	Z #	Date
Gabe Romero	[signature]	1234773	1-26-11
	/	/	/

Container No. (7.[1]):	S863070 LS	S862515 AR	S834539 LS
Container Type (SWB, 110/85/55-gal) (7.[1]):	55gal	55gal	55gal
Current Filter Vent No. (7.[1]):	72	72	72
New Filter Vent No.: (7.[8][A]):	72	72	72
WIPP-Approved Filter Vent (7.[8][B]):	☑ SAT ☐ UNSAT	☑ SAT ☐ UNSAT	☑ SAT ☐ UNSAT
VOC	Value (ppm) (7.[10])		
Benzene		2.60	
Chlorobenzene			
Cyclohexane			
1,1-Dichloroethane			
1,2-Dichloroethane			
1,1-Dichloroethylene			
cis-1,2-Dichloroethylene			
Ethyl benzene			
Ethyl ether			
Toluene			
1,2,4-Trimethylbenzene			
1,3,5-Trimethylbenzene			
m- and p-Xylene			
o-Xylene			
Acetone			29.73
1-Butanol			
Methanol			35.70
Methyl ethyl ketone			
Methyl isobutyl ketone			
Total CCP VOC value (ppm) (7.[11]):	Ø	2.60	65.43

ATTACHMENT 1
Page 2 of 2

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

	Container Number (7.[1]):	S863070	S867515	S834539
	Hydrogen Reading (ppm) (7.[10]):	Ø ppm	400.00 ppm	2601.80 ppm
	Methane Reading (ppm) (7.[10]):	Ø ppm	Ø ppm	Ø ppm
	Total VOC Reading (ppm) (7.[11]):	Ø ppm	2.60 ppm	65.43 ppm
	Filter Type (7.[9][F][c]/7.[9][G][a]):	72	72	72
	WPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]):	SAT	SAT	SAT
	Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]):	N/A	N/A	N/A
	Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]):	N/A	N/A	N/A
	Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]):	N/A	N/A	N/A
VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b])		☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A
	Filter Torque Value (7.[9][F][a]/7.[9][G][d]) *	N/A	N/A	N/A

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

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

11.1[1] Performed By: Alicia Herrera / [signature] 198450 / 1/24/11
Waste Handling Operator (print) Signature Z # Date

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

☑ No deficiencies

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

11.1[7][B]/ 11.1[8] Reviewed By: Leony Romero [signature] 117886 / 1.26.11
Waste Handling Supervisor (print) Signature Z # Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\110118c\
Data File : S834539.D
Acq On : 18 Jan 2011 2:48 pm
Operator : GR
Sample :
InstName : Unit 8
Misc : 55 GAL LFL DRUM FROM INSIDE 85 GAL OVERPACK (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 18 14:57:12 2011
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.246	96	4377819	209.00	ppm	0.00
15) Chlorobenzene-d5	5.930	117	3651002	184.00	ppm	0.00
Target Compounds						Qvalue
1) Hydrogen	5.361	GC1	658820	2601.80	ppm	100
4) Methanol	0.788	31	25983	35.70	ppm	100
7) Acetone	1.422	58	56800	29.73	ppm	97

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

Vocgas.m Tue Jan 18 14:57:19 2011

4

2-6-12 PROJECT NAME _____ NOTEBOOK NO. ____

0600 Assuming WCRR operations center. - JCOeman
0602 Beginning inside rounds.
0615 Item #60 on the rounds is OOS. Per CSE, we are Okay to proceed.
0636 Inside rounds complete. Beginning outside rounds.
0649 Outside rounds complete.
0658 Rounds reviewed by SOS.
0752 All work packages have been signed off by the CSE and Sorh from Friday maintenance. Mode change complete. We are now in operations.
0810 Tech 20 states the prong on the cord for the MAC-21 is broken. SOS and Sorh notified.
0821 Initiating a drum movement from transportainer to SO69.
0845 Drum movement into facility complete.
0855 ~~Beginning to de-nest 6 drums.~~ JC 2-6-12
0923 Initiating a drum movement for JC 2-6-12 from transportainer to transfer vehicle for shipment to Area 5.
0937 Beginning to de-nest 6 drums.
0942 Permission granted to lower vehicle access gates to begin to load trans JC 2-6-12 transfer vehicle.
1004 Vehicle barriers restored. Transfer vehicle loaded. Transportainers secured.
1106 Per SOM, we are allowed to use and plug in the cord from Energy Solutions to the MAC-21.
1155 Bagging on drum #5834539.
1411 Bagging on absorbent through the introductory part.
1511 Beginning outside rounds.
1530 Beginning inside rounds.
1542 Item #60 on the rounds is OOS. Per CSE, we are OK to proceed. ~~Bee~~ JC
1545 Inside rounds complete. Beginning bag off of drum #5834539 with 6 PCC's.
1550 Outside rounds complete.
1558 Rounds reviewed by SOS.
1640 Mode change complete. We are now in warm standby
1700 End of day. Operations secure. JCOeman

No further entries this page

SIGNATURE _____ DATE _____ 20
READ AND UNDERSTOOD _____ DATE _____ 20

81 PROJECT NAME 2012 NOTEBOOK NO.

0800 Reviewed shift turnover from previous shift and assumed the WCRR SDM position. General Staff
0810 Listened in to morning call in. WCRR is awaiting engineering support to perform on work packages for maintenance work performed on 2.3.12.
0745 Engineering support has shown up and have signed off on all work packages.
0752 Mode change complete: WCRR YARD from WARM to OPERATIONS and SD-69 from COLD to OPERATIONS mode.
0810 Notified by Operation Center that an operator reported the Ignition on the Cord for the MAC21 is broken. Operators were instructed not to use it until engineering and the electrician were notified and they could come replace it. The operators will resume with de-nesting operations which does not require the use of a MAC21.
1106 SDM granted operations permission to install new cord to MAC 21 unit, per OM maintenance manager and CSE permission. Per CSE MAC21 cord is not an M13 therefore any compatible cord may be used. Per [illegible] 2012 maintenance managers operations personnel may install cord without a work package or an electrician present.
1640 Mode change complete WCRR YARD and SD69 from
@2102 OPERATIONS to WARM.
1650 Leaving the WCRR SDM duties

No Further Entries

SIGNATURE [signature] DATE 2-4 20 12
READ AND UNDERSTOOD DATE 20

244

PROJECT NAME WCRR SOS LOG BOOK NOTEBOOK NO.

2-6-19

0605 Reviewed SOS Turn over Assuming Position
0615 Conducted shift brief
0645 shift brief Concluded
0655 Reviewed Inside And outside Rounds
0700 Waiting on Signatures from CSE on Maintenance work
0753 Mode change Completed WCRR Yard And SO-69 IN operating mode
0815 notified by Inside Dic the cord on Mac 21 was broken need to replace
0935 Got Cord for Mac 21 Took into facility
0940 Verifying if cord is ok to use.
1000 Contacted CSE To see if cord could be used for CSE ok
1005 Elect said to check with engineering if cord is Appropriate
1035 Maintenance Supervisor said that there would not be a issue with Installing cord ourselves also CSE no. E-mail ok to use Cord. (Any Compatible Cord)
1106 Contacted ORI he gave the ok to proceed with operations And Allow Operators to Connect cord
1558 Reviewed Inside And outside Rounds.
1640 Mode Change Complete WCRR Yard And SO-69 into warm standby
1706 End of shift Securing SOS Position

EJP 2/10/12

As Further Instruction Re

SIGNATURE _____ DATE _____ 20
READ AND UNDERSTOOD _____ DATE _____ 20

Attachment 2 – CCP Radiography Data Sheet

Section 1: General Information	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-12-0028
Examination Date:	02/23/2012
Waste Container ID:	90855
Video/Audio Recorded Media Number:	LA-RTR2-12-0028 A
Procedure and Revision No.:	CCP-TP-053 Rev. 11
NCR(s) associated with the container? (e.g., Prohibited Items)	☑ NO ☐ YES NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt: 75.5 kg. Tare Wt: 33.4 kg. Net Wt: 42.1 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	Fiberboard Liner - No Liner Lid
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	60 %

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 90855

Section 3: Container Inventory and Comments (Detailed descriptions)
Scrap lead
Leaded rubber gloves
Plastic bags, horsetails, plastic liner lid
Homogeneous solid material

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP): Liner Bag	2.0
Others: Fiberboard Liner(C)	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):	33.1
Other Inorganic Materials (OI):	
Cellulosics (C):	
Rubber (R):	5.0
Plastics (waste materials) (XPM):	3.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.0
Soils (S):	
Total WMP Weight:	42.1

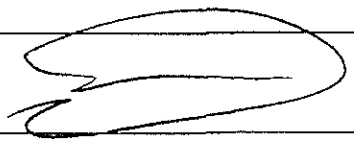
Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 90855

Section 6: RTR Summary (Questions answered "YES" will be explained in the Comments block, except for Question 1.)	Yes	No
Is there observable liquid?	☐	☑
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container **GREATER** than 1% of the container?	☐	☑
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there an indication of PCBs liquids?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
CH or RH TRAMPAC		
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers GREATER than 4 liters?	☐	☑
Are there indications of inadequate protection for heavy and/or sharp objects?	☐	☑

Comments: N/A

RTR Operator:

Philip Dillard		2/23/12
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	90855		Count Sequence Number:	13309	
Operator:	DCLTD231\Operator				
Assay Start:	2/24/2012 10:30:34 AM				
Description 1:	2LANDA0954				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	42.1 kg	Net:	42.1 kg	
Container:	Volume:	208.0 l	Full:	60.0 %	
Density:		0.340 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:	13309	Batch Number:	2LANDA0954
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 13	Software Version:	NDA 2000 V.4.0
Item ID:	90855	Analysis Date:	2/24/2012

Net Weight	42100.0 g
Pu mass	2.22E+000 +- 3.20E-001 g
TRU Alpha Activity	8.42E-001 +- 8.39E-002 Ci
TRU Activity Concentration	2.00E+004 +- 1.99E+003 nCi/g
Pu-239 Equivalent Activity	8.51E-001 +- 8.38E-002 Ci
Pu-239 FGE	1.97E+000 +- 3.16E-001 g
Decay heat	2.77E-002 +- 2.79E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	4.63E-008	6.39E-006	7.93E-007	0.00E+000
CS137	7.28E-008	6.39E-006	7.93E-007	1.76E-007
U233	<LLD	<LLD	0.00E+000	1.68E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	4.67E-007
NP237	1.83E-002	1.31E-005	1.62E-006	4.29E-007
PU238	1.68E-003	2.91E-002	1.24E-002	1.62E-003
U238	<LLD	<LLD	0.00E+000	6.22E-006
PU239	1.95E+000	1.23E-001	1.99E-002	6.85E-003
PU240	2.47E-001	5.69E-002	1.08E-002	3.17E-003
AM241	1.82E-001	6.33E-001	7.98E-002	1.21E-002
PU241	5.95E-003	6.18E-001	1.08E-001	3.45E-002
PU242	9.87E-003	3.92E-005	1.07E-005	0.00E+000
AM243	1.12E-004	2.26E-005	2.90E-006	2.40E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 2-27-12

ITR: _____ Date: 2-28-12

Automated Independent Technical Review

Count Sequence Number: 13309 Batch Number: 2LANDA0954
Counter ID: HENC #2
Container ID: 90855
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 2/24/2012

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor was set to one.	Ok
Add-a-Source correction factor is less than n-sigma * the correction factor error.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Gamma data specified as input.	Results taken from quantitative gamma data.
Analysis Status: Override enabled; data marked not available but were used.	
Results taken from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. FRAM results applied. FRAM results attached.
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.

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

Expert Review by: Sheri Chamberlain Date: 2-27-12

Waste Container ID: **90855**

BDR Number: **LA12FG8003**

Sampling Date: **3/5/2012**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	92.10	U
74-82-8	Methane	213.40	U
67-56-1	Methanol	27.87	U
60-29-7	Ethyl Ether	1.25	U
75-35-4	1,1-Dichloroethylene	5.71	U
67-64-1	Acetone	16.90	U
75-34-3	1,1-Dichloroethane	4.24	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	Methyl ethyl ketone	9.86	U
110-82-7	Cyclohexane	5.84	U
71-43-2	Benzene	0.71	U
107-06-2	1,2-Dichloroethane	1.51	U
71-36-3	1-Butanol	1.36	U
108-10-1	Methyl isobutyl ketone	9.34	U
108-88-3	Toluene	3.09	U
108-90-7	Chlorobenzene	1.69	U
100-41-4	Ethylbenzene	2.62	U
108-38-3/106-42-3	m- and p-Xylene	1.48	U
95-47-6	o-Xylene	1.76	U
108-67-8	1,3,5-Trimethylbenzene	3.14	U
95-63-6	1,2,4-Trimethylbenzene	3.92	U

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120305c\
Data File : 90855.D
Acq On : 5 Mar 2012 3:13 pm (#1); 5 Mar 2012 3:12 pm (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON DRUM SAMPLED FROM UNDER DRUM LID (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 05 15:21:05 2012
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.246	96	4858496	207.75	ppm	0.00
15) Chlorobenzene-d5	5.930	117	4203349	178.00	ppm	0.00

Target Compounds Qvalue

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

Work Order Copy
Date 4-12-13a

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 70855

6.2[4] Date Processed: 04-12-13

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: 07-31-13

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

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

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

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

Performed By: James S. [illegible] 1114661 04-12-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B]	Parent Waste Container No.:	70 855
5.[18]	Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable:	170.4 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)	170.4 lb
6.2[7]	($) Total Parent Drum Weight < 624 lb (SR 4.5.1):	☑ SAT ☐ UNSAT
6.2[28]	Approval to leave a parent drum attached to the WCG overnight:	

N/A

EWMO-FOD (print) Signature Z # Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 90855

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	93465		N	
10.1[4]	Daughter Drum Filter No.	LM325			
10.1[4]	Daughter Drum Bag Filter No.	L-65E7		A	
10.1[4]	Daughter Drum Purchase Order No.	501186			
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	
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)				
10.2[14]	POC Assembly Gross Weight (lb)			A	
10.2[15]	POC Rad. Survey Results (mrem/hr)				
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	See attachment		N	
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)	40%		A	
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.: 20835

Comments: Plastic, Glove Box Gloves, Hex Nuts

11.1[1] Performed By: James Schl / [signature] 111Wiaz 10-22-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: B. Foreman / B. Foreman 1235835 4/22/13
SOS or designee (print) Signature Z # Date/Time

4-11-13 ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:
Purchase Order No.: 56108
Lot No.: 0233945
Manufacture Date: 2012

5.[8] Overpack filtered vent information:
Manufacturer: Nucon
Model No.: 213
Serial No.: F-3064
Manufacture Date: 3/11

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

	Filtered Vent	2 in. Bung
M&TE No.:	040694	038369
Cal. Expiration Date:	9-26-13	12-18-13
Tolerance:	+/- 4% CW +/- 6% CCW	+/- 2% CW +/- 10% CCW

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

Performed By: Frederick Robledo / [signature] 122838 / 4-11-13
Waste Handling Technician (print) Signature Z# Date

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

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

Comments: N/C

8.1[1] Performed By: Frederick Robledo / [signature] 122838 4-11-13
Waste Handling Technician (print) Signature Z# Date

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

8.1[7] Reviewed By: B Fagan / [signature] / 123858 4/22/13
Supervisor or designee (print) Signature Z# Date

4-12-13

ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 90 93 965

7.[25] Overpack drum closure ring torque wrench information:
- M&TE No.: 038373
- Cal. Expiration Date: 09-11-13
- Range in ft-lb: 10-80
- Tolerance: +/- 3% aw + +/- 6% cw

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate, ☑ Yes ☐ No

Performed By: [signature] 1116621 04-12-13
Waste Handling Technician (print) Signature Z# Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 07-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 174.0 lb

Comments: N/A

8.1[1] Performed By: [signature] [signature] 1116621 04-12-13
Waste Handling Technician (print) Signature Z# Date

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

8.1[7] Reviewed By: B Foreman [signature] T2356351 4/22/13
Supervisor or designee (print) Signature Z# Date

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

Drum ID#: 93465

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
- [x] NOTE: Reject damaged drum/lid assembly
- [x] Place 2" duct tape on vertical seam on interior of drum

RECORD drum information:

Purchase Request #: 501186
Lot #: 0231765
Date of Manufacture: 12-12

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
- [x] NOTE: Reject or repair damaged, cut, or leaking bags
- [x] Stretch bag's bungee cord
- [x] Inspect bungee cord
- [x] NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPVC1.5SPVC
Serial #: L-65607
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)
- [x] 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 #: 019DS
Serial #: LM-525
Date of Manufacture: 12-12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	040694	M&TE ID #:	038369
Cal Expiration Date:	9-26-13	Cal Expiration Date:	12-18-13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	10-80
Tolerance:	±19% CW ±6% CCW	Tolerance:	±3% CW ±3% CCW

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

[x] Yes [ ] No

Print Name: Brandon Chavez Signature: _____ Z#: 204742

5. Weigh Drum Assembly

RECORD weight information

Tare wight (lbs) 758
File ID #: 019065

- [x] 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
- [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: Brandon Chavez Operator Sign: _____ Z#: 204742 Date: 4-11-13

Verifier Print: James G. Verifier Sign: _____ Z#: 110662 Date: 04-12-13

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

DRUM ID#: 93465

1. LID INSTALLATION

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

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

✓ Engage bolt and nut and torque per manufactures instructions

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

✓ Tighten jam nut.

Record torque wrench information:

MT&E # : 038373

Cal expiration date: 09-11-13

Range/ Value (ft-lbs) 10 80

Tolerance +/- 3/cw +/- 6/cw

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): 174.0

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 04-12-13

Verifier Print/Sign: [signature] 4-12-13

P72AD 71 Drum

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90855 Container Type: 55-GAL Gross Weight (lbs): 165

Inner Seal #: None Filter Prefix: None Filter Serial #: CL-1424

AK Waste Stream: LA-MIN02-V.001 Certified RTR BDR: LA-RTR2-12-0028

TWSR Comments: PARENT #S834539

Total PE-Ci Activity: 8.51E-01 Equivalent Combustible PE-Ci: 3.19E-01 AM-241 PE-Ci: 6.33E-01

Total Fissile Gram Equivalents: 2.0 Total Surface Dose Rate (mrem/hr): 12

EPA Code(s): D007; D008; D009

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: None Comment: None

Certified RTR Comment: NA

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

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

Performed By: Susan Ramsey (Production Control (Print)) Tom P. Ramsey (Signature) 100681 (Z Number) 2/21/13 (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: Vitrule salts + Debris Net wt: 96#. Parent drum contained nitrate salts. BDR for this daughter drum shows scrap lead, leaded rubber gloves, plastic bags, tools, plastic liner, & miscellaneous solid material. Remaining nitrate salts require repack w/ admixture. No chemicals identified; drum carries waste codes for chromium, lead, & mercury.

Performed By: Valerie Rhodes (WDP Engineering (Print)) (Signature) (Z Number) 3/4/13 (Date)

TRU Remediation Operations

✓Waste Container Information Evaluated ✓Less Than 170 lbs RTR Video Available

Other Specific Safety Concerns:

Processing Determination: ✓Accept Reject

TRU Remediation Operations Comments:

Performed By: Wes Mackey (TRU Remediation Operations (Print)) (Signature) 1923 (Z Number) 3/26/13 (Date)

OR 2# 249750 4/10/13 * Potential sharps - utilize hemostats, gloves & tools to handle waste. Do not push/press waste with hands. Hz Rankers. Monitoring chemicals CSP. May contain lead, chromium & Mercury

3-7-13

Discardable Waste Log Sheet

DrumID: 015780

Item#	ItemID	Net (kg)	Material	M Code	WM	MT	Audit	Remarks
1		52.71	NITRATE SALTS		83.83	52	6/11	
2		34.33	NITRATE SALTS		34.33	53	6/11	
3		5.19	NITRATE SALTS		5.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	

111.78 kg

Attachment 2 – CCP Radiography Data Sheet

Section 1: [illegible]	
☑ RTR Examination ☐ RTR Replicate Scan ☐ RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-12-0028
Examination Date:	02/23/2012
Waste Container ID:	90855
Video/Audio Recorded Media Number:	LA-RTR2-12-0028 A
Procedure and Revision No.:	CCP-TP-053 Rev. 11
NCR(s) associated with the container? (e.g., Prohibited Items)	☑ NO ☐ YES NCR No.: N/A NCR No.: N/A

[illegible]	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt: 75.5 kg. Tare Wt: 33.4 kg. Net Wt: 42.1 kg.
Rigid Liner and Liner Vent Description: (e.g., "90 mil liner – NO Lid" or "NO Liner")	Fiberboard Liner - No Liner Lid
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	60 %

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 90855

Section 3: Contents Inventory and Comments (Detailed descriptions)
Scrap lead
Leaded rubber gloves
Plastic bags, horsetails, plastic liner lid
Homogeneous solid material

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	Estimated Weight (kg)
Steel (ST):	27.7
Plastics (PP): Liner Bag	2.0
Others: Fiberboard Liner(C)	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):	33.1
Other Inorganic Materials (OI):	
Cellulosics (C):	
Rubber (R):	5.0
Plastics (waste materials) (XPM):	3.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	1.0
Soils (S):	
Total WMP Weight:	42.1

Attachment 2 – CCP Radiography Data Sheet (Continued)

Waste Container ID: 90655

Section 6: RTR Summary (Questions answered "YES" will be explained in the Comments section, and in Section 11)	Yes	No
Is there observable liquid?	☐	☑
Is there any observable liquid in internal containers, more than 60 milliliters or 3 percent by volume, whichever is greater?	☐	☑
Is the total volume of observable liquid in the outermost container GREATER than 1% of the container?	☐	☑
Is there observable liquid in payload containers with an EPA Hazardous Waste Number of U134?	☐	☑
Is there an indication of non-radionuclide pyrophoric materials, such as elemental potassium?	☐	☑
Is there an indication of hazardous wastes not occurring as co-contaminants with TRU mixed wastes (non-mixed hazardous wastes)?	☐	☑
Is there an indication of wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes (i.e., waste does NOT match TRUCON Code[s])?	☐	☑
Is there an indication of wastes containing explosives or compressed gases?	☐	☑
Is there an indication of PCBs liquids?	☐	☑
Is there an indication of the waste exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003)?	☐	☑
Is the physical form of the waste inconsistent with the Waste Stream Description or the Waste Matrix Code?	☐	☑
Section 7: Prohibited Items		
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: N/A

RTR Operator:

Print Name	Signature	Date
Philip Dillard		2/23/12

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 3/19/13

Container No. (5.[1])	90855					
Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1])	55-Gal					
Filtered Vent Type (5.[1])	972					
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	N/A 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: Susan Ramsey (CCP (Print)) Z# 23[illegible]

Reviewed By: [illegible] (CCP (Print)) Z# 2[illegible]

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 S Ramsey (Waste Handling Operator (print)) [signature] [illegible] Z# 3/25/13 Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130319c\
Data File : 90855.D
Acq On : 19 Mar 2013 2:38 pm (#1); 19 Mar 2013 2:37 pm (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON DRUM THROUGH UNOBSTRUCTED -072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 19 14:46:28 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	2277068	206.00	ppm	0.00
15) Chlorobenzene-d5	5.936	117	2040403	179.50	ppm	0.00
Target Compounds						Qvalue

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

Vocgas.m Tue Mar 19 14:46:37 2013

4-12-13

0600 Assuming WCRRF Operations center - Delaroche
0610 Starting outside rounds
0615 Pre job briefing being conducted
0619 Item # 3 is uncat, FSR in place okay to proceed
0625 Starting inside rounds
0630 Completed outside rounds
0650 Inside rounds complete
0657 Rounds have been signed off by SOS
0723 Permission granted to lower vehicle access gates to load transport vehicle for shipment to area
0813 mode change performed TMSD-69 and WCRRF yard now in operation
0827 Starting bag on of 9822586
0830 Vehicle access gates have been restored movement complete to transport vehicle
0839 Bag on complete.
0919 Starting movement out of 50-69.
0925 Bagging off 1 daughter and will continue processing.
0932 Movement complete out of 50-69.
1102 Bagging off 9822586, Bagging on 9833854
1127 Bag on, Bag off complete
1341 Starting movement into 50-69
1407 Attic doors are now both working. They do not require manual manipulation.
1420 Completed movement into 50-69
1432 Starting movement out 50-69
1435 Bagging off 9833854 and 1 POC, Bagging on 90855
1441 Movement out of 50-69 complete.
1505 Bag on, Bag off complete
1520 Starting inside rounds
1545 Starting outside rounds
1557 Item # 61 is SOS, POD in place okay to proceed.
1553 Item #3 is uncat, FSR in place okay to proceed
1600 Bagging off 90855
1602 Outside rounds complete.

-Continued on next page - Delaroche

4-12-13 Continued from previous page - Cleland

1419 Bag 086 complete.

1649 mode change performed TA50-69 and WCREF now in warm standby

1730 end of day WCREF operations center secure C Veland

No further entries this page

4/13/13

0600 Reviewed the previous shift turnover, and assumed the WCRR SOM position. Genevieve S Mendez
0615 Attended the pre-boring conducted by the SPS. Discussed repairs to ARTIC rollup doors. West door (primary) is operational electronically and mechanical. South rollup door only works electronically. Operations don't utilize this door. RPI went over revised RWP for operations inside 50-69.
0710 Mode change complete. WCRR YARD/50-69 from WARM/WARM to OPERATIONS/OPERATIONS.
0800 Operations bagging on first drum of the day.
1000 Operations reported bagging off 1 daughter and 2 POCs.
1021 Bag #1 of first drum complete.
1458 Bagging off 1 daughter and 2 POCs, and bagging on another daughter drum.
1640 Verified all rounds complete and signed off by SPS (afternoon rounds).
1645 Bagging off an additional daughter.
1720 Operations Completed 2 parent drums resulting in 3 daughters and 4 POCs. Glovebox will be wiped down and gloves inspected.
1730 Mode change complete. WCRR YARD/50-69 from OPERATIONS/OPERATIONS to WARM/WARM.
1800 Secured the SOM position. Genevieve S Mendez

4-17-13

No further entries this page.

Genevieve S Mendez 4-13 13

4/13/13 WCRR SOS Log Book

0600 Assuming SOS position. CK

0615 Starting Pre-Job, discussed the arctic roll up doors back to ~~operation~~ operational cm 4-13-13 and watching out for leaks inside 50-69. Re-briefed to processing RWP.

0650 Completed Pre-Job.

0705 Signed off on the rounds.

0710 Mode change complete, WCRR yard and 50-69 are now in Operations.

0816 Bagged on first drum.

1105 Bag off/on complete.

1120 Movement into 50-69 complete.

1230 Movement out of 50-69 complete.

1532 Bagged off 1 daughter and 2 POC's, continuing to process.

1626 Signed off on the rounds.

1709 Bagged off final drum.

1730 Mode change complete, WCRR yard and 50-69 are now in Warm Standby.

1741 Securing SOS position. CK

RM

4/13/13

No Further Entries on this Page

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834539

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0086
Examination Date:	7/18/2013
Waste Container ID:	93465
Video/Audio Recorded Media Number:	LA-HERTR-13-0086 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 79.0 kg Tare Wt.: 33.4 kg Net Wt.: 45.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	30 %

CCP Radiography Data Sheet

Waste Container ID: 93465

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

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	30.0
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	2.5
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	7.0
Soils (S):	
Total WMP Weight:	45.6

CCP Radiography Data Sheet

Waste Container ID: 93465

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		7/18/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93465	Count Sequence Number:	23269		
Operator:	D3PW2DK1\operator				
Assay Start:	7/19/2013 3:22:18 PM				
Description 1:	1LANDA1812				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gallon drum				
Weight:	Net:	45.6	kg	Net:	45.6 kg
Container:	Volume:	208.0	l	Full:	30.0 %
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:	23269	Batch Number:	1LANDA1812
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:	93465	Analysis Date:	7/19/2013

Net Weight	45600.0 g		
Pu mass	5.52E+000	+- 1.18E+000	g
TRU Alpha Activity	2.91E+000	+- 1.35E+000	Ci
TRU Activity Concentration	6.38E+004	+- 2.96E+004	nCi/g
Pu-239 Equivalent Activity	2.93E+000	+- 1.35E+000	Ci
Pu-239 FGE	5.11E+000	+- 1.08E+000	g
Decay heat	9.63E-002	+- 4.50E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	4.92E-002	3.51E-005	6.68E-006	1.66E-006
PU238	1.16E-003	2.01E-002	4.29E-003	5.71E-005
PU239	5.06E+000	3.18E-001	6.77E-002	9.02E-004
PU240	4.46E-001	1.03E-001	2.18E-002	2.91E-004
AM241	7.11E-001	2.47E+000	1.35E+000	3.56E-002
PU241	1.22E-002	1.27E+000	2.71E-001	3.61E-003
PU242	4.48E-003	1.78E-005	3.79E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.15E-007
U233	<LLD	<LLD	0.00E+000	3.34E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	9.37E-007
U238	<LLD	<LLD	0.00E+000	1.02E-005
AM243	1.67E-004	3.37E-005	6.57E-006	4.21E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 7-24-13

ITR: _____ Date: 7/25/13

Automated Independent Technical Review

Count Sequence Number: 23269 Batch Number: 1LANDA1812
Counter ID: MCS HENC #1
Container ID: 93465
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 7/19/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53, 55,56, and 54.
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

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

Expert Review by: Sheri Chamberlain Date: 7-22-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93465**

BDR Number: **LA13FG2086**

Sampling Date: **7/23/2013**

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	89.13	
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

07

~~10~~

7-24-13 SA

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130723c\
Data File : 93465.D
Acq On : 23 Jul 2013 1:28 pm (#1); 23-Jul-13, 13:27:51 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 13:36:28 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Mon Jun 24 14:13:48 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.532	96	5533949	205.75	ppmv	0.01
15) Chlorobenzene-d5	5.878	117	4308338	177.50	ppmv	0.02
Target Compounds						Qvalue
4) Methanol	0.837	31	39411m	89.13	ppmv	

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

VERIFIED COPY
11-1-12

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 10958

6.2[4] Date Processed: 11-01-12

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

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

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

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

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

4.3[4][B] Platform Scale: Equipment No.: 019065
Cal. Due Date: 7-31-13

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

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

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

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

Performed By: Brian Gallegos BG 11-01-12
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 90858

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 351.6 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) 351.6 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 7/1 Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 90859

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	92292			
10.1[4]	Daughter Drum Filter No.	AM-790		A	
10.1[4]	Daughter Drum Bag Filter No.	L-3675		N	
10.1[4]	Daughter Drum Purchase Order No.	416184			
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☑ N/A
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer				
	Model No.				
	Serial No.				
	Date of Manufacture				
10.2[5]	POC ID No				
10.2[7][B]/10.2[6]	POC Item Description				
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)				
10.2[14]	POC Assembly Gross Weight (lb)				
10.2[15]	POC Rad. Survey Results (mrem/hr)			B	
10.3[3][A]	Approx. Containerized Liquid Vol./Units			N	
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No				
10.3[10]	Remaining Waste Description	See Comments			
10.3[13]/10.4[10]/10.5[4]/10.6[8]	Daughter Drum % Full (%)	75%		A N	
10.5[3]/10.6[2]	Description Waste Added During Processing	Stuff out Bags, Kitty Litter			

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90858

Comments: PLASTIC, SALTS, KITTY LITTER, POC LIDS, BOLTS

11.1[1] Performed By: BRIAN GALLEGOS [signature] 216724 11-01-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: JOSE TOYER [signature] 122452 11-5-12 1030
SOS or designee (print) Signature Z # Date/Time

UE WORKING COPY
ID 30120V

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.:	413954
Lot No.:	21426
Manufacture Date:	10

5.[8] Overpack filtered vent information:

Manufacturer:	NUCFIL
Model No.:	013
Serial No.:	EJ-358
Manufacture Date:	5-09

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

	Filtered Vent	2 in. Bung
M&TE No.:	040694	021151
Cal. Expiration Date:	9-26-13	6-11-13
Tolerance:	± 4% cw ± 6% ccw	± 3% cw ± 6% ccw

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

Performed By: Brandon Chavez / Brandon Chavez 122[illegible] 10-30-12
Waste Handling Technician (print) Signature Z # Date

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

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

Comments: N/C

8.1[1] Performed By: Brandon Chavez / Brandon Chavez 122[illegible] 10-30-12
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Joe Jerez / Joe Jerez 221452 11-5-12
Supervisor or designee (print) Signature Date

11-1-12

ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92293

7.[25] Overpack drum closure ring torque wrench information:
- M&TE No.: 040329
- Cal. Expiration Date: 3-15-13
- Range in ft-lb: 16-80
- Tolerance: ±3% CW ±6% CCW

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: BRIAN GALLEGOS / Bri Gallegos 11-01-12
Waste Handling Technician (print) Signature Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019045
Platform scale calibration expiration date: 7-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 329.4 lb

Comments: SLING SERIAL NUMBERS - 3006973-1-119, 3006973-1-124

8.1[1] Performed By: BRIAN GALLEGOS / Bri Gallegos 11-01-12
Waste Handling Technician (print) Signature Date

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

8.1[7] Reviewed By: Jose Perez / [signature] 11-5-12
Supervisor or designee (print) Signature Date

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

Drum ID#: 92292

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 #: 4116184
- Lot #: 02227224
- 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 #: 6"PW1.5-25PVC
- Serial #: L-3675
- Date of Manufacture: 6-12

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:
- Manufacturer: NUCFIL
- Model #: 21905
- Serial #: AM-790
- Date of Manufacture: 1012

RECORD torque wrench information

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	040699	M&TE ID #:	021151
Cal Expiration Date:	5-26-13	Cal Expiration Date:	6-11-13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	16-80
Tolerance:	±4% ccw ±6% cw	Tolerance:	±3% ccw ±6% cw

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

☐ Yes ☐ No

Print Name: Brian Lou Gallegos Signature: [signature] ZI#: 204992

5. Weigh Drum Assembly

RECORD weight information
- Tare weight (lbs) 76.0
- File ID #: 040605

☑ 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: Brian Lou Gallegos Operator Sign: [signature] ZI#: 204992 Date: 10-23-12

Verifier Print: Brian Gallegos Verifier Sign: [signature] ZI#: 240129 Date: 11-01-12

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

DRUM ID#: 92293

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 #: 04032-9

Cal expiration date: 3-15-12

Range/ Value (ft-lbs): 14-80

-- 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.) 248.4

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: BRIAN GALLEGOS Date 11-01-12

Verifier Print/Sign: Gerald Espanola Date 11/1/12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90858 Container Type: POC Gross Weight (lbs): 352

Liner Seal #: None Filter Prefix: None Filter Serial #: EL-10; EL-19

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

TWSR Comments: PARENT #S834539 WTS-12STD-788

Total PE-Ci Activity: 2.02E+00 Equivalent Combustible PE-Ci: 7.59E-01 AM-241 PE-Ci: 2.41E-01

Total Fissile Gram Equivalents: 18.8 Total Surface Dose Rate (mrem/hr): 2

EPA Code(s): D008 D007 D009 WC 9/25/12

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: None Comment: None

Certified RTR Comment: None

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

Security Determination: ☐ Green ☑ Yellow

Remediation Determination: ☐ VE ☐ PID ☐ Split ☑ Repack

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

TRUCON Code: TBD Production Control Comments: Need to add EPA Codes D007 & D009

Nitrate salts mixed with Waste Loc 778 from previous repack campaign. A minimum of 2.0 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts

Performed By: Susan Ramsey (10068) 9/10/12

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 - POC

Net Wt: 4217 Parent drum (SEDs attached) was part of WCRR nitrate salt repack campaign using Waste Loc 778. This resulting daughter POC is being repacked to adjust the admixture nitrate salt ratio. Nitrate salts carry waste codes for chromium (D007), lead (D008), and mercury (D009). No hazardous chemicals present.

Max wattage per PAK for 30E and 100E mrem/hr

Performed By: Valerie Rhodes Valerie Rhodes 9/25/12

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:

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Mix w/ kitty litter 1:1 to 1 part/ft³

Performed By: Gilbert Martinez 9.27.12

TRU Remediation Operations (Print) Signature Z Number Date

IHS Review: [illegible] CSP, contains lead, Chromium, & Hg.
9-26-12

Discardable Waste Log Sheet

DrumID: 015780

Serial	DrumID	Net (kg)	Material	Id Code	HDE	HET	Audit	Remarks
1		32.71	NITRATE SALTS		83.83	52	6/11	
2		34.33	NITRATE SALTS		34.33	53	6/11	
3		5.19	NITRATE SALTS		5.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	

101.78 kg

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 9.21.12

Container No. (5.[1])	90858					
Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1])	POC					
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: Nathan Wales (CCP (Print)) 238866 (Z #)

Reviewed By: Sara Aragon (CCP (Print)) 237975 (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: Colleen Martinez (Waste Handling Operator (print)) Colleen Martinez (Signature) R0298 (Z #) 9.24.12 (Date)

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90858.D
Acq On : 21 Sep 2012 3:25 pm (#1); 21-Sep-12, 15:24:43 (#2
Operator : NW
Sample :
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 15:33:00 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Wed Sep 05 10:53:25 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.604	96	6770953	201.25	ppmv	0.07
15) Chlorobenzene-d5	5.927	117	6055690	177.00	ppmv	0.05
Target Compounds						Qvalue

(#) = qualifier out of range (m) = manual integration (+) sig[illegible] summed

11-1-12

0540 Assuming LWC operations with Jt Crews
0544 Beginning outside rounds.
0603 Outside rounds complete.
0604 Air quality has arrived to perform weekly stack monitoring.
0608 Air quality stack sampling complete.
0615 Pre-job briefing conducted by SCS. Beginning inside rounds.
0638 Inside rounds complete.
0701 Both rounds performed by SCS
0715 Mode change complete. We are now in operations.
0810 Initiating datum movement from SL-69 to ctmt penetration
0842 Begging on 1C5EC. Datum movement complete.
0853 Beg on complete
~~1625~~ Begging off 1C5OC beginning on 90858.
1020 Beg on complete.
1105 Begging off 90858, beginning on 90853.
1136 Beg on complete.
1158 Begging off 90853, beginning on 90816.
1215 Beg off + on complete.
1333 Begging off 90866.
1404 Beg off complete.
1415 Mode change to warm standby ordered per Operations Command Duty Supervisor at lamping inside SL-69. WO#4683576
Initiating datum movement from SL-69 to ctmt penetration
1433 Datum movement complete. Containment has been cleared from the facility.
1442 Mode change back to operations. Relamping complete. Operations will begin to pull empty ES's at 1600 SCS.
1455 Beginning inside rounds.
1519 Beginning outside rounds
1525 Inside rounds complete.
1536 Outside rounds complete.
1537 ~~Exit~~ Jt 11-1-12 Both rounds performed by SCS.
1620 Mode change complete. We are now in warm standby in LCO# work and CCD in SL-69.
1632 End of day Operations debrief. Jt Crews

No further entries this page

Enter employee numbers
192351
Enter medication Dose - 910937

11/1/12

0600 Assumed WCRR SOM position.
0615 Attended pre-job brief conducted by SOS. Discussed production plan for day - will work remaining drums that are already in 50-69 (SP 72 POC's) 4 of them. Work the empty SWB's to repack w/ Empty 85's.
0715 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations.
0830 Per OM and OSP&T are cancelling todays incoming shipment due to potential storage space available being insufficient over weekend. Rescheduling for Monday.
0845 Released W.O # 447598-01 50-69 TSR/ESI Daily + Weekly Rounds.
1038 WME reported that matching WCRR inventory w/ gamma spec reports yield some discrepancies. He is working on clearing these up and will be on site this afternoon.
1230 RP-1 supervisor reported that 2 ES Technicians did not have proper bioassay's for processing RWP - with further investigation it was found that they were in fact current - exit bioassays from other work sites counted as baseline for WCRR. RP-1 supervisor will obtain report monthly to verify workers are current on bioassay.
1248 Released W.O. 416885-06 54-WCRRF FY12 Relamping. Worker is scoping out what bulbs are required to be replaced but no work will commence until 50-69 is in Warm or Cold per W.O.
1355 Per CSE for TSR requirements to work empty SWB's w/ repacking 85's (Empty) proper mode is operations.
1415 Completed Mode Change WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Warm to support relamping.
1442 Completed Mode Change WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations. Maint is complete (Relamp) and SWB packing will commence.
1500 Attended meeting concerning maintenance activities Nov 9/10 and 15th — 19/20. Need to get w/ SOS to schedule workers for those dates (No work Sunday 18th)
1555 Notified by SOS that 2 SWB's are completed - found water in both and needed to be emptied and dried out.
1620 Completed Mode Change WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Cold.
1640 Secured SOM position

11-5-12

No further entries this page

11/1 12

11-1-12 WCRR SOS LOG Book

0600 Assuming SOS Position [signature]

0615 Started Pre Job brief went over Monthly BWP 2012-2015

0650 Concluded Pre Job

0701 Reviewed Inside And outside Rounds

0715 Mode change Complete WCRR In operations

1416 Mode Change Complete For Elect. could change out bulbs on WCRR.

1442 Mode Change Complete WCRR In operations.

1537 Reviewed Inside And outside Rounds.

1620 Mode Change Complete WCRR Yard In warm SO-GP In Cold.

11-1-12 Thu 1631 End of shift Securing SOS Position. [signature]

No further entries on this Pg.

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834539

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0106	
Examination Date:	9/5/2013	
Waste Container ID:	92292	
Video/Audio Recorded Media Number:	LA-RTR2-13-0106	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 113.0 kg Tare Wt.: 33.4 kg Net Wt.: 79.6 kg	
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes 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: 92292

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal lid, hardware
AM:	
OM:	
OI:	
C:	Fiberboard
R:	
XPM:	Liner lid, plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	20.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	8.0
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	45.6
Soils (S):	
Total WMP Weight:	79.6

CCP Radiography Data Sheet

Waste Container ID: 92292

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

Comments: N/A

RTR Operator:

Thad Hasselstrom	[signature]	9/5/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92292	Count Sequence Number:	23552		
Operator:	D3PW2DK1\operator				
Assay Start:	9/6/2013 2:29:56 PM				
Description 1:	1LANDA1837				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6	kg	Net:	79.6 kg
Container:	Volume:	208.0	l	Full:	75.0 %
Density:		0.510	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

025
CJ 6/12/14

NDA 2000 Assay Report

Item Information

Item ID:	92292		Count Sequence Number:	23552	
Operator:	D3PW2DK1\operator				
Assay Start:	9/6/2013 2:29:56 PM				
Description 1:	1LANDA1837				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	79.6 kg	Net:	79.6 kg	
Container:	Volume:	208.0 l	Full:	75.0 %	
Density:		0.510 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

SUPERSEDED

CS 6/12/14

CS 6/12/14 025A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23552	Batch Number:	1LANDA1837
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:	92292	Analysis Date:	9/6/2013

Net Weight	79600.0 g		
Pu mass	2.27E+001 +-	3.76E+000	g
TRU Alpha Activity	4.63E+000 +-	5.23E-001	Ci
TRU Activity Concentration	5.82E+004 +-	6.58E+003	nCi/g
Pu-239 Equivalent Activity	4.72E+000 +-	5.24E-001	Ci
Pu-239 FGE	2.09E+001 +-	3.45E+000	g
Decay heat	1.50E-001 +-	1.72E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.47E-002	5.27E-005	8.15E-006	2.53E-006
PU238	4.78E-003	8.17E-002	1.36E-002	5.48E-005
PU239	2.08E+001	1.29E+000	2.14E-001	8.65E-004
PU240	1.83E+000	4.16E-001	6.90E-002	2.79E-004
AM241	8.30E-001	2.85E+000	4.73E-001	1.91E-003
PU241	4.99E-002	5.14E+000	8.53E-001	3.45E-003
PU242	1.82E-002	7.18E-005	1.19E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.66E-007
U233	<LLD	<LLD	0.00E+000	5.06E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.51E-006
U238	<LLD	<LLD	0.00E+000	1.47E-005
AM243	3.33E-004	6.66E-005	1.06E-005	6.40E-006

Errors quoted at 1.000 sigma

Operator: B Hamm Date: 6-6-14

ITR: Ann Barton Date: 6/9/14

026
PS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23552	Batch Number:	1LANDA1837
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:	92292	Analysis Date:	9/6/2013

Net Weight	79600.0 g	
Pu mass	2.27E+001 +-	3.76E+000 g
TRU Alpha Activity	2.06E+000 +-	2.30E-001 Ci
TRU Activity Concentration	2.59E+004 +-	2.89E+003 nCi/g
Pu-239 Equivalent Activity	2.16E+000 +-	2.30E-001 Ci
Pu-239 FGE	2.09E+001 +-	3.45E+000 g
Decay heat	6.51E-002 +-	7.17E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.47E-002	5.27E-005	8.15E-006	2.53E-006
PU238	4.78E-003	8.17E-002	1.36E-002	5.48E-005
PU239	2.08E+001	1.29E+000	2.14E-001	8.65E-004
PU240	1.83E+000	4.16E-001	6.90E-002	2.79E-004
AM241	8.07E-002	2.77E-001	4.60E-002	1.86E-004
PU241	4.99E-002	5.14E+000	8.53E-001	3.45E-003
PU242	1.82E-002	7.18E-005	1.19E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.66E-007
U233	<LLD	<LLD	0.00E+000	5.06E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.51E-006
U238	<LLD	<LLD	0.00E+000	1.47E-005
AM243	3.33E-004	6.66E-005	1.06E-005	6.40E-006

Errors quoted at 1.000 sigma

Operator: [signature] Date: 9-9-13

ITR: Jim Barton Date: 9/10/13

SUPERSEDED

ES 6/12/14

ES 6/12/14 026A

Automated Independent Technical Review

Count Sequence Number: 23552 Batch Number: 1LANDA1837
Counter ID: MCS HENC #1
Container ID: 92292
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/6/2013

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

027
CS 6/12/14

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,55 56,and 54.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma results.

Expert Review by: Bart B. Marah Date: 6/5/14

028
6/12/14

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92292**

BDR Number: **LA13FG2098**

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

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	269.18	
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	19.67	
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\130909c\
Data File : 92292.D
Acq On : 9 Sep 2013 12:18 pm (#1); 09-Sep-13, 12:17:30 (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 09 12:28:24 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	3.555	96	4855029	205.75	ppmv	0.04
15) Chlorobenzene-d5	5.858	117	3753616	177.50	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.614	GC1	2024m	269.18	ppmv	
7) Acetone	1.408	58	28334	19.67	ppmv	83

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

ATTACHMENT 1
Page 1 of 4

10-2-12

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 90859

6.2[4] Date Processed: 10-2-12

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

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

4.1[6][B] Parent Waste Container RCRA Designations: 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: 7-13-13

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:
BC 10-2-12 ☐ 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 / [signature] 124001 10-2-12
Waste Handling Tech (print) Signature ID Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B]	Parent Waste Container No.:	90859
5.[18]	Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable:	360.8 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)	360.8 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	Z #	Date
	NA		

ATTACHMENT I
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 90859

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	92133			
10.1[4]	Daughter Drum Filter No.	AM-876			
10.1[4]	Daughter Drum Bag Filter No.	WO-1813-			
10.1[4]	Daughter Drum Purchase Order No.	416265			
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	Poly Pak			
	Model No.	3CPV1.5 2Mil			
	Serial No.	W01702			
	Date of Manufacture	7-11			
10.2[5]	POC ID No				
10.2[7][B]/10.2[6]	POC Item Description	Plastic cans			
10.2[13]	POC Assembly closed per Manufacturer's instructions (Initial and Zip)	RC 20782			
10.2[14]	POC Assembly Gross Weight (lb)	370.0			
10.2[15]	POC Rad. Survey Results (mrem/hr)	360.5			
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description.				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No				
10.3[10]	Remaining Waste Description	See comments			
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)				
10.5[3]/10.6[2]	Description Waste Added During Processing	Plastic bags and cans			

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 40859

Comments: Plastic, cardboard, stainless steel

11.1[1] Performed By: Brandon Chavez / [signature] 122452 / 10-2-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez / [signature] 122452 / 10-3-12 1146
SOS or designee (print) Signature Z # Date/Time

10-2-12

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

E Rios 10-2-12

Purchase Order No.: ~~020614~~ 414995
Lot No.: 213366
Manufacture Date: 2010

5.[8] Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: HC-146
Manufacture Date: 8-11

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

	Filtered Vent	2 in. Bung
M&TE No.:	020614	020115
Cal. Expiration Date:	10-19-12	6-11-13
Tolerance:	+-4% acc / +-6% acc	+-3% acc / +-6% acc

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

Performed By: Eddie Rios, Eddie Rios 18322 10-2-12
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: ~~[illegible]~~ ft-lb

Comments: _____

8.1[1] Performed By: Eddie Rios, Eddie Rios 18322 10-2-12
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Jose Serna, Jose Serna 22452 10-3-12
(print) Signature

ATTACHMENT 5
Page 1 of 1

10-2-12

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92135

7.[25] Overpack drum closure ring torque wrench information:

M&TE No.: 040329
Cal. Expiration Date: 3-15-2013
Range in ft-lb: ~~10-150~~ 10-150
Tolerance: ±3% CW & ±6% CCW

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez [signature] 1204821 10-2-12
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 7-13-13

7.[36][D] 85-gal overpack drum gross weight (lb): 323.8 lb

Comments: N/C

8.1[1] Performed By: Brandon Chavez [signature] 1204821 10-2-12
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Jose Perez [signature] 221452 10-3-12
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 9233

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 #: 416265
Lot #: 0212225
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: Reef
Model #: Enviroguard 25 SBK
Serial #: 120-1502
Date of Manufacture: 7/12

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

- ☐ Inspect cardboard liner/plastic liner (circle type of liner used)
  - NOTE: Reject any damaged liners
- ☑ Place cardboard liner/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: Wolf
Model #: 0194
Serial #: AM-EM
Date of Manufacture: 7-12

RECORD torque wrench information

Filter torque wrench:
M&TE ID #: 022014
Cal Expiration Date: 10-19-12
Range (ft-lbs or in-lbs): 50-300
Tolerance: +/- 3% CW +/- 6% CCW

Jam Nut / Bung torque wrench:
M&TE ID #: 021151
Cal Expiration Date: 6/11/2013
Range (ft-lbs or in-lbs): 10-50
Tolerance: +/- 3% CW +/- 6% CCW

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

☑ Yes ☐ No

Print Name: Eddie Bros Signature: Eddie Bros Z#: 183822

5. Weigh Drum Assembly

RECORD weight information

Tare weight (lbs) 76.0
File ID #: 050065

☑ 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: Eddie Bros Operator Sign: Eddie Bros Z#: 183822 Date: 9-26-12

Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204742 Date: 10-2-12

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

DRUM ID#: 92153

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 #: 040329

Cal expiration date: 3-15-2013

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.): 171.2

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: 10-2-12

Verifier Print/Sign: JOE QUINTANA Date: 10-2-12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90859 | Container Type: POC | Gross Weight (lbs): 356
Liner Seal #: None | Filter Prefix: None | Filter Serial #: EL-317; EL-56
WCR Waste Stream: LA-MHD01.001 | Certified RTR BDR: No BDR
TWSR Comments: PARENT #S834539 WTS-12STD-851
Total PE-Ci Activity: 2.02E+00 | Equivalent Combustible PE-Ci: 7.59E-01 | AM-241 PE-Ci: 2.41E-01
Total Fissile Gram Equivalents: 18.8 | Total Surface Dose Rate (mrem/hr): 1
EPA Code(s): D008 D007 D009 WP 11/25/12
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: None | Comment: None
Certified RTR Comment: None
Prohibited Items: ☐ Sealed > 4 Liters ☐ Liquid ☐ Pressurized Container ☐ Impenetrable Item ☐ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☐ VE ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☑ >100 and <1,000 ☐ >1,000 and <10,000 ☐ >10,000
TRUCON Code: TBD | Production Control Comments: Need to add EPA Codes D007 & D009
Nitrate salts mixed with waste for 770® from previous repack campaign. A minimum of 1.2 volumes of kitty litter to 1.0 volume of nitrate salts must be mixed with.

Performed By: Susan Ralliey (Production Control (Print)) | Signature: Susan P. Ralliey | 100681 (Z Number) | 9/26/12 (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 - POC
Net Wt: 96lb. Parent drum (SE05 at the head) was part of WCRR nitrate salt repack campaign using Waste Lot 770. This resulting daughter POC is being repacked to adjust oil/cellulose/nitrate salt ratio. Nitrate salts (D09) waste codes for chromium (D007), lead (D008), & mercury (D009). No reg chemicals present
Will require RWP for >100 and <1000 mrem/hr

Performed By: Valerie Rhodes (WDP Engineering (Print)) | Signature: Valerie Rhodes | 112609 (Z Number) | 9/25/12 (Date)

TRU Remediation Operations

☑ Waste Container Information Evaluated | Less Than 170 lbs | RTR Video Available
Other Specific Safety Concerns:

Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Ensure kitty litter is bagged in

Performed By: Colbert Martinez (TRU Remediation Operations (Print)) | Signature | 149235 (Z Number) | 9-26-12 (Date)

IHS Review [signature] CSP, contains chromium, lead and Hg
9-26-12

Document No: EP-DIV-AP-0107 JJ-221452-9-26-12

Discardable Waste Log Sheet

DrumID: 015780

Item#	ItemID	Net (kg)	Material	RE Code	NWI	NT	Audit	Remarks
1		92.91	NITRATE SALTS		93.93	52	6/11	
2		34.33	NITRATE SALTS		34.33	53	6/11	
3		3.19	NITRATE SALTS		3.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	
		151.98 kg						

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 9.21.12

Container No. (5.[1])	90859					
Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1])	POC					
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: Sara Aragon (CCP (Print)) 237975 (Z #)

Reviewed By: Nathan Wales (CCP (Print)) 238866 (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: Colleen Martinez (Waste Handling Operator (print)) Colleen Martinez (Signature) 190248 (Z #) 9.24.12 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90859.D
Acq On : 21 Sep 2012 4:06 pm (#1); 21 Sep 2012 4:05 pm (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 16:13:29 2012
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
	Internal Standards						
3)	Fluorobenzene	3.256	96	2430589	206.00	ppm	0.00
15)	Chlorobenzene-d5	5.936	117	2164970	179.50	ppm	0.00
	Target Compounds						Qvalue

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

Vocgas.m Fri Sep 21 16:14:01 2012

10-2-12
0545 Assuming WCRR operations center. TColeman
0550 Beginning outside rounds.
0615 Pre job being conducted by 505.
0640 Beginning inside Rounds.
0650 Outside rounds complete.
0705 Inside rounds complete.
0706 Rounds reviewed by 506.
0720 Initiating a drum movement from 50-69 to a transportainer.
0721 Mode change complete. We are now in operations.
0732 Movement out of facility complete.
0738 Bagging on 90955.
0754 Bag on complete
0814 Bagging off 90955, bagging on 90811.
0830 Bag off complete.
0853 Bagging off 90811, bagging on 90859.
0910 Bag on complete.
0936 Being relieved by OCD: Clarissa Velarde-TColeman.
0937 Assuming WCRR Operations Center-Velarde.
0939 Starting movement into 50-69.
0955 Completed movement into 50-69.
0958 Bagging off 90859 and POC, bagging on 90756.
1000 being relieved by OCD Terri Coleman - Velarde.
1001 Assuming WCRR operations center. TColeman.
1033 Bag on Complete.
1041 Initiating a drum movement from 50-69 to a transportainer
1105 Drum movement out of facility complete.
1110 Bagging off, bagging on 90843
1130 Bag on complete.
1153 Bagging off 90843 and 1 POC, bagging on 90870.
1216 Bag on complete
1226 Permission granted to lower the vehicle access gates to begin receipt of drums from Area 6.
1309 Bagging off 90870, bagging on 90810.
1326 Bag on complete.
1400 Initiating a drum movement from 50-69 to a transportainer.
1404 Bagging off 90810, bagging on 90875
1405 Late entry at 1320, vehicle access gates restored. Transportainers secured. TC
1406 Drum movement out of the SC 10-2-12 facility complete.
1432 Initiating a drum movement from transportainer to 50-69.
1433 Bag off complete, Starting outside Rounds.
1442 Move into facility complete.
1453 Outside rounds complete.
1511 Bagging off 90875 and 1 POC, End SC 10-2-12
Continued on next page. TColeman

continued from previous page. SColeman
1550 Bag of completed. Beginning inside rounds.
1616 Inside rounds complete.
1622 Rounds reviewed by SOS.
1624 Mode change complete. We are now in warm standby
1630 End of day. Operations secure - SColeman

No further entries this page.

10/2/12

0600 ~~Reviewed SOM task~~ 10/2/12 Assumed SOM position.

0615 Attended pre job brief conducted by SOS. Discussed yesterday's processing of SP-72 salt drums. Workers added 15/1 ratio of Kitty litter to waste and saw no significant decrease in dose rate => repacked into new POC's. Workers briefed to exit/entry requirements to WCRR yard.

0721 Completed Mode Change: WCRR Yard / Bldg 50-69 from Warm / Warm to Operations / Operations.

0730 (Late Entry 0635) Per LANL IH and ES IH VOC monitoring of transportainer no longer required. Cancelled Standing Order WCRR-2012-0012 and briefed all personnel.

0735 Notified by Work Control that Characterization (Gamma Spec) to be emergent for tomorrow.

0736 Informed by Inventory Control that no outgoing shipment will take place today.

0738 RP-1 supervisor reported that yesterday's contamination on drum slide had decayed away overnight - verifying radon contamination.

1030 WO # 427964-01 Standing / Expedited WO released to Cut holes in walls in Bldg 50-84 to investigate Rodent infestation.

1200 On Solution Package conference call w/ prod control / engineering / CTP management. Discussed increase in production of SP 72 drums and need to keep shipments on schedule. Require SEDS/CPCL's to be increased.

1255 Notified by MSS supervisor that no evidence of rodents in walls or ceiling of 50-~~84~~ 10/2/12 - 84. Walkdown to scope new furnace install will ~~occur~~ 10/2/12 to morrow.

1545 Notified by OM that WCRR needs to be in a standdown tomorrow morning until Co-Ops Brief is given on Procedure Compliance. Notified OCO's and SOS and RP-1 supervisor.

1624 Completed Mode Change: WCRR yard / Bldg 50-69 from Operations / Operations to Warm / Warm.

1630 Secured SOM position

10-9-12

No further entries this page

10/2 12

10-2-12 WCRR SOS Log Book

0600 Assuming SOS position for the day. Jay Jay

0615 Starting Pre-Job brief. Discussed Barriers and Postings. Ensure that all entries and exit into the WCRR Yard are performed through the operations center. Continuing to process nitrate salt waste drums. One shipment in bound

0640 Concluded Pre-Job Brief.

0706 Signed off on inside and outside rounds

0721 Mode Change Complete 50-69 and yard are now in Ops Mode.

0738 Starting to bag on first drum for the day

0750 Bag on Complete.

0814 Bagging off first drum and bagging on second drum.

0830 Bag off and Bag on complete.

0853 Bagging off second drum, Bagging on third drum

0910 Bag on Complete

1000 Bagging off third drum, Bagging on fourth drum.

1033 Bag on Complete

1041 Initiating Drum movement from 50-69 to Transportainer

1105 Drum movement complete out of facility

1110 Bagging off fourth drum, Bagging on fifth drum

1130 Bag on Complete

1153 Bagging off for fifth drum, Baggin on sixth drum 10-2-12

1216 Bag on Complete

1226 Initiating drum movement from Transport vehicle to Transportainers

1309 Bagging off sixth drum, Bagging on seventh

1326 Bag on Complete

1400 Drum movement from 50-69 to Transport Vehicle

1404 Bagging off seventh drum, Bagging on eight

1406 Drum movement out of 50-69 Complete.

1550 Bag off of last drum complete

1622 Signed off on rounds

1624 MODE Change Complete. WARM in 50-69 and yard

1630 Securing SOS position for the day. Jay Jay

No Further Entries on this Page

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

S834539

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0005
Examination Date:	1/15/2013
Waste Container ID:	92133
Video/Audio Recorded Media Number:	LA-RTR2-13-0005 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 77.5 kg Tare Wt.: 33.4 kg Net Wt.: 44.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes 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: 92133

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Metal hardware, metal lid

AM:

OM:

OI:

C: Fiberboard insert sleeve, fiberboard material

R:

XPM: Plastic bags, liner lid

OR:

IN:

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):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	
Plastics (waste materials) (XPM):	24.1
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	44.1

CCP Radiography Data Sheet

Waste Container ID: 92133

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:

Print Name	Signature	Date
Dennis Powell Eric Lyles		1-15-13 1/15/2013

NDA 2000 Assay Report

Item Information

Item ID:	92133	Count Sequence Number:	21861		
Operator:	D3PW2DK1\operator				
Assay Start:	1/17/2013 9:51:08 AM				
Description 1:	1LANDA1698				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, MT-42, Not Precision				
Matrix Type:	Debris S500Q				
Container Type:	55 gallon drum				
Weight:	Net:	44.1	kg	Net:	44.1 kg
Container:	Volume:	208.0	l	Full:	90.0 %
Density:		0.240	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:	21861	Batch Number:	1LANDA1698
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:	92133	Analysis Date:	1/17/2013

Net Weight	44100.0 g		
Pu mass	1.03E+001	+- 9.76E-001	g
TRU Alpha Activity	1.75E+000	+- 1.20E-001	Ci
TRU Activity Concentration	3.97E+004	+- 2.73E+003	nCi/g
Pu-239 Equivalent Activity	1.77E+000	+- 1.20E-001	Ci
Pu-239 FGE	9.26E+000	+- 9.69E-001	g
Decay heat	5.66E-002	+- 3.93E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	2.96E-009	4.09E-007	2.10E-007	0.00E+000
CS137	4.66E-009	4.09E-007	2.10E-007	2.35E-007
U233	<LLD	<LLD	0.00E+000	1.99E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.64E-007
NP237	2.25E-002	1.61E-005	1.73E-006	9.92E-007
PU238	3.27E-003	5.65E-002	1.19E-002	1.60E-003
U238	<LLD	<LLD	0.00E+000	7.24E-006
PU239	9.21E+000	5.79E-001	6.09E-002	1.64E-002
PU240	1.01E+000	2.33E-001	2.68E-002	6.58E-003
AM241	2.54E-001	8.82E-001	9.94E-002	2.18E-002
PU241	1.32E-002	1.37E+000	2.60E-001	3.88E-002
PU242	1.31E-002	5.18E-005	7.90E-006	0.00E+000
AM243	1.43E-004	2.88E-005	3.15E-006	2.67E-006

Errors quoted at 1.000 sigma

Operator: Martha Gu Date: 1.31.13

ITR: Date: 1-31-2013

Automated Independent Technical Review

Count Sequence Number: 21861 Batch Number: 1LANDA1698
Counter ID: MCS HENC #1
Container ID: 92133
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/17/2013

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
No Warnings Reported.	
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	
Expert review is recommended; the following validity tests failed:	MGA valid.
Pu239 weight percent is outside limits [92.5, 95.0].	Pu239 percent consistent with AK. Mix of MT-52,53,55,56,54.
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

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

Expert Review by: Sherri Chambers Date: 1-21-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92133**

BDR Number: **LA13FG8003**

Sampling Date: **1/24/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	92.10	U
74-82-8	Methane	213.40	U
67-56-1	Methanol	27.87	U
60-29-7	Ethyl Ether	1.25	U
75-35-4	1,1-Dichloroethylene	5.71	U
67-64-1	Acetone	16.90	U
75-34-3	1,1-Dichloroethane	4.24	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	Methyl ethyl ketone	9.86	U
110-82-7	Cyclohexane	5.84	U
71-43-2	Benzene	0.71	U
107-06-2	1,2-Dichloroethane	1.51	U
71-36-3	1-Butanol	1.36	U
108-10-1	Methyl isobutyl ketone	9.34	U
108-88-3	Toluene	3.09	U
108-90-7	Chlorobenzene	1.69	U
100-41-4	Ethylbenzene	2.62	U
108-38-3/106-42-3	m- and p-Xylene	1.48	U
95-47-6	o-Xylene	1.76	U
108-67-8	1,3,5-Trimethylbenzene	3.14	U
95-63-6	1,2,4-Trimethylbenzene	3.92	U

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130124c\
Data File : 92133.D
Acq On : 24 Jan 2013 12:20 pm (#1); 24 Jan 2013 12:19 pm (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 24 12:29:01 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	2396059	206.00	ppm	0.00
15) Chlorobenzene-d5	5.936	117	2100562	179.50	ppm	0.00
Target Compounds						Qvalue

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834534

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0004	
Examination Date:	1/10/2013	
Waste Container ID:	92134	
Video/Audio Recorded Media Number:	LA-RTR2-13-0004	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA212
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 166.5 kg Tare Wt.: 145.1 kg Net Wt.: 21.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 92134

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Scrap metal

AM:

OM:

OI:

C:

R:

XPM: Plastic sheeting

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP):Rigid Liner/ Lid Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP) , Liner/Sleeve (Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	1.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	19.8
Soils (S):	
Total WMP Weight:	21.4

CCP Radiography Data Sheet

Waste Container ID: 92134

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. SME/OJT Kenneth Simpson monitoring operator Benito Maestas at the controls to evaluate proficiency and provide training/ mentoring as required.

RTR Operator:

Benito Maestas — 1/10/2013

Print Name Kenneth Simpson Signature — Date 1/10/13

NDA 2000 Assay Report

Item Information

Item ID:	92134		Count Sequence Number:	14827	
Operator:	DCLTD231\Operator				
Assay Start:	1/14/2013 9:37:16 AM				
Description 1:	2LANDA1077				
Description 2:	POC - Gross Wt. = 166.5 Kg				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gal Drum				
Weight:	Net:	21.4 kg	Net:	21.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.697 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:	14827	Batch Number:	2LANDA1077
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92134	Analysis Date:	1/14/2013

Net Weight	21400.0 g	
Pu mass	2.45E+001 +-	5.21E+000 g
TRU Alpha Activity	6.49E+000 +-	1.03E+000 Ci
TRU Activity Concentration	3.03E+005 +-	4.80E+004 nCi/g
Pu-239 Equivalent Activity	6.54E+000 +-	1.03E+000 Ci
Pu-239 FGE	2.26E+001 +-	4.79E+000 g
Decay heat	2.13E-001 +-	3.41E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	5.83E-002	4.16E-005	9.09E-006	3.00E-008
PU238	2.70E-003	4.68E-002	9.97E-003	3.37E-005
PU239	2.25E+001	1.41E+000	3.01E-001	1.02E-003
PU240	1.91E+000	4.38E-001	9.33E-002	3.15E-004
AM241	1.32E+000	4.59E+000	9.78E-001	3.30E-003
PU241	2.26E-002	2.35E+000	5.01E-001	1.69E-003
PU242	3.93E-002	1.56E-004	3.32E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	3.17E-007
U233	<LLD	<LLD	0.00E+000	4.64E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.55E-006
U238	<LLD	<LLD	0.00E+000	1.24E-005
AM243	3.00E-004	6.07E-005	1.14E-005	6.69E-006

Errors quoted at ~~1.000~~ sigma

Operator: _____ Date: 1·15·13

ITR: _____ Date: 1-21-13

Automated Independent Technical Review

Count Sequence Number: 14827 Batch Number: 2LANDA1077
Counter ID: HENC #2
Container ID: 92134
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 1/14/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than n-sigma * the correction factor error.	OK
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	OK
Ones Rate Analysis complete with warnings.	
- Error calculating the Ones Rate Pu-240 Effective MDA.	Not data affecting.
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Analysis Status: Override enabled; data marked not available but were used.	
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	
Expert review is recommended; the following validity tests failed:	QFIT and NQFIT within limits. After EA review, MGA valid.
Pu239 weight percent is outside limits [92.5, 95.0].	

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	 OK After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 1/15/13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92134**

BDR Number: **LA13FG2033**

Sampling Date: **4/3/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	255.37	
74-82-8	Methane	142.14	U
67-56-1	Methanol	35.23	U
60-29-7	Ethyl Ether	0.96	U
75-35-4	1,1-Dichloroethylene	6.38	U
67-64-1	Acetone	18.08	U
75-34-3	1,1-Dichloroethane	4.08	U
156-59-2	cis-1,2-Dichloroethene	0.76	U
78-93-3	Methyl ethyl ketone	11.73	U
110-82-7	Cyclohexane	5.10	U
71-43-2	Benzene	1.77	U
107-06-2	1,2-Dichloroethane	3.66	U
71-36-3	1-Butanol	1.84	U
108-10-1	Methyl isobutyl ketone	9.82	U
108-88-3	Toluene	8.02	U
108-90-7	Chlorobenzene	4.10	U
100-41-4	Ethylbenzene	3.57	U
108-38-3/106-42-3	m- and p-Xylene	1.92	U
95-47-6	o-Xylene	2.10	U
108-67-8	1,3,5-Trimethylbenzene	1.96	U
95-63-6	1,2,4-Trimethylbenzene	2.13	U

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

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130403c\
Data File : 92134.D
Acq On : 3 Apr 2013 1:27 pm (#1); 03-Apr-13, 13:26:57 (#2)
Operator : GR
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 03 13:35:26 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.571	96	3732577	201.25	ppmv	0.00
15) Chlorobenzene-d5	5.904	117	3234370	177.00	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.607	GC1	1815	255.37	ppmv	100

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

90860

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109120

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 9120

6.2[4] Date Processed: 6-5-12

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

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

4.1[6][B] Parent Waste Container RCRA Designations: Dou3, Dou8, Dou5

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.: 09065
Cal. Due Date: 3-14-13

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: [redacted] / [redacted] [redacted] / 6-6-12
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 4046

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 352.6 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) 352.6 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.: Basket

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	9218			
10.1[4]	Daughter Drum Filter No.	Lm-755			
10.1[4]	Daughter Drum Bag Filter No.	L-3546			
10.1[4]	Daughter Drum Purchase Order No.	416.845			
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	Bap			
	Model No.	PES-HA			
	Serial No.	L-4837			
	Date of Manufacture	7-12			
10.2[5]	POC ID No	9218			
10.2[7][B]/10.2[6]	POC Item Description	Grit Waste Bags			
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	[signature]			
10.2[14]	POC Assembly Gross Weight (lb)	355.2			
10.2[15]	POC Rad. Survey Results (mrem/hr)	3.5 R			
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	See comment			
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)	45%			
10.5[3]/10.6[2]	Description Waste Added During Processing	Bag out Grit			

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90266

Comments: cardboard, plastic, metal L.O, bottle, bits

11.1[1] Performed By: [signature] [signature] 22272 10-5-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez [signature] 221452 10-10-12 1133
SOS or designee (print) Signature Z # Date Time

10-3120

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.:	413954
Lot No.:	211426
Manufacture Date:	2010

5.[8] Overpack filtered vent information:

Manufacturer:	NucFil
Model No.:	013
Serial No.:	HL-724
Manufacture Date:	08-11

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

	Filtered Vent	2 in. Bung
M&TE No.:	020614	021151
Cal. Expiration Date:	10-19-12	06-11-13
Tolerance:	±4% cw ±6% ccw	±3% cw ±6% ccw

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

Performed By: Don Pacheco / Don Pacheco 24003 / 10-03-12
Waste Handling Technician (print) / Signature / Z # / Date

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

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

Comments: N/C

8.1[1] Performed By: Don Pacheco / Don Pacheco 24003 / 10-03-12
Waste Handling Technician (print) / Signature / Z # / Date

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

8.1[7] Reviewed By: Jose Perez / [signature] 22452 / 10-10-12
Supervisor or designee (print) / Signature / Z # / Date

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10-9-12

ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92365

7.[25] Overpack drum closure ring torque wrench information:

M&TE No.:

Cal. Expiration Date: 3-15-13

Range in ft-lb:

Tolerance:

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Waste Handling Technician (print) Signature Z.# Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number:

Platform scale calibration expiration date: 7-13-13

7.[36][D] 85-gal overpack drum gross weight (lb): 373.5 lb

Comments: n/a

8.1[1] Performed By: Waste Handling Technician (print) Signature Z.# Date

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

8.1[7] Reviewed By: Jose Lopez Supervisor or designee (print) Signature 221452 Z.# 10-10-12 Date

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

Drum ID#: 9285

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 #: 116265
Lot #: 0229225
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: SBOP
Model #: 3546 GCPVC 1.5-2 SPVC
Serial #: 3546
Date of Manufacture: 6/12

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: Nucon
Model #: 619-05
Serial #: AM-755
Date of Manufacture: 4/12

RECORD torque wrench information:

Filter torque wrench:
M&TE ID #: 021114
Cal Expiration Date: 10-19-12
Range (ft-lbs or in-lbs): 40-200
Tolerance: +/- 4% cw, +/- 6% ccw

Jam Nut / Bung torque wrench:
M&TE ID #: 021151
Cal Expiration Date: 6-11-13
Range (ft-lbs or in-lbs): 20-80
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: Steven Mendoza Signature: Steven Mendoza ID#: 10424

5. Weigh Drum Assembly

RECORD weight information

Tare weight (lbs): 71.4
File ID #: dwcf

- [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: Steven Mendoza Operator Sign: Steven Mendoza ID#: 10424 Date: 10-3-12

Verifier Print: [illegible] Verifier Sign: [illegible] ID#: [illegible] Date: 10-3-12

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

DRUM ID#: 92183

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 # 044524

Cal expiration date: 3-15-13

Range/ Value (ft-lbs): 11050

--- Tolerance +/-3% for +/-6% for

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): 773.16

Scale ID#: 019465

✓ 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 10-9-12

Verifier Print/Sign: Brandon Chavez Date: 10-9-12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90860 Container Type: POC Gross Weight (lbs): 348

Inner Seal #: None Filter Prefix: None Filter Serial #: EL-306; EL-445

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

TWSR Comments: PARENT #S834539 WTS-12STD-852

Total PE-Ci Activity: 2.02E+00 Equivalent Combustible PE-Ci: 7.59E-01 AM-241 PE-Ci: 2.41E-01

Total Fissile Gram Equivalents: 18.8 Total Surface Dose Rate (mrem/hr): 2

EPA Code(s): D008

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: None Comment: None

Certified RTR Comment: None

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

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☐ VE ☐ PID ☐ Split ☑ Repack

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

TRUCON Code: TBD Production Control Comments: Need to add EPA Codes D007 & D009

Performed By: Susan Ramsey 100681 10/8/12

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 - POC
Net Wt: 38lb Parent drum was pint (SGDs attached) of WCRF Nitrate salt repack overpack using Waste Pack 720 IMS is the Mfg designated determined RFC is being reported to adjust administrative remote set pts. Nitrate salts regulatable codes for chromium, lead, & mercury. No chemicals present.

Performed By: Valerie Rhodes Valerie Rhodes 112609 9/27/12

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: Use tool to remove bundle waste. Do not push or press on waste. Use Hexarmour gloves.

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Use kitty litter to mix in with waste per procedure.

Performed By: Gilbert Martinez 142235 10/1/12

TRU Remediation Operations (Print) Signature Z Number Date

IHS Review. CSP contains lead, Chromium & Hg
9-27-12.

221452 - 10-1-12

Discardable Waste Log Sheet

DrumID: 015780

Item#	Item ID	Net (kg)	Material	Id Chain	Filled	MT	Appln	Remarks
1		52.71	NITRATE SALTS		83 03	52	6/11	
2		34.33	NITRATE SALTS		34.33	53	6/11	
3		5.19	NITRATE SALTS		5.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	

111.78 kg

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 9.21.12

Container No. (5.[1])	90860					
Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1])	POC					
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: Sara Aragon — CCP (Print) — 237975 Z #

Reviewed By: Nathan Wales — CCP (Print) — 238866 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: Colleen Martinez — Waste Handling Operator (print) — Colleen Martinez — Signature — 190298 Z # — 9.24.12 Date

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90860.D
Acq On : 21 Sep 2012 1:16 pm (#1); 21 Sep 2012 1:15 pm (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : LFL POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 13:28:10 2012
Quant Method C:\msdchem\1\METHODS\Vocgas.m
Quant Title Flammable Gas Analysis for Transportation
Response via Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
3) Fluorobenzene	3.256	96	2742458	206.00 ppm	0.00
15) Chlorobenzene d5	5.936	117	2396220	179.50 ppm	0.00

Target Compounds Qvalue

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

Vocgas.m Fri Sep 21 13:28:10 2012

10-9-12

0600 Assuming WCRRF operations center - C Weland
0615 Starting outside rounds
0631 Starting inside rounds
0650 Completed outside rounds
0657 Inside rounds completed.
0705 Inside and Outside rounds signed off by SOS.
0715 Mode change performed IAW TA50-169 and WCRRF now in operations.
0747 Starting movement into 50-169.
0822 bagging on 90848 CK 1041
0830 ~~bag off complete~~. On complete.
0903 bagging off 90848, bagging on 90860
0930 bag on complete
0937 Permission granted to lower vehicle access gates for movement to transport vehicle.
1042 Vehicle access gates have been restored. Movement of drums to transport vehicle is complete.
1043 Starting bag off of 90860 and POC will be bagging on 90842.
1035 bag off and bag on complete.
1053 Starting movement into 50-169.
1058 Movement complete into 50-169
1100 bagging off 90842, bagging on 90861.
1114 bag on, bag off complete.
1200 bagging off 90861, bagging on 90841
1230 Shift turnover with Teri Coleman - C Weland.
1231 Assuming WCRR operations center. - TColeman
1335 Initiating a drum movement from 50-169 to a transportainer.
1354 Drum movement out of facility complete.
1356 Permission granted to lower the vehicle access gates to begin receipt of drums from Area G.
1408 Bagging off 90841, bagging on 90956.
1440 Bag on complete.
1445 Beginning inside rounds.
1510 Beginning outside rounds.
1512 Inside Rounds complete.
1513 Shipment from Area G has been accepted.
1530 Outside rounds complete.
1542 Vehicle access gates restored. Transportainers secure.
1556 Bagging off 90956.
1612 Both rounds reviewed by SOS.
1616 Bag off complete.
1645 Mode Change complete. We are now in warm standby.
1646 End of day. Operations secure. - TColeman
No further entries this page.

~~10/8/12~~ 10/9/12

0600 Reviewed previous shift turnover and assumed the WCRR SOM position. [illegible]
0615 Attended pre-job briefing conducted by SAS. Discussed procedure compliance, slow and steady start coming back from a long weekend. SEDs were not reviewed.
0640 JOD call in. Safety topic: slow start from long weekend and procedure compliance.
0715 Model change complete WCRR YARD 150.169 from WARM/COLD to OPERATIONS/OPERATIONS.
0730 SOM to badge office on call.
0805 SOM returned back.
0855 SOM and SSW performing an MOV on shipments.
1015 Completed observation of outgoing shipment from WCRRF to TA-54 Area G. Observed procedure compliance, operators were wearing PPE as required. Procedure being executed was EP-WCRR-DOP-0202. Recommendations is to have procedure with them as a reference. Only attachments were being used. Procedure went through a major revision and should be used as a reference.
1200 Production Control meeting call in. WCRR has 30 drums to process. Production Control has submitted 10 additional SEDs to operations (SDS and ES manager). SOM action verify that dose rates have been conducted on incoming shipment.
1315 Released WO# 445640-01 Life Safety. Not performing any work looking at lighting only. Will be back on 10/10/12 when facility [illegible] all in WARM.
1600 Notified by RP-1 Supervisor that operations was observed overpacking empty PDC's by hand procedure doesn't speak to over-packing of PDC's. SOM instructed SAS not to perform further overpacks until investigated by IH and ESH-Q manager. ES manager and SOM notified. ESH-Q and IH will evaluate on 10/10/12.
1645 Model change complete WCRR YARD 150.169 from OPERATIONS/OPERATIONS to WARM/WARM.
1655 Secured watch. [illegible]

10-15-12

No Posted Entries this week

[illegible] 10/9 12

10.9.12 WCRR SOS LOG BOOK

0600 Assuming SOS Position [signature]

0615 Conducted shift Brief went over Revision on WO-DOT-0202

0645 Conducted shift Brief.

0705 Reviewed Inside And outside Rounds

0715 Mode Change Complete WCRR In Operations Mode

1612 Reviewed Inside And outside Rounds

1645 Mode Change Complete

1648 end of shift Securing Position [signature]

2

No further entries on this page.

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834539

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0007
Examination Date:	1/17/2013
Waste Container ID:	92183
Video/Audio Recorded Media Number:	LA-RTR2-13-0007 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 78.5 kg Tare Wt.: 33.4 kg Net Wt.: 45.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes 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: 92183

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal lid, metal hardware
AM:	
OM:	
OI:	
C:	Fiberboard material, fiberboard insert sleeve
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):	10.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	20.1
Soils (S):	
Total WMP Weight:	45.1

CCP Radiography Data Sheet

Waste Container ID: 92183

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/ Michael Stammons		1/17/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92183	Count Sequence Number:	14870		
Operator:	DCLTD231\Operator				
Assay Start:	1/18/2013 3:41:05 PM				
Description 1:	2LANDA1081				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	45.1	kg	Net:	45.1 kg
Container:	Volume:	208.0	l	Full:	90.0 %
Density:		0.240	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:	14870	Batch Number:	2LANDA1081
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92183	Analysis Date:	1/18/2013

Net Weight	45100.0 g	
Pu mass	5.58E-001 +-	1.05E-001 g
TRU Alpha Activity	1.53E-001 +-	1.61E-002 Ci
TRU Activity Concentration	3.39E+003 +-	3.58E+002 nCi/g
Pu-239 Equivalent Activity	1.55E-001 +-	1.62E-002 Ci
Pu-239 FGE	5.16E-001 +-	9.58E-002 g
Decay heat	5.01E-003 +-	5.34E-004 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.62E-003	1.87E-006	2.05E-007	1.59E-007
PU238	1.18E-004	2.04E-003	3.83E-004	1.43E-003
PU239	5.11E-001	3.21E-002	6.03E-003	2.26E-002
PU240	4.51E-002	1.04E-002	1.94E-003	7.28E-003
AM241	3.12E-002	1.08E-001	1.48E-002	5.33E-003
PU241	1.27E-003	1.32E-001	2.47E-002	9.23E-002
PU242	4.70E-004	1.86E-006	3.49E-007	0.00E+000
SR90	8.17E-010	1.13E-007	5.07E-008	0.00E+000
CS137	1.29E-009	1.13E-007	5.07E-008	6.55E-008
U233	<LLD	<LLD	0.00E+000	6.55E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.82E-007
U238	<LLD	<LLD	0.00E+000	2.58E-006
AM243	1.68E-005	3.39E-006	4.25E-007	7.86E-007

Errors quoted at 1.000 sigma

Operator: Mark Eq Date: 1-23-13

ITR: [signature] Date: 1-24-13

Automated Independent Technical Review

Count Sequence Number: 14870 Batch Number: 2LANDA1081
Counter ID: HENC #2
Container ID: 92183
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/18/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53, 55,56,54.
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chamberlain Date: 1-21-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92183**

BDR Number: **LA13FG8008**

Sampling Date: **2/1/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	92.10	U
74-82-8	Methane	213.40	U
67-56-1	Methanol	27.87	U
60-29-7	Ethyl Ether	1.25	U
75-35-4	1,1-Dichloroethylene	5.71	U
67-64-1	Acetone	16.90	U
75-34-3	1,1-Dichloroethane	4.24	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	Methyl ethyl ketone	9.86	U
110-82-7	Cyclohexane	5.84	U
71-43-2	Benzene	0.71	U
107-06-2	1,2-Dichloroethane	1.51	U
71-36-3	1-Butanol	1.36	U
108-10-1	Methyl isobutyl ketone	9.34	U
108-88-3	Toluene	3.09	U
108-90-7	Chlorobenzene	1.69	U
100-41-4	Ethylbenzene	2.62	U
108-38-3/106-42-3	m- and p-Xylene	1.48	U
95-47-6	o-Xylene	1.76	U
108-67-8	1,3,5-Trimethylbenzene	3.14	U
95-63-6	1,2,4-Trimethylbenzene	3.92	U

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130201c\
Data File : 92183.D
Acq On : 1 Feb 2013 10:35 am (#1); 1 Feb 2013 10:34 am (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 01 10:42:51 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	2469272	206.00	ppm	0.00
15) Chlorobenzene-d5	5.936	117	2190609	179.50	ppm	0.00
Target Compounds						Qvalue

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

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0007
Examination Date:	1/17/2013
Waste Container ID:	92184
Video/Audio Recorded Media Number:	LA-RTR2-13-0007 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 160.5 kg Tare Wt.: 145.1 kg Net Wt.: 15.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 92184

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C: Cloth

R:

XPM: Plastic bag

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP): Rigid Liner/Lid Liner Bag (Inside POC)	8.1
Other: Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	12.9
Rubber (R):	
Plastics (waste materials) (XPM):	0.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	2.0
Soils (S):	
Total WMP Weight:	15.4

CCP Radiography Data Sheet

Waste Container ID: 92184

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

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

RTR Operator:

Eric Lyles/Michael Simons		1/17/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92184		Count Sequence Number:	21876	
Operator:	D3PW2DK1\operator				
Assay Start:	1/18/2013 1:18:59 PM				
Description 1:	1LANDA1699				
Description 2:	POC, 160.5				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gallon drum				
Weight:	Net:	15.4 kg	Net:	15.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.672 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:	21876	Batch Number:	1LANDA1699
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:	92184	Analysis Date:	1/18/2013

Net Weight	15400.0 g	
Pu mass	3.59E+001 +-	7.35E+000 g
TRU Alpha Activity	8.57E+000 +-	3.12E+000 Ci
TRU Activity Concentration	5.57E+005 +-	2.03E+005 nCi/g
Pu-239 Equivalent Activity	8.73E+000 +-	3.12E+000 Ci
Pu-239 FGE	3.32E+001 +-	6.73E+000 g
Decay heat	2.80E-001 +-	1.04E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.08E-001	7.70E-005	1.39E-005	3.04E-006
PU238	7.60E-003	1.31E-001	2.69E-002	5.88E-005
PU239	3.29E+001	2.07E+000	4.23E-001	9.25E-004
PU240	2.90E+000	6.67E-001	1.37E-001	2.99E-004
AM241	1.64E+000	5.71E+000	3.09E+000	6.34E-002
PU241	8.14E-002	8.46E+000	1.73E+000	3.79E-003
PU242	3.02E-002	1.20E-004	2.45E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.44E-007
U233	<LLD	<LLD	0.00E+000	5.96E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.77E-006
U238	LLD	LLD	0.00E+000	1.68E-005
AM243	3.07E-004	6.19E-005	1.15E-005	7.81E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1-29-13

ITR: _____ Date: 1/29/13

Automated Independent Technical Review

Count Sequence Number: 21876 Batch Number: 1LANDA1699
Counter ID: MCS HENC #1
Container ID: 92184
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/18/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,55 56,54.
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri C Chamberlain Date: 1-22-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92184**

BDR Number: **LA13FG2015**

Sampling Date: **2/14/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1154.01	
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\130214c\
Data File : 92184.D
Acq On : 14 Feb 2013 3:19 pm (#1); 14-Feb-13, 15:18:36 (#2)
Operator : NW
Sample : POL THROUGH FILTER NW 2.20.13
Misc : ~~55 GALLON DRUM THROUGH FILTER~~ (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 14 15:29:17 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.597	96	5020371	201.25	ppmv	0.03
15) Chlorobenzene-d5	5.923	117	4414608	177.00	ppmv	0.02
Target Compounds						Qvalue
1) Hydrogen	1.617	GC1	8202m	1154.01	ppmv	

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

16
~~13~~ 2/21/13 RS

ATTACHMENT 1
Page 1 of 4

10-9-12

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 90861

6.2[4] Date Processed: 10-9-12

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

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

4.1[6][B] Parent Waste Container RCRA Designations: 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) (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: _____ _____ _____ _____
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B]	Parent Waste Container No.: 90861	
5.[18]	Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable:	365.4 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)	365.4 lb
6.2[7]	($) Total Parent Drum Weight < 624 lb (SR 4.5.1):	☑ SAT ☐ UNSAT
6.2[28]	Approval to leave a parent drum attached to the WCG overnight:	

DA — 7 — 7/8

EWMO-FOD (print) | Signature | Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 9a884

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	9a885			
10.1[4]	Daughter Drum Filter No.	AM-772			
10.1[4]	Daughter Drum Bag Filter No.	E-3512			
10.1[4]	Daughter Drum Purchase Order No.	416265			
10.1[13][C]	WCG Fire Watch Stationed	☐ YES	☐ NO	☑ N/A	
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured	☐ YES	☐ NO	☑ N/A	
10.2[4]	POC bag-on bag Manufacturer				
	Model No.				
	Serial No.				
	Date of Manufacture				
10.2[5]	POC ID No.				
10.2[7][B]/10.2[6]	POC Item Description				
10.2[13]	POC Assembly closed per Manufacturer's instructions (Initial and Z#)				
10.2[14]	POC Assembly Gross Weight (lb)				
10.2[15]	POC Rad. Survey Results (mrem/hr)				
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	see Comment			
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)	45%			
10.5[3]/10.6[2]	Description Waste Added During Processing	Pu-238 Solid			

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 40861

Comments: Plastic, cardboard, dirty metal, light bulbs, rad litter

11.1[1] Performed By: [illegible] [illegible] 222782 10-4-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez [illegible] 221452 10-10-12 1130
SOS or designee (print) Signature Z # Date/Time

10-3-12

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413954
Lot No.: 21429
Manufacture Date: 10

5.[8] Overpack filtered vent information:

Manufacturer: Nucfil
Model No.: 013
Serial No.: H2-777
Manufacture Date: 8-11

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

	Filtered Vent	2 in. Bung
M&TE No.:	020614	021451
Cal. Expiration Date:	10-19-12	6-11-13
Tolerance:	±1% or ±6% Conv	±3% ±6% Recv

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

Performed By: Michael Romero Michael Romero 188288 10-3-12
Waste Handling Technician (print) Signature Z # Date

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

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

Comments: N/C

8.1[1] Performed By: Michael Romero Michael Romero 188288 10-3-12
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: Jose Jerez Jose Jerez 221452 10-10-12
Supervisor or designee (print) Signature Z # Date

10-9-12

ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92189

7.[25] Overpack drum closure ring torque wrench information:

M&TE No.: [illegible]
Cal. Expiration Date: [illegible]
Range in ft-lb: [illegible]
Tolerance: [illegible]

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: [illegible] / [illegible] [illegible] / 10-9-12
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: [illegible]
Platform scale calibration expiration date: [illegible]

7.[36][D] 85-gal overpack drum gross weight (lb): 332.0 lb

Comments: [illegible]

8.1[1] Performed By: [illegible] / [illegible] [illegible] / 10-9-12
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Jose Tejez / [illegible] 221452 10-10-12
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 411265

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 #: 411265
- Lot #: 22-7125
- Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:
- Manufacturer: BOP
- Model #: LaC.PVC.15-2.5FVC
- Serial #: L-2587
- Date of Manufacture: 09-12

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:
- Manufacturer: NOCFIL
- Model #: 019065
- Serial #: AM-712
- Date of Manufacture: 01-12

RECORD torque wrench information:

Filter torque wrench:
- M&TE ID #: 02-04145
- Cal Expiration Date: 10-29-12
- Range (ft-lbs or in-lbs): 40-200
- Tolerance: ±4% of 160 in-lbs

Jam Nut / Bung torque wrench:
- M&TE ID #: 02-1151
- Cal Expiration Date: 10-11-13
- Range (ft-lbs or in-lbs): 10-80
- Tolerance: ±3% of 50 in-lbs

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
☑ Yes ☐ No
Print Name: Brian Gallegos Signature: B. Gallegos Z#: 246129

5. Weigh Drum Assembly

RECORD weight information:
- Tare Weight (lbs): 77.0
- Pre 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: Brian Gallegos Operator Sign: B. Gallegos Z#: 246129 Date: 10-02-12

Verifier Print: [illegible] Verifier Sign: [signature] Z#: 232722 Date: 10-2-12

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

DRUM ID#: 94188

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 #: 044534

Cal expiration date: 9-16-13

Range/ Value (ft-lbs): 25-250 ; 2

Tolerance +/- 10%

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): 327.2

Scale ID#: 01005

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: 12-6-12

Verifier Print/Sign: [signature] Date: 12-9-12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90861 Container Type: POC Gross Weight (lbs): 363

Liner Seal #: None Filter Prefix: None Filter Serial #: EL-215; EL-312

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

TWSR Comments: PARENT #S834539 WTS-12STD-850

Total PE-Ci Activity: 2.02E+00 Equivalent Combustible PE-Ci: 7.59E-01 AM-241 PE-Ci: 2.41E-01

Total Fissile Gram Equivalents: 18.8 Total Surface Dose Rate (mrem/hr): 2

EPA Code(s): D008 D007 ? D009 ? No D018

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: None Comment: None

Certified RTR Comment: None

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

Security Determination: ☑ Green ☐ Yellow

Remediation Determination: ☐ VE ☐ PID Split ☑ Repack

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

TRUCON Code: TPD Production Control Comments: Need to add EPA Codes D007 & D009

Nitrate salts mixed with Waste Lock 770 from previous repack campaign. A minimum of 1 drum

of kitty litter/cloth must be mixed with the volume of nitrate salts

Performed By: Susan Ramsey 100681 9/10/12

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 - POC

Net Wt: 531lb Parent drum (SEDs attached) are part of WCRR

Nitrate salt repack campaign using Waste Lock 770. This repackaging

drum is POC is being repackaged to adjust the solidification/nitrate salt

ratio. Nitrate salts may waste codes for chromium, lead & mercury.

No chemicals present.

Management Plan for >100 & <1000 mrem/hr

Performed By: Valerie Rhodes [signature] 141269 9/27/12

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: Use Heavy gloves. Do not push or press on waste

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Use kitty litter to mix in sample waste per procedure.

Performed By: Gilbert Martinez [signature] 149235 10-1-12

TRU Remediation Operations (Print) Signature Z Number Date

IHS Reviews. Job hazard for DSP contains lead, Chromium, Hg

9-27-12.

Discardable Waste Log Sheet

DrumID: 015780

Item#	DrumID	Net Gwt	Material	SR Code	TRU	MIT	Audit	Remarks
1		52.71	NITRATE SALTS		83.83	52	6/11	
2		34.33	NITRATE SALTS		34.33	53	6/11	
3		5.19	NITRATE SALTS		5.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	
		118.78 kg						

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 9.21.12

Container No. (5.[1])	90861					
Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1])	POC					
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: Sara Aragon (CCP (Print)) 237975 (Z #)

Reviewed By: Nathan Wales (CCP (Print)) 238866 (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: Colleen Martinez (Waste Handling Operator (print)) Colleen Martinez (Signature) 190298 (Z #) 9.24.12 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90861.D
Acq On : 21 Sep 2012 2:26 pm (#1); 21 Sep 2012 2:25 pm (#2)
Operator : SA
Sample :
InstName : Unit 8
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 14:34:21 2012
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.249	96	236162	206.00	ppm	0.00
15) Chlorobenzene-d5	5.936	117	216815	179.50	ppm	0.00
Target Compounds						Qvalue

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

Vocgas.m Fri Sep 21 14:34:43 2012

10-9-12

0600 Assuming WCRRF operations central-cleanup
0615 Starting outside rounds
0631 Starting inside rounds
0650 Completed outside rounds
0651 Inside rounds completed.
0705 Inside and outside rounds signed off by SOS.
0715 Mode change performed at 0915 TA50-69 and WCRRF now in operations
0747 Starting movement into 50-69.
0822 bagging on 90848 CV 10911
0830 ~~bag off complete~~ bag on complete.
0903 bagging off 90848, bagging on 90860
0930 bag on complete
0937 Permission granted to lower vehicle access gates for movement to transport vehicle.
1012 Vehicle access gates have been restored, movement of drums to transport vehicle is complete.
1013 Starting bag off of 90860 and POC will be bagging on 90842.
1035 bag off and bag on complete.
1053 Starting movement into 50-69.
1058 movement complete into 50-69
1100 bagging off 90842, bagging on 90861.
1114 bag on, bag off complete.
1200 bagging off 90861, bagging on 90841
1230 Shift turnover with Teri Coleman. CV change.
1231 Assuming WCRR operations center. TColeman
1335 Initiating a drum movement from 50-69 to a transportainer.
1354 Drum movement out of facility complete.
1356 Permission granted to lower the vehicle access gates to begin receipt of drums from Area G.
1408 Bagging off 90841, bagging on 90956.
1440 Bag on complete.
1445 Beginning inside rounds
1510 Beginning outside rounds.
1512 Inside rounds complete.
1513 Shipment from Area G has been accepted.
1530 Outside rounds complete.
1542 Vehicle access gates restored. Transportainers secure.
1556 Bagging off 90956.
1612 Both logbooks reviewed by SOS.
1616 Bag off complete.
1645 Mode change complete. We are now in warm standby
1646 End of day. Operations secure. - TColeman
No further entries this page.

10/8/12 10/9/12

0600 Reviewed previous shift turnover and assumed the WCRR SOM position. [illegible]
0615 Attended pre-job briefing conducted by SOS. Discussed procedure compliance, slow and steady start coming back from a long weekend. SEDs were not reviewed.
0640 FOD call in. Safety topic slow start from long weekend and procedure compliance.
0715 Mode change complete WCRR YARD | 50.69 from WARM | COLD to OPERATIONS | OPERATIONS.
0730 SOM to badge office on call.
0805 SOM returned back.
0855 SOM and SSW performing an MOV on shipments.
1015 Completed observation of outgoing shipment from WCRRF to TA-54 Area G. Observed procedure compliance, operators were wearing PPE as required. Procedure being executed was EP-WCRR-DOP-0202. Recommendations is to have procedure with them as a reference. Only attachments were being used. Procedure went through a Major revision and should be used as a reference.
1200 Production Control meeting call in. WCRR has 30 drums to process. Production Control has submitted 10 additional SEDs to operations (SOS and ES manager). SOM action verify that dose rates have been conducted on incoming shipment.
1315 Released WO # 445640-01 Fire Safety. Not performing any work looking at lighting only. Will be back on 10/10/12 when facility [illegible] all in WARM.
1400 Notified by RP-1 supervisor that operation was observed overpacking empty PCs by hand procedure doesn't speak to over-packing of PCs. SOM instructed SOS not to perform further overpacks until investigated by IH and ESH-Q manager. ES manager and ORL notified ESH-Q and IH will evaluate on 10/10/12.
1445 Mode change complete WCRR YARD | 50.69 from OPERATIONS | OPERATIONS to WARM | WARM.
1455 Secured watch. [illegible]

10/15/12

No further entries this page

[illegible] 10/9 12

WCRR SOS LOGBOOK

10.9.12

0600 Assuming SOS Position [illegible]

0615 Conducted shift Brief went over Revision on WI-DOP-0202.

0645 Concluded shift Brief.

0705 Reviewed Inside And outside Rounds.

0715 Mode Change Complete WCRR In Operations Mode

1612 Reviewed Inside And outside Rounds.

1645 Mode Change Complete

11/1648 end of shift Securing Position [illegible]

DT

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-RTR2-13-0011
Examination Date:	1/24/2013
Waste Container ID:	92188
Video/Audio Recorded Media Number:	LA-RTR2-13-0011 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 103.0 kg Tare Wt.: 33.4 kg Net Wt.: 69.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 3 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 92188

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Hardware, metal lid

AM:

OM:

OI:

C: Fiberboard insert sleeve, fiberboard packing material

R:

XPM: Plastic liner lids, 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):	12.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	8.0
Rubber (R):	
Plastics (waste materials) (XPM):	5.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	44.6
Soils (S):	
Total WMP Weight:	69.6

CCP Radiography Data Sheet

Waste Container ID: 92188

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]	1/24/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92188		Count Sequence Number:	21908	
Operator:	D3PW2DK1\operator				
Assay Start:	1/25/2013 2:52:55 PM				
Description 1:	1LANDA1701				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Debris S5000				
Container Type:	55 gallon drum				
Weight:	Net:	69.6 kg	Net:	69.6 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.350 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:	21908	Batch Number:	1LANDA1701
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:	92188	Analysis Date:	1/25/2013

Net Weight	69600.0 g	
Pu mass	2.35E+001 +-	3.84E+000 g
TRU Alpha Activity	6.83E+000 +-	8.37E-001 Ci
TRU Activity Concentration	9.81E+004 +-	1.20E+004 nCi/g
Pu-239 Equivalent Activity	6.91E+000 +-	8.38E-001 Ci
Pu-239 FGE	2.14E+001 +-	3.46E+000 g
Decay heat	2.24E-001 +-	2.78E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.70E-002	5.50E-005	6.96E-006	2.31E-006
PU238	3.36E-003	5.81E-002	9.49E-003	3.36E-005
PU239	2.12E+001	1.34E+000	2.18E-001	7.71E-004
PU240	2.20E+000	5.05E-001	8.24E-002	2.92E-004
AM241	1.42E+000	4.93E+000	8.04E-001	2.85E-003
PU241	4.15E-002	4.31E+000	7.04E-001	2.49E-003
PU242	3.09E-002	1.23E-004	2.00E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.90E-007
U233	<LLD	<LLD	0.00E+000	4.70E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.35E-006
U238	<LLD	<LLD	0.00E+000	1.35E-005
CM243	1.83E-006	9.55E-005	1.33E-005	9.31E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1·30·13

ITR: _____ Date: 2/1/13

Automated Independent Technical Review

Count Sequence Number: 21908 Batch Number: 1LANDA1701
Counter ID: MCS HENC #1
Container ID: 92188
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/25/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. FRAM results applied. FRAM results attached.
Section 5 - Gamma Analysis Analysis Status: No errors. Spectrum Validity Check engine has suggested data review.	Ok After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sherri Chambers Date: 1-29-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92188**

BDR Number: **LA13FG2008**

Sampling Date: **2/1/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	289.98	
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\130201c\
Data File : 92188.D
Acq On : 1 Feb 2013 1:32 pm (#1); 01-Feb-13, 13:31:57 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 01 13:40:30 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.545	96	4790548	201.25	ppmv	-0.02
15) Chlorobenzene-d5	5.887	117	4280957	177.00	ppmv	-0.01
Target Compounds						Qvalue
1) Hydrogen	1.629	GC1	2061m	289.98	ppmv	

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

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

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

6.2[4] Date Processed: _____

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: _____

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] (S) 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.: _____
Cal. Due Date: _____

4.3[5][B] (S) 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] (S) Stationary Fire Watch has been established (> 300 PE-Ci Equivalent Combustible) (SAC 5.10.1.7.2) _____ (Initial and Date)

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

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

Performed By: _____ / _____ / _____ / 10-11-12
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B]	Parent Waste Container No.: 90862	
5.[18]	Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable:	329.6 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)	329.6 lb
6.2[7]	($) Total Parent Drum Weight 624 lb (SR 4.5.1):	☒ SAT ☐ UNSAT
6.2[28]	Approval to leave a parent drum attached to the WCG overnight:	

NA

EWMO-FOD (print) Signature Z # Date

ATTACHMENT 1
Page 3 of 4

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

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	[illegible]			
10.1[4]	Daughter Drum Filter No.	[illegible]			
10.1[4]	Daughter Drum Bag Filter No.	[illegible]			
10.1[4]	Daughter Drum Purchase Order No.	[illegible]			
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☑ N/A
10.1[14][C][d][3]/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer				
	Model No.				
	Serial No.				
	Date of Manufacture				
10.2[5]	POC ID No				
10.2[7][B]/10.2[6]	POC Item Description				
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Ø)				
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				
10.3[7][A]	Opaque/Non-penetrable Item Description				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	[illegible]			
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)	[illegible]			
10.5[3]/10.6[2]	Description Waste Added During Processing	[illegible]			

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90862

Comments: metal lid, bottle, bag and stuff, wipes, bio, plastic, cardboard

11.1[1] Performed By: [illegible] [illegible] [illegible] 10-11-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Perez [illegible] 122452 10-15-12 0833
SOS or designee (print) Signature Z # Date/Time

10-9-12

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413954
Lot No.: 211426
Manufacture Date: 2010

5.[8] Overpack filtered vent information:

Manufacturer: Nucfil
Model No.: 013
Serial No.: HL-719
Manufacture Date: 8/11

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

	Filtered Vent	2 in. Bung
M&TE No.:	040694	021151
Cal. Expiration Date:	9-26-13	6-11-13
Tolerance:	+/- 4% CW +/- 6% CCW	+/- 3% CW +/- 6% CCW

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

Performed By: Steven Mendragon / Steven Mendragon 1047411 10-09-12
Waste Handling Technician (print) Signature Z # Date

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

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

Comments: N/C

8.1[1] Performed By: Steven Mendragon / Steven Mendragon 1047411 10-09-12
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Jose Jerez / Jose Jerez 211521 10-15-12
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 5
Page 1 of 1

10-11-12cw

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 92186

7.[25] Overpack drum closure ring torque wrench information:
- M&TE No.: [illegible]
- Cal. Expiration Date: [illegible]
- Range in ft-lb: [illegible]
- Tolerance: [illegible]

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: [illegible] / [illegible]
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: [illegible]
Platform scale calibration expiration date: [illegible]

7.[36][D] 85-gal overpack drum gross weight (lb): [illegible] lb

Comments: [illegible]

8.1[1] Performed By [illegible] / [illegible]
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Dave Perez / [signature] 221438 10-15-12
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 92151

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 #: 416265
Lot #: 820225
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: Bag
Model #: Gasvac 1.5-2.5 SVKC
Serial #: L-36777
Date of Manufacture: 6.12

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 liner/plastic liner into drum liner bag/filter assembly
- [x] Line up liner 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: Nucon
Model #: 915 DA
Serial #: Am-357
Date of Manufacture: 1/12

RECORD torque wrench information:

Filter torque wrench: 0206.14 M2		Jam Nut / Bung torque wrench:	
M&TE ID #:	02061 M2	M&TE ID #:	02151
Cal Expiration Date:	10-15-12	Cal Expiration Date:	6-11-13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	16-80
Tolerance:	±6% 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: Michael Romero Signature: Michael Romero ID#: 182723

5. Weigh Drum Assembly

RECORD weight information

Tare weight (lbs): 95.7
File ID #: 92151

- [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 Romero Operator Sign: Michael Romero ID#: 182723 Date: 10-3-12

Verifier Print: [illegible] Verifier Sign: [illegible] ID#: [illegible] Date: [illegible]

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

DRUM ID#: 92195

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 # 0480289

Cal expiration date: 10-8-12 3-15-13

Range/ Value (ft-lbs): 1a-2a

— Tolerance 61.2% 61-6% low

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) 232.6

Scale ID#: 418065

✓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 10-11-12

Verifier Print/Sign: [signature] Date: 10/11/12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90862 Container Type: POC Gross Weight (lbs): 374

Filter Seal #: None Filter Prefix: None Filter Serial #: EL-311; EL-434

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

TWSR Comments: PARENT #S834539 WTS-12STD-853

Total PE-Ci Activity: 2.02E+00 Equivalent Combustible PE-Ci: 7.59E-01 AM-241 PE-Ci: 2.41E-01

Total Fissile Gram Equivalents: 18.8 Total Surface Dose Rate (mrem/hr): 1

EPA Code(s): D008 D027 D009 WE 9/27/12

NCR RTR/NDA Comment: None

RTR Pre-Screen Date: None Comment: None

Certified RTR Comment: None

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

Security Determination: ✔ Green Yellow

Remediation Determination: VE ☐ PID Split Repack

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

TRUCON Code: TBP Production Control Comments: Need to add EPA Codes D007 & D009

A hold order in with the value of 7E from previous report. Container A Minimum of 90 days must be observed with LO Seals applied. Section 1

Performed By: Sam Ramirez Production Control (Print) Signature Sam S. Ramirez Z Number 1 Date 9/26/12

WDP Engineering

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

Processing Determination: ☑ Accept ☐ Reject

WDP Engineering Comments: Nitrate Salts — POC

Net Wt 1,641b Parent drum (SEDs attached) was part of WCRR nitrate salt repackaging campaign using Weight TRU. This repackaging campaign POC is being repeated to adjust the admixture/nitrate salt ratio. Nitrate salts carry waste codes for Chromium, lead, + me. No chemicals present.

Maj degree RWP for ≥100 & <1000 mrem/hr

Performed By: Valerie Rhodes WDP Engineering (Print) Valerie Rhodes Signature 112609 Z Number 9/27/12 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. Use tools to manipulate waste. Use Hexamesh gloves.

Processing Determination: ✔ Accept Reject

TRU Remediation Operations Comments: Use tidy kitty to mix in with waste per procedure.

Performed By: Gilbert Martinez TRU Remediation Operations (Print) Signature 119235 Z Number 10-1-12 Date

IHS Review. CSP contains lead, chromium, Hg 9-27-12

Document No: EP-DIV-AP-0107 JJ 221452 10-1-12

Discardable Waste Log Sheet

DrumID: 015780

Item#	ItemID	Net (kg)	Material	IAEA Code	HDA	BAT	Audit	Remarks
1		52.71	NITRATE SALTS		93.00	52	6/11	
2		34.39	NITRATE SALTS		34.33	53	6/11	
3		5.19	NITRATE SALTS		5.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	

118.78 kg

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 9.21.12

Container No. (5.[1])	908862					
Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1])	POC					
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: Sara Aragon — 237975
CCP (Print) — Z #

Reviewed By: Nathan Miles — 238866
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: Colleen Martinez Colleen Martinez 190238 9.24.12
Waste Handling Operator (print) — Signature — Z # — Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90862.D
Acq On : 21 Sep 2012 3:53 pm
Operator : SA
Sample :
InstName : Unit 8
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 16:05:41 2012
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.259	96	2430647	206.00	ppm	0.00
15) Chlorobenzene-d5	5.936	117	2162484	179.50	ppm	0.00
Target Compounds						Qvalue

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

Vocgas.m Fri Sep 21 16:05:54 2012

10-11-12
0600 Assuming WCRF operations center - Melendez
0601 Outside rounds being performed.
0730 Starting outside rounds.
0811 Inside rounds have been completed.
0904 Inside and Outside rounds signed off by SCS.
1148 H42 CV 10-11-12 Mode Change performed TK-50-69 and WCRET yard now in operations
1217 bagging at 90862
1222 Operations notifying operations center of an elevated CAM pausing operations until cams are back in normal range.
1230 CAM6 back in normal range continuing operations
1241 bag on complete.
1402 Shift turnover performed with Tim Coleman - Melendez
~~1401 bagging off 90863 pc~~ JC 10-11-12
1401 Assuming WCRF operations center. JColeman
Bagging off 90862, bagging on 90863.
1416 Bag on complete
1450 Bagging off 90863.
1451 Beginning outside rounds.
1505 Beginning inside rounds.
1515 Bag off complete.
1523 Inside rounds complete.
1525 Initiating drum movement from 50-69 to a transportainer.
1526 Yard truck at 1517, Outside rounds complete. JC
1550 Drum movement complete, All inventory has been removed from 50-69.
1608 Both rounds reviewed by SCS.
1613 Mode change complete. We are now in OCD in 50-69 and clean in WCRF yard.
1630 End of day. Operations stable. JColeman

No further entries this page

1
1149

10/11/12

0600 Assumed the WCCR SOM position. [illegible]
0615 Attended pt-job briefing conducted by SDS. Discussed methods of over-packing empty ~~VOCs~~ POCs, and path forward.
0715 SOM reviewed EP WCCR-DOP-0202 and EP WCCR-DOP-0233 with SDS and operators. SOM discussed procedure compliance with all operators and SDS.
0932 SOM spoke to E3 manager on operator concerns and questions about how POCs are supposed to be handled during container movements and taken them off the WCG left dailies
1030 Attended drum disposition pyjet team meeting. Discussed Solution Package #2 and struggles to bring until Slingpak available.
1300 Working with production control on bringing up other drums from other solution packages while Slingpak and Overpack for POC re-rating.
1330 SDS and operators want to evaluate disassembly of the inside WCG and placing parts in a separate overpack drum. OPS SDS and SOM counsel on a Engage Solutions IH to evaluate.
1400 Production Control is working on drums to bring up on next shipment (drum SP#31 and SP#21 also) Calling (55 gallon non-POCs) drum SP#12.
1430 Meeting to discuss BIO/TSR changes at TA50-54 conference room.
1551 ~~Relieving~~ [illegible] 10/11/12. Turning over SOM to R Axtell. [illegible]
1551 Removed SOM 54 ft turnover checklist and assumed SOM position
1613 Completed Mode Change: WCCR Yard/Bldg 50-69 from Operations/Operations to Warm/Cold.
1630 Secured SOM position

No further entries this page

10/11 12

10-11-12 SOS LOG BOOK

0600 Assuming SOS Position [signature]

0615 Conducted shift brief went over drum handling techniques. And new method of Inserting POC Into overpack Also went over new RWP used & show personal not Directly involved with mock up how to put POC in overpack waiting on slings to complete this process.

0708 Concluded shift brief

0804 Reviewed Inside And outside Rounds.

0930 Turn Over SOS Position to Jose Jerez [signature]

1010 Late Entry 0930 Turn over completed Assuming SOS position. Jan Jy

1030 Instructed crew to take an early lunch as slings are on their way and will be able to go operational once they arrive to process the POC's

1100 Performed Mock up of process for nesting of the POC's into empty 85 gallon drums with crew that was not present during the demonstration yesterday

1130 Contacted SOM notifying that we are ready to go into Operations Mode. Crew headed in to start getting area prepped to start processing.

1148 Mode Change in Operations Mode.

1613 Mode Change Complete. 50-69 is in Cold Yard is in WARM.

11-12 1630 Securing SOS position for the day. Jan Jy

No further entries on this Page.

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

S834539

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0063
Examination Date:	4/26/2013
Waste Container ID:	92195
Video/Audio Recorded Media Number:	LA-RTR2-13-0063 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 105.5 kg Tare Wt.: 33.4 kg Net Wt.: 72.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 92195

Section 3: Container Inventory and Comments (Detailed descriptions)

IM: Hardware, metal lid

AM:

OM:

OI:

C: Fiberboard liner sleeve, fiberboard

R:

XPM: Liner lid, plastic bags

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP):Rigid 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):	20.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	10.0
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	36.1
Soils (S):	
Total WMP Weight:	72.1

CCP Radiography Data Sheet

Waste Container ID: 92195

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		4/26/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92195	Count Sequence Number:	15645
Operator:	DCLTD231\Operator		
Assay Start:	4/29/2013 12:17:04 PM		
Description 1:	2LANDA1148		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Debris S5000		
Container Type:	55 gal Drum		
Weight:	Net: 72.1 kg	Net:	72.1 kg
Container:	Volume: 208.0 l	Full:	80.0 %
Density:	0.430 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:	15645	Batch Number:	2LANDA1148
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	92195	Analysis Date:	4/29/2013

Net Weight	72100.0 g		
Pu mass	3.04E+001	+- 4.73E+000	g
TRU Alpha Activity	8.03E+000	+- 2.97E+000	Ci
TRU Activity Concentration	1.11E+005	+- 4.11E+004	nCi/g
Pu-239 Equivalent Activity	8.11E+000	+- 2.97E+000	Ci
Pu-239 FGE	2.78E+001	+- 4.71E+000	g
Decay heat	2.63E-001	+- 9.90E-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	6.69E-007
U233	<LLD	<LLD	0.00E+000	7.56E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.39E-006
NP237	1.16E-001	8.30E-005	1.16E-005	1.97E-006
PU238	5.29E-003	9.16E-002	4.99E-002	1.84E-003
U238	<LLD	<LLD	0.00E+000	1.93E-005
PU239	2.76E+001	1.74E+000	2.96E-001	3.49E-002
PU240	2.73E+000	6.27E-001	1.09E-001	1.26E-002
AM241	1.61E+000	5.57E+000	2.95E+000	6.76E-002
PU241	4.23E-002	4.39E+000	7.57E-001	8.83E-002
PU242	4.09E-002	1.62E-004	5.05E-005	0.00E+000
AM243	8.84E-004	1.79E-004	2.54E-005	1.35E-005

Errors quoted at 1.000 sigma

Operator: [signature] Date: 5-2-13

ITR: [signature] Date: 5/2/13

Automated Independent Technical Review

Count Sequence Number: 15645 Batch Number: 2LANDA1148
Counter ID: HENC #2
Container ID: 92195
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 4/29/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis Add-a-Source WARNINGS: Add-a-Source correction factor is less than one.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	OK Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Analysis Status: Override enabled; data marked not available but were used. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. FRAM results applied. FRAM results attached.
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%.	OK No spectral distortion observed. Deadtime = 51.01%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: [signature] Date: 5/2/13

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Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92195**

BDR Number: **LA13FG2052**

Sampling Date: **5/9/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	337.54	
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\130509c\
Data File : 92195.D
Acq On : 9 May 2013 3:49 pm (#1); 09-May-13, 15:48:29 (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 09 15:57:24 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.545	96	3663452	201.25	ppmv	-0.02
15) Chlorobenzene-d5	5.881	117	3106352	177.00	ppmv	-0.02
Target Compounds						Qvalue
1) Hydrogen	1.596	GC1	2399m	337.54	ppmv	

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

12-11-12

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

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

6.2[4] Date Processed: [redacted]

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: [redacted]

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.: [redacted]
Cal. Due Date: [redacted]

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 PF-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) [redacted]
(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: [redacted]
Waste Handling Tech (print) Signature ZJ Date

70865

ATTACHMENT 1
Page 2 of 4

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

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

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

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

[redacted]

EWMO-FOD (print) Signature Z #'s Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container,Nos: [illegible]

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	[illegible]			
10.1[4]	Daughter Drum Filter No.	[illegible]			
10.1[4]	Daughter Drum Bag Filter No.	[illegible]			
10.1[4]	Daughter Drum Purchase Order No.	[illegible]			
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☑ N/A
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer				
	Model No.				
	Serial No.				
	Date of Manufacture				
10.2[5]	POC ID No.				
10.2[7][B]/10.2[6]	POC Item Description				
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)				
10.2[14]	POC Assembly Gross Weight (lb)				
10.2[15]	POC Rad. Survey Results (mrem/hr)				
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	[illegible]			
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)	[illegible]			
10.5[3]/10.6[2]	Description Waste Added During Processing	[illegible]			

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90263

Comments: Plastic, metal bits, bottles, cardboard, dirt, metals, dirt,

11.1[1] Performed By: [illegible] / [illegible] 102878 10-11-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Ferrer Jose Ferrer 221452 10-15-12 0915
SOS or designee (print) Signature Z # Date/Time

UET 10-9

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 43954
Lot No.: 211426
Manufacture Date: 2010

5.[8] Overpack filtered vent information:

Manufacturer: Nucfil
Model No.: 013
Serial No.: HL-740
Manufacture Date: 8/11

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

	Filtered Vent	2 in. Bung
M&TE No.:	040684	021151
Cal. Expiration Date:	2-24-13	6-11-13
Tolerance:	+/- 4% cw +/- 6% ccw	+/- 3% cw +/- 6% ccw

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

Performed By: Steven Mendoza / Steven Mendoza 108741 / 10-09-12
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: Steven Mendoza / Steven Mendoza 108741 / 10-09-12
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Jose Tercero / Jose Tercero 122450 10-10-12
Supervisor or designee (print) Signature Z # Date

10-11-12

ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: _____

7.[25] Overpack drum closure ring torque wrench information:

M&TE No.: _____

Cal. Expiration Date: _____

Range in ft-lb: _____

Tolerance: _____

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

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

7.[28] Overpack drum closure ring torque value: _____ ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: _____

Platform scale calibration expiration date: _____

7.[36][D] 85-gal overpack drum gross weight (lb): _____ lb

Comments: _____

8.1[1] Performed By: _____ / _____ / _____
Waste Handling Technician (print) Signature Z # Date

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

8.1[7] Reviewed By: Jose Jasso / _____ 122/12 10-15-12
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 92162

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 #: 416265
- Lot #: 229225
- 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 #: Geopore 1.5-2 spore
- Serial #: L-3519
- Date of Manufacture: 6-12

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: Nucfil
- Model #: 0/3 OS
- Serial #: Am-7169
- Date of Manufacture: 1/12

RECORD torque wrench information.

Filter torque wrench:
- MATE ID #: 020614
- Cal Expiration Date: 10-15-12
- Range (ft-lbs or in-lbs): 5 ft-lbs to 75 ft-lbs
- Tolerance: ±4% cw ±6% ccw

Jam Nut / Bung torque wrench:
- MATE ID #: 021151
- Cal Expiration Date: 6-11-13
- 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.
- [x] Yes [ ] No

Print Name: Michael Romero Signature: Michael Romero ZI#: 182723

5. Weigh Drum Assembly

RECORD weight information
- Tare weight (lbs) 18.7
- File ID #: eyes3
- [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 Romero Operator Sign: Michael Romero ZI#: 182723 Date: 10-3-12

Verifier Print: [illegible] Verifier Sign: [illegible] ZI#: 21383 Date: [illegible]

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

DRUM ID#: 92147

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 # 034821

Cal expiration date: 8-15-13

Range/ Value (ft-lbs): 15-25

--- Tolerance +1-3% -1-6%

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) 246.10

Scale ID# 410868

✓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: Henry Sweeney Date 10-11-13

Verifier Print/Sign: Clyde Mullins Date: 10/14/13

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90863 Container Type: POC Gross Weight (lbs): 366
Liner Seal #: None Filter Prefix: None Filter Serial #: EL-25; EL-9
Waste Stream: LA-MHD01.001 Certified RTR BDR: No BDR
TWSR Comments: PARENT #S834539 WTS-12STD-789
Total PE-Ci Activity: 2.02E+00 Equivalent Combustible PE-Ci: 7.59E-01 AM-241 PE-Ci: 2.41E-01
Total Fissile Gram Equivalents: 18.8 Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): D008 D007 D009
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: None Comment: None
Certified RTR Comment: None

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

TRUCON Code: TBD Production Control Comments: Need to add EPA Codes D007 & D009
Nitrate salts mixed with Waste Lot 770 from previous repack campaign. A minimum 1:2 ratio of kitty litter to salts must be mixed with 1:6 volume of nitrate salts.
Performed By: Susan Ramsey (Production Control (Print)) Signature: Susan Ramsey 100681 (Z Number) Date: 9/10/12

WDP Engineering

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept Reject
WDP Engineering Comments: Nitrate Salts - POC
Net Wt: 56lb 1 gallon drum (SCDS 1 marked) was pt of WCRR Nitrate salt repack campaign using Waste Lot 770. This resulting weighted POC is being repackaged to adjust the addition of Nitrate salt ratio. Nitrate Salts carry waste code to chromium, lead, + mercury. No chemicals present
May require RWP to >100 & <1000 mrem/hr
Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: [redacted] Date: 9/27/12

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. Use tools to manipulate waste. Use Kevlar gloves for protection.
Processing Determination: ☒ Accept ☐ Reject
TRU Remediation Operations Comments: Use kitty litter to mix in solid waste per Procedure.
Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) Signature: Gilbert M. [illegible] 147235 (Z Number) Date: 10-1-12

HHS Reviews jar & small csp contains lead, Chromium, Hg.
9-27-12.

JJ 221452 10-1-12

Discardable Waste Log Sheet

DrumID: 015780

Record	Drum ID	Net (kg)	Material	NI Code	RIN	MT	Auth	Remarks
1		33.71	NITRATE SALTS		03.03	52	6/11	
2		34.33	NITRATE SALTS		34.33	53	6/11	
3		5.19	NITRATE SALTS		5.19	54	6/11	
4		12.56	NITRATE SALTS		12.56	55	6/11	
5		6.99	NITRATE SALTS		6.99	56	6/11	
		112.78 kg						

ATTACHMENT 1
Page 1 of 1

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

5.[1] Sample Date: 9.21.12

Container No. (5.[1])	90863					
Container type sampled (e.g., 55-gal, 85-gal, 110-gal, or SWB) (5.[1])	POC					
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: Sara Aragon (CCP (Print)) 237975 (Z #)

Reviewed By: Nathan Miles (CCP (Print)) 238866 (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: Colleen Martinez (Waste Handling Operator (print)) Colleen Martinez (Signature) 190298 (Z #) 9.24.12 (Date)

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120921c\
Data File : 90863.D
Acq On : 21 Sep 2012 3:42 pm
Operator : SA
Sample :
InstName : Unit 8
Misc : LFL POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 21 15:50:23 2012
Quant Method : C:\msdchem\1\METHODS\Vocgas.m
Quant Title : Flammable Gas Analysis for Transportation
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.249	96	226783	206.00	ppm	0.00
15) Chlorobenzene-d5	5.933	117	209311	179.50	ppm	0.00
Target Compounds						Qvalue

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

Vocgas.m Fri Sep 21 15:50:42 2012

&& 10-11-12

0100 Assuming WCRF operations center - reloader
0101 Outside rounds being performed.
0730 Starting outside rounds.
0811 Inside rounds have been completed.
0904 Inside and Outside rounds verified OK by SCS.
1148 ~~HHB~~ CV 10-11-12 mode change performed TH 50-69 and WCRF yard now in operations
1217 bagging on 90802
1222 Operations notifying operations center of an elevated cans pausing operations until cans are back in normal range.
1230 Cans back in normal range continuing operations
1241 bag on complete.
1402 Shift turnover performed with Tim Coleman - Coleman
~~1401 Bagging off 90863 pc~~ JC 10-11-12
1401 Assuming the WCRF operations center. - JColeman
Bagging off 90862, bagging on 90863.
1446 Bag on complete
1450 Bagging off 90863.
1451 Beginning outside rounds.
1505 Beginning inside rounds.
1515 Bag off complete.
1523 Inside rounds complete.
1525 Initiating a drum movement from 50-69 to a transportainer.
1526 Yard entry at 1517, outside rounds complete. JC
1550 Drum movement complete, All inventory has been removed from 50-69.
1608 Both rounds terminated by SCS
1613 Mode change complete. We are now in Cold in 50-69 and down in WCRF yard.
1630 End of day. Operations secure - JColeman

No further entries this page

10/11/12

0600 Assumed the WCRR SOM position. (Reviewed Manual)
0615 Attended pre-job briefing conducted by SDS. Discussed methods of over-packing empty VOCs & POCs, and path forward.
0715 SOM reviewed EP WCRR-DOP-0202 and EP WCRR-DOP-0233 with SDS and operators. SOM discussed procedure compliance with all operators and SDS.
0730 SOM spoke to EB-manager on operator concerns and questions about new POCs are suppose to be handled venting Container manuals and taken them off the WCR & left blanks
1030 Attended drum disposition unit team meeting. Discussed Solution Packages 12 and Strategies to bring online. Slings are available.
1300 Working with production control on bringing up other drums from other solution packages while slings are available for POC re-mixing.
1330 SDS and operators want to evaluate disassembly of PPI inside liner and placing parts in a separate remediation drum. Op SDS and SOM consulted for a Engag Solution IH to evaluate.
1400 Production Control is working on drums to bring up on mix equipment from SP#1 and SP#21 also drums (55 gallon non-POCs) from SP#12.
1430 Meeting to discuss BIO/TSR changes at TA50-54 conference room.
1551 ~~Relieving HCO~~ 10/11/12. Turning over SOM to R Axtell. (Reviewed SOP)
1551 Received SOM 54 ft turnover checklist and assumed SOM position
1613 Completed Mode Change: WCRR Yard/Bldg 50-69 from Operations/Operations to Warm/Cold.
1630 Secured SOM position

No further entries this page

10/11 12

10-11-12 SOS LOG BOOK

0600 Assuming SOS Position J. MB vn-f

0615 Conducted shift brief went over drum handling techniques. And new method of Inserting POC into overpack Also went over new RWP need to show personal not Directly involved with more up how to put POC in overpack waiting on slings to complete this process.

0700 Concluded shift brief

0804 Reviewed Inside And outside Rounds

0930 Turn Over SOS Position to Jose Jerez J. MB MA

1010 Lake Cutny 0930 Tuna over completed Assuming SOS position Jan Jy

1030 Instructed crew to take an early lunch as slings are on their way and will be able to go operational once they arrive to process the POC's

1100 Performed Mock up of process for nesting of the POC's into empty 85 gallon drums with crew that was not present during the demonstration yesterday

1130 Contacted SOM notifying that we are ready to go into Operations Mode. Crew headed in to start getting area prepped to start processing.

1148 Mode Change in Operations Mode.

1613 Mode Change Complete. 50-69 is in Cold Yard is in WARM.

1614 11-a 1630 Securing SOS position for the day. Jan Jy

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-RTR2-13-0012
Examination Date:	1/25/2013
Waste Container ID:	92197
Video/Audio Recorded Media Number:	LA-RTR2-13-0012 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 111.5 kg Tare Wt.: 33.4 kg Net Wt.: 78.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 3 layers
Volume Utilization Percentage:	95 %

CCP Radiography Data Sheet

Waste Container ID: 92197

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal hardware, pipe component lid
AM:	
OM:	Scrap lead
OI:	
C:	Fiberboard liner sleeve, cloth material, fiberboard
R:	Rubber gloves
XPM:	Plastic bag, 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 Liner (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	18.0
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	4.0
Other Inorganic Materials (OI)	
Cellulosics (C):	20.0
Rubber (R):	3.0
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	25.1
Soils (S):	
Total WMP Weight:	78.1

CCP Radiography Data Sheet

Waste Container ID: 92197

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

RTR Operator:

Michael Simmons		1/25/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	92197		Count Sequence Number:	21914	
Operator:	D3PW2DK1\operator				
Assay Start:	1/28/2013 9:36:55 AM				
Description 1:	1LANDA1702				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gallon drum				
Weight:	Net:	78.1 kg	Net:	78.1 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.400 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:	21914	Batch Number:	1LANDA1702
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:	92197	Analysis Date:	1/28/2013

Net Weight	78100.0 g			
Pu mass	1.47E+001	+-	3.00E+000	g
TRU Alpha Activity	4.09E+000	+-	1.55E+000	Ci
TRU Activity Concentration	5.24E+004	+-	1.99E+004	nCi/g
Pu-239 Equivalent Activity	4.16E+000	+-	1.55E+000	Ci
Pu-239 FGE	1.36E+001	+-	2.75E+000	g
Decay heat	1.34E-001	+-	5.18E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	5.78E-002	4.13E-005	5.59E-006	1.82E-006
PU238	3.11E-003	5.39E-002	1.10E-002	6.07E-005
PU239	1.35E+001	8.47E-001	1.73E-001	9.55E-004
PU240	1.19E+000	2.73E-001	5.58E-002	3.08E-004
AM241	8.40E-001	2.92E+000	1.54E+000	4.20E-002
PU241	3.33E-002	3.46E+000	7.07E-001	3.91E-003
PU242	1.19E-002	4.74E-005	9.67E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.83E-007
U233	<LLD	<LLD	0.00E+000	3.76E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.08E-006
U238	<LLD	<LLD	0.00E+000	1.20E-005
AM243	3.50E-004	7.08E-005	9.86E-006	4.95E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 1/30/13

ITR: _____ Date: 1·31·13

Automated Independent Technical Review

Count Sequence Number: 21914 Batch Number: 1LANDA1702
Counter ID: MCS HENC #1
Container ID: 92197
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 1/28/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,55 56,54.
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 1-30-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **92197**

BDR Number: **LA13FG2008**

Sampling Date: **2/1/2013**

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)

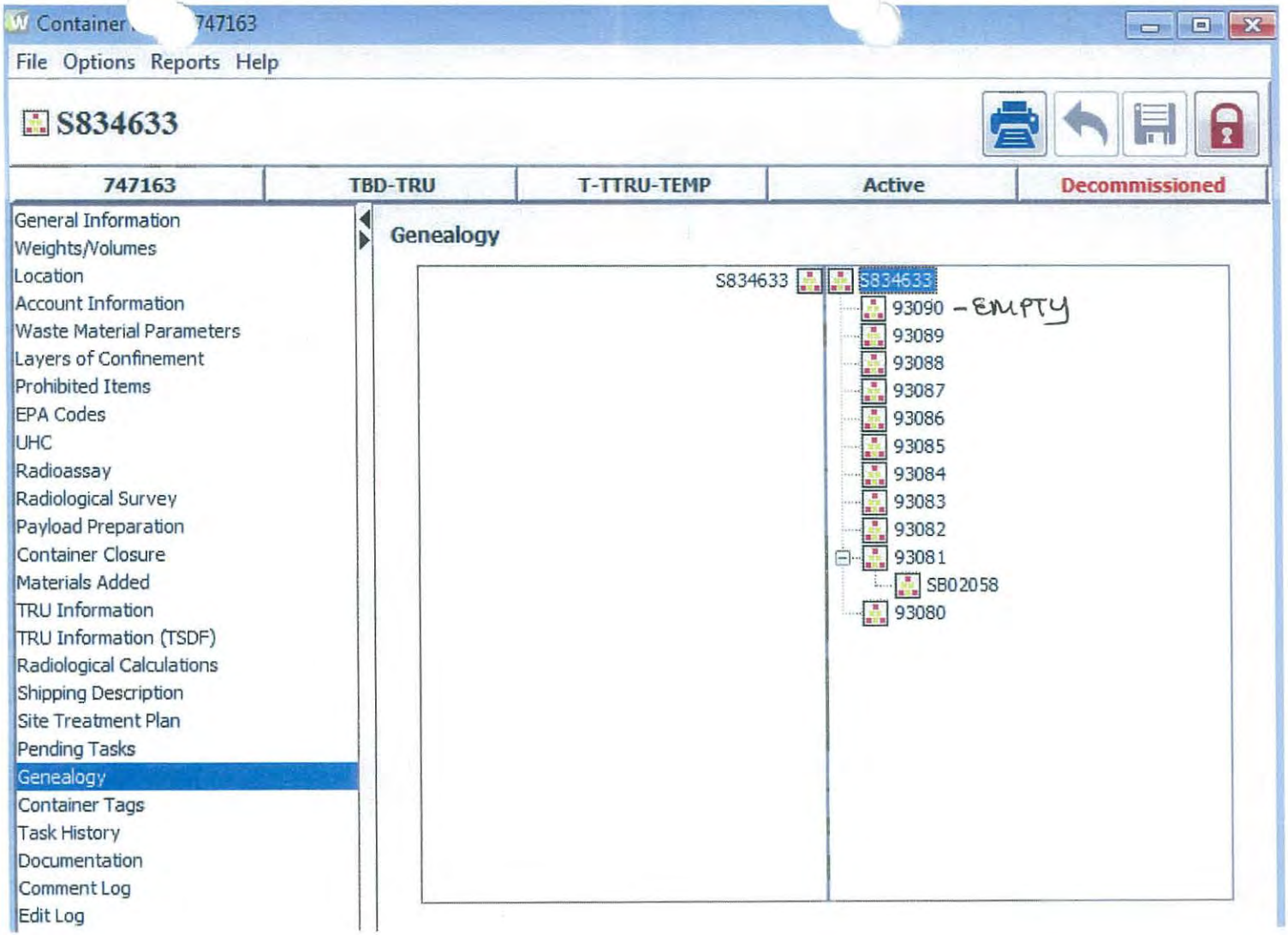
Data Path : C:\msdchem\1\DATA\130201c\
Data File : 92197.D
Acq On : 1 Feb 2013 10:58 am (#1); 01-Feb-13, 10:57:49 (#2)
Operator : NW
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Feb 01 11:06:02 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.552	96	4966043	201.25	ppmv	-0.02
15) Chlorobenzene-d5	5.887	117	4427366	177.00	ppmv	-0.01
Target Compounds						Qvalue

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

S834633


747163
File Options Reports Help
S834633
747163
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
S834633
S834633
93090 - EMPTY
93089
93088
93087
93086
93085
93084
93083
93082
93081
SB02058
93080

Working Copy
Date: 2/25/13

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 5834633

6.2[4] Date Processed: 2-25-13

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: Brandon Chacon / [signature] 209772 / 2-26-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B]	Parent Waste Container No.: S834153	
5.[18]	Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable:	391.0 lb
6.2[5][A]	Parent Drum Lead Blanket Weight (lb):	100 lb
6.2[5][B]/ 6.2[6]	Total Parent Drum Weight (lb)	491 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

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5834683

	Daughter Drums.				
10.1[4]/10.2[4]	Daughter Drum No.	93080			
10.1[4]	Daughter Drum Filter No.	LM-699	LM-700		N
10.1[4]	Daughter Drum Bag Filter No.	L-6411	L-6310		A
10.1[4]	Daughter Drum Purchase Order No.	50/011	50/011		
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	BOP	BOP	BOP
	Model No.	6epc1.525prc	6epc1.525prc	6epc1.525prc	6epc1.525prc
	Serial No.	L-6414	L-6007		L-6415
	Date of Manufacture	11-12	6-12		11-12
10.2[5]	POC ID No	93082	93083	93084	93085
10.2[7][B]/10.2[6]	POC Item Description	Kitty litter Liquid	Kitty Litter Liquid	Kitty Litter Liquid	Salts Kitty Litter
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	BC 204782	BC 204782	BC 204782	BC 204782
10.2[14]	POC Assembly Gross Weight (lb)	361.2	364.2	355.4	366.8
10.2[15]	POC Rad. Survey Results (mrem/hr)	1660	1000	600	700
10.3[3][A]	Approx. Containerized Liquid Vol./Units	N/A	N/A	N/A	N/A
10.3[5][A]	Free Liquid Volume/Units	2.5 gal			
10.3[7][A]	Opaque/Non-penetrable Item Description:	lead			
10.3[9][A]	PCB-contaminated Waste Description	N/A		A	
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	see comments	see comments	N	
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)	50%	100%		
10.5[3]/10.6[2]	Description Waste Added During Processing	plastic	plastic		

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 583633

Comments: plastic, salts, lead

11.1[1] Performed By: Brandon Chavez / [signature] [illegible] 12-25-13
Waste Handling Tech (print) Signature Z# Date

11.1[7] Reviewed By: B. Fountain / B. Fountain [illegible] 13/9/13 0840
SOS or designee (print) Signature Z# Date/Time

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5834633

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.				
10.1[4]	Daughter Drum Filter No.		N		
10.1[4]	Daughter Drum Bag Filter No.		A		
10.1[4]	Daughter Drum Purchase Order No.				
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	BoP	BoP	BoP
	Model No.	Lepac 1.52 Spec	Lepac 1.525 spec	Lepac 1.525 spec	Lepac 1.525 spec
	Serial No.	L-6393	L-6404	L-6391	L-6209
	Date of Manufacture	11-12	11-12	11-12	11-12
10.2[5]	POC ID No	93086	93087	93088	93089
10.2[7][B]/10.2[6]	POC Item Description	Salts Kitty litter	Salts kitty litter	Salts Kitty litter	Salts Kitty litter
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	BC 204782	BC 204782	BC 204782	BC 204782
10.2[14]	POC Assembly Gross Weight (lb)	370.4	370.6	401.6	351.8
10.2[15]	POC Rad. Survey Results (mrem/hr)	1000	1000	1100	1000
10.3[3][A]	Approx. Containerized Liquid Vol./Units	N/A	N/A	N/A	
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:		N		
10.3[9][A]	PCB-contaminated Waste Description				
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description			A	
10.3[13]/10.4[10]/ 10.5[4]/10.6[8]	Daughter Drum % Full (%)				
10.5[3]/10.6[2]	Description Waste Added During Processing				

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S834633

Comments: N/A

11.1[1] Performed By: Brandon Chavez / [signature] 208772 / 12-25-13
Waste Handling Tech (print) Signature Z# Date

11.1[7] Reviewed By: B. FORDHAM / B. Fordham 235235 / 13/9/13 0840
SOR or designee (print) Signature Z# Date/Time

UET Working Copy
Date: 2-19-13cw

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.:	4149916
Lot No.:	217570
Manufacture Date:	2011

5.[8] Overpack filtered vent information:

Manufacturer:	Nucfil
Model No.:	013
Serial No.:	12-1933
Manufacture Date:	10-11

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

	Filtered Vent	2 in. Bung
M&TE No.:	040694	038369
Cal. Expiration Date:	9-26-13	12-18-13
Tolerance:	+/- 4% cw +/- 6% ccw	+/- 3% cw +/- 6% ccw

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

Performed By: Frederico Archuleta / [signature] D2[illegible] 2-19-13
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: No comments

8.1[1] Performed By: Frederico Archuleta / [signature] D2[illegible] 2-19-13
Waste Handling Technician (print) Signature Z# Date

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

8.1[7] Reviewed By: B. Fordham / B. Fordham 12[illegible]35 3/6/13
Supervisor or designee (print) Signature Z# Date

Working Copy
Date: 2/25/13

ATTACHMENT 5
Page 1 of 1

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[19] Overpack Drum Unique Identifier No.: 93090

7.[25] Overpack drum closure ring torque wrench information:
- M&TE No.: 038367
- Cal. Expiration Date: 3-16-13
- Range in ft-lb: 10-80
- Tolerance: ±3%cw ±6%ccw

7.[26] Torque wrench listed above is within the acceptable ranges as displayed on the calibration certificate. ☑ Yes ☐ No

Performed By: Brandon Chavez / [signature] 204782 2-25-13
Waste Handling Technician (print) Signature Z# Date

7.[28] Overpack drum closure ring torque value: 60 ft-lb

7.[31] Threaded lug of the drum closure ring is not touching the jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

7.[36][B] Platform scale serial number: 019065
Platform scale calibration expiration date: 7-31-13

7.[36][D] 85-gal overpack drum gross weight (lb): 161.0 lb

Comments: n/c

8.1[1] Performed By: Brandon Chavez / [signature] 204782 2-25-13
Waste Handling Technician (print) Signature Z# Date

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

8.1[7] Reviewed By: B. Fordham / B. Ford 235535 3/9/13
Supervisor or designee (print) Signature Z# Date

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

Drum ID#: 93080

1. Drum/Lid Assembly

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

RECORD drum information:

Purchase Request #: 501011
Lot #: 0253413
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:

Manufacturer: BAP
Model #: 6<PVC 1.5-25PVC
Serial #: L-6411
Date of Manufacture: 11/12

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: Nuc-Fil
Model #: 019-DS
Serial #: CM-699
Date of Manufacture: 12/12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	040694	M&TE ID #:	038369
Cal Expiration Date:	9/26/13	Cal Expiration Date:	12/18/13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	~~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.

☑ Yes ☐ No

Print Name: B. Fordham Signature: B. Ford Z#: Z35635

5. Weigh Drum Assembly

RECORD weight information

Tare wtght (lbs) 75.4
File ID #: 019065

- ☑ Write the tare weight on drum using permanent marker

6. Label Drum Assembly

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

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

Operator Print: B. Fordham Operator Sign: B. Ford Z#: Z35635 Date: 2/23/13

Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: Z04782 Date: 2-25-13

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

DRUM ID#: 93080

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 #: 038361

Cal expiration date: 3-16-2013

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): 91.8

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: Brandon Chavez Date: 2-25-13

Verifier Print/Sign: Don Pacheco Date: 02-25-13

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

Drum ID#: 93081

1. Drum/Lid Assembly

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

RECORD drum information:

Purchase Request #: 501011
Lot #: 0253413
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPVC 1.5-2 SPVC
Serial #: L-6310
Date of Manufacture: 11/12

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: Nuc-Fil
Model #: 019-03
Serial #: LM-700
Date of Manufacture: 12/12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	040694	M&TE ID #:	038369
Cal Expiration Date:	09/26/13	Cal Expiration Date:	12-18-13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	40-80
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.

☑ Yes ☐ No

Print Name: B. Fordham Signature: B. Fordham Z#: 235635

5. Weigh Drum Assembly

RECORD weight information

Tare wight (lbs) 75.4
File ID #: 019065

☑ Write the tare weight on drum using permanent marker

6. Label Drum Assembly

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

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

Operator Print: B Fordham Operator Sign: B. Fordham Z#: 235635 Date: 2/23/13

Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204792 Date: 2-25-13

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

DRUM ID#: 93081

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 # : 038367

Cal expiration date: 3-16-2013

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:

T/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): 150.2

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 Power Date 2-25-13

Verifier Print/Sign: [signature] Date: 02-25-13

72
NR
C.10.12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: S834633 ✓ Container Type: 55-GAL ✓ Gross Weight (lbs): 423
Inner Seal #: 015203 Filter Prefix: LAVC ✓ Filter Serial #: 02342 ✓
AK Waste Stream: LA-MHD01.001 ✓ Certified RTR BDR: No BDR ✓
TWSR Comments: LEACHED SOLIDS MST 12 RM 434 NITRATE SALTS ✓
Total PE-Ci Activity: 1.51E+01 ✓ Equivalent Combustible PE-Ci: 5.65E+00 ✓ AM-241 PE-Ci: 1.49E+00
Total Fissile Gram Equivalents: 149.6 ✓ Total Surface Dose Rate (mrem/hr): 3 ✓
EPA Code(s): None ✓
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 4/28/2007 Comment: Impenetrable Obj, Liner Not Punctured,
Certified RTR Comment: None

Prohibited Items: ☒ Sealed > 4 Liters ☒ Liquid ☒ Pressurized Container ☑ Impenetrable Item ☒ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ~~☐ VE~~ 10/31/12 ☑ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M Production Control Comments: Ensure EPA codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of ~~kitty litter~~ zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones — Signature: R. W. Jones — Z Number: 117434 — Date: 12.8.11
Production Control (Print)

WDP Engineering

SUSAN S. RAMSEY — Susan S. Ramsey — 100681 — 10/31/12

Chemicals Present (e.g., pyrophorics, acids, bases, shock sensitive, organic liquids, peroxides, crown ethers): ☐ Yes ☒ No ☐ Unknown
Processing Determination: ☒ Accept ☐ Reject
WDP Engineering Comments: leached solids - nitrate salts
Net Wt: 3631b. Thirteen items ranging from 81b to 381b.
Drums w/ nitrate salts may contain undocumented liquids.
May require RWP for > 1000 and < 10000 mrem/hr @ 30 cm
Drum may have lead liner

Performed By: Valerie Rhodes — Valerie Rhodes — 112609 — 12/15/11
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 hexavalent gloves during processing of waste
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper ratio of kitty litter to waste in accordance with the procedure

Performed By: Vanessa Tebrede — V Tebrede — 234079 — 1/24/12
TRU Remediation Operations (Print) Signature Z Number Date

IHS Review Johnny Arredondo CSP, may contain Cr, Pb & Hg
11/5/12

Noncertified TRU Waste Drum Item Information

DrumID: 015203

Item No	ItemID	Process Status	Net Wt (kg)	Matrix	Meas Code	SNM (g)	MT	Auth (Pg/Ln)		Comments
1	IXFS-880-FE		7.730	NITRATE SALTS		33.64	52	6/11	G468	
2	IXFS-881-FA		7.300	NITRATE SALTS		15.	53	6/11	G468	
3	IXFS-883-FA		10.000	NITRATE SALTS		8.	52	6/11	G468	
4	IXFS-882-FA		3.600	NITRATE SALTS		14.14	53	6/11	G468	
5	IXFS-884-FA		4.600	NITRATE SALTS		2.22	54	6/11	G468	
6	IXFS-883-FA		12.100	NITRATE SALTS		14.63	53	6/11	G468	
7	IXFS-886-FA		9.550	NITRATE SALTS		11.35	52	6/11	G468	
8	IXFS-888-FA		17.300	NITRATE SALTS		9.4	53	6/11	G468	
9	IXFS-889-FA		15.200	NITRATE SALTS		5.45	52	6/11	G468	
10	IXFS-891-FA		4.090	NITRATE SALTS		15.43	52	6/11	G468	
11	IXFS-890-FA		9.090	NITRATE SALTS		4.86	54	6/11	G465	
12	IXFS-891-FA		8.640	NITRATE SALTS		20.6	53	6/11	G465	
13	IXFS-893-FA		10.100	NITRATE SALTS		6.38	52	6/11	G465	

Noncertified Waste Drum Material Summary

Gross Wt (kg): 191.8

Material Type	SNM (grams)	Items Net Wt (kg)
52	80.25	56.67
53	73.77	48.94
54	7.08	13.69
Totals	161.1	119.30

ATTACHMENT 1
Page 1 of 2

HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5 [1] Sample Date: 1/11/12

5.[7] Certified CCP Technician:

Gabe Romero [redacted] 124933 1-12-12
CCP (Print) Signature Z # Date

/ / / /
CCP (Print) Signature Z # Date

Container No. (5.[1]):	S832473	S832965	S834633
Container Type (SWB, 110/85/55-gal) (5.[1]):	55 gal	55 gal	55 gal
Current Filtered Vent No. (5.[1]):	72	72	72
New Filtered Vent No.: (5.[8][A]):	72	72	72
WIPP-Approved Filtered Vent (5.[8][B]):	☑ SAT ☐ UNSAT	☑ SAT ☐ UNSAT	☑ SAT ☐ UNSAT
VOC	Value (ppm) (5.[10])		
Benzene			
Chlorobenzene			
Cyclohexane			
1,1-Dichloroethane			
1,2-Dichloroethane			8.35
1,1-Dichloroethylene			
cis-1,2-Dichloroethylene			
Ethyl benzene			
Ethyl ether			
Toluene			
1,2,4-Trimethylbenzene			
1,3,5-Trimethylbenzene			
m- and p-Xylene			
o-Xylene			
Acetone			
1-Butanol			
Methanol	155.33	130.17	67.53
Methyl ethyl ketone			
Methyl isobutyl ketone			
Total CCP VOC value (ppm) (5.[11]):	155.33	130.17	75.88

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

	Container Number (5.[1])	S838473	S839105	S836633
	Hydrogen Reading (ppm) (5.[10])	92.23 ppm	151.54 ppm	856.14 ppm
	Methane Reading (ppm) (5.[10]):	0 ppm	0 ppm	183.28 ppm
	Total VOC Reading (ppm) (5.[11]):	155.83 ppm	130.17 ppm	75.88 ppm
	Filtered Type (5.[9][F][c]/5.[9][G][a]):	72	72	72
	WIPP Approved (SAT/UNSAT) (5.[9][F][c]/5.[9][G][a]):	SAT	SAT	SAT
	Torque Wrench M&TE/ID Number (5.[9][F][a]/5.[9][G][a]):	N/A	N/A	N/A
	Torque Wrench Calibration Due Date (5.[9][F][a]/5.[9][G][a]):	N/A	N/A	N/A
	Torque Wrench Tolerance (5.[9][F][a]/5.[9][G][a]):	N/A	N/A	N/A
VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b])		☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A
	Filter Torque Value (5.[9][F][a]/5.[9][G][d]) *	N/A	N/A	N/A

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

Comments: N/C

8.1[1] Performed By: Alicia Herrera Alicia Herrera 198450 1/12/12
Waste Handling Operator (print) Signature Z # Date

8.1[5] ☐ Deficiencies identified and submitted (e.g., PCR or FSR system).

☑ No deficiencies

8.1[7][A] ($) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

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

8.1[7][B]/ 8.1[8] Reviewed By: Ivan Garcia Ivan Garcia 1169401
Waste Handling Supervisor (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120111c\
Data File : S834633.D
Acq On : 11 Jan 2012 3:31 pm (#1); 11-Jan-12, 15:30:54 (#2)
Operator : WBM
Sample :
Misc : 55 GAL LFL DRUM TAKEN FROM UNDER LID NFT-072 (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jan 11 15:42:33 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Oct 18 13:58:45 2011
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.618	96	4483602	209.00	ppmv	-0.01
15) Chlorobenzene-d5	5.931	117	3675090	185.50	ppmv	-0.02
Target Compounds						Qvalue
1) Hydrogen	1.624	GC1	64199	8156.14	ppmv	100
2) Methane	3.337	GC1	665	183.28	ppmv	100
4) Methanol	0.835	31	14000	67.53	ppmv	100
13) 1,2-Dichloroethane	3.246	62	40620	8.35	ppmv	100

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

vocgas.m Wed Jan 11 15:43:07 2012

2-25-13

0600 Assuming WCRRF operations center - Orlando
0615 Pre job being conducted by SOS
0630 Starting inside rounds
0700 Starting outside rounds
0705 Item #10 is OOS, POD in place OK to continue.
0711 Item # 3 is unsat, AR in place OK to continue.
0716 Inside rounds complete.
0717 Rets notifying operations with that station 2 ~~Delta~~ 2-25-13 left hand and station 5 right hand will need to be changed elevated smears.
0718 Outside rounds complete.
0720 Inside rounds complete.
0748 Entering EPWERR-RM-AOP 0210, Loss of glovebox glove integrity, Contamination outside hot unit Rets notified ops center Station 2 readings at 8000 dpm direct, 1650 removable alpha RPO will be generated, with pressure reading -0.71. SOS and SOM have been notified.
0824 Inside and outside rounds signed off by SOS.
0900 Starting movement to transport vehicle Permission granted to lower vehicle access gates.
0901 Starting glove changes on Station 2 left and station 5 right
0950 Glove changes have been completed exiting EPWERR-RM-AOP
1000 Mid change personnel SC-09 and WCRRF yard ops operations.
1010 Logging on 9834633 PPE check in Out
1012 Vehicle access gates have restored movement to transport vehicle complete.
1018 Log on complete.
1030 Starting movement out of SC-09
1127 Movement out of SC-09 complete.
1132 Logging off Islaughter and 2 PCCS
Continued on next page - Orlando

2-25-13
1147 Permission granted to lower vehicle @ gates for loading of transport vehicle.
1234 Vehicle access gates have been restored, makes complete to transport vehicle
1410 PPE Check is sat.
1453 Begging of 3 PCC's and will continue process down
1455 Starting inside rounds.
1513 Item #1 is OOS, PED in place, OK to continue.
1516 Starting movement into 50-Lg.
1521 Inside rounds complete.
1630 Starting ~~2-25-13~~ Outside rounds.
1632 Item #3 is unsat, FSR in place, OK to proceed.
1647 Outside rounds complete.
1731 Bag off complete.
1755 Rounds have been cleared by SIS.
1801 starting movement out of 50-Lg
1816 Movement complete out of 50-Lg
1818 Mode Change performed TAST-Lg in cold, will yard in warm.
1825 1830 End of day. WCREF operations ceased. Vehicle secured

JJ
HA

no further entries this page

PROJECT NAME 2/25/13 NOTEBOOK NO

0715 Reviewed the shift turnover from the previous shift and assumed the WCRR SOM position. Jameene D Hernandez
0725 Operations performing glove changes on Station #2(L) and Station #5(R). I notified by RP-1 of possible alarm. RP-1 investigating.
0748 I notified by RP-1 supervisor that upon further investigation glovebox gland # Station 2(L) was detected to have 8000dpm alpha count and 1450 removable. Limits are over RWP (20dpm alpha). OCO entering EP-WCRR-RM-ADP 0210 "Loss of Glovebox Integrity".
0750 SOM notified DOE. 2/26/13
0800 SOM notified FOD DOE, OM will notify FOD.
0950 Glove changes complete.
1000 Mode change complete. WCRR YARD 150.69 from WARM/WARM to OPERATIONS/OPERATIONS.
1005 OM gave SOM permission to process a drum from SP#72B due to no other fieldstaff inside facility and outside crew is in the middle of working a shipment OUT.
1015 Late entry 0950 during EP-WCRR-RM-ADP 0210 Loss of Glovebox Integrity. Call
1200 Call in status meeting with the project manager. Status of WCRR and DWS.
1500 SOM going to TA40 to review work packages.
1535 SOM returned back. Brought back WO for March Daily Rounds and turned into the OCO.
1645 Met with RP-1 SSW and SDS/operators to discuss drum #8851517 questionable integrity drum. Reviewed photos with all. Everyone doesn't feel that WCRR has the controls in place to remove drum 32 from 85 gallon drum. The drum looks badly deteriorated.
1745 Operations processed 1 parent producing 8 POCs and 2 daughters from SP#72(B).
1818 Mode change complete WCRR YARD 150.69 from OPERATIONS/OPERATION to WARM/WARM.
1830 Securing the SOM position. Jameene D Hernandez

2/26/13

no further entries this page.

SIGNATURE Jameene D Hernandez DATE 2/25 20 13
READ AND UNDERSTOOD DATE 20

3-25-13 WCER SCS Log Book

0600 Assuming SCS Position Mid MP

0615 Conducted Shift brief. discussed drum left in building need to be moved out trans. containers are full will be doing shipments out today. will be Processing the solution package M2 today.

0645 Concluded Shift brief.

0717 Per RCTs need to change Gloves on station 2 left and 5 right.

0748 Entering EP-WCER-RM-MOP 0210 loss of Glove Box Integrity It was noted by RCT's Performing Glove Monitoring surveys that Contamination was detected and after further Investigation Found a breach on station 2 Left hand found B000 dpm direct and 1630 dpm removable

0824 Reviewed inside and outside Rounds.

0901 started Glove Change on station 2 left and station 5 right

0956 Glove Changes Complete exiting MOP

1000 Mod Change Complete with RF In operations.

1016 Bagging on SS 346533 PPE Check SGT

1132 Bagging off 1 daughter And 2 POCs PPE check

1410 PPE check set

1453 Bagging off 3 POCs and continuing Processing

1755 Review of Inside and outside Rounds.

1818 Mod Change complete with RF in Cold.

1550 end of shift securing SCS Position left as is

No further entries on this page

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834633

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0083
Examination Date:	6/18/2013
Waste Container ID:	93080
Video/Audio Recorded Media Number:	LA-RTR2-13-0083 C&D
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 41.5 kg Tare Wt.: 33.4 kg Net Wt.: 8.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	30 %

CCP Radiography Data Sheet

Waste Container ID: 93080

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	
R:	Leaded rubber gloves
XPM:	Liner lid, plastic bags
OR:	
IN:	
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	5.0
Plastics (waste materials) (XPM):	3.1
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	8.1

CCP Radiography Data Sheet

Waste Container ID: 93080

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	6/18/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93080	Count Sequence Number:	23073		
Operator:	D3PW2DK1\operator				
Assay Start:	6/24/2013 9:39:41 AM				
Description 1:	1LANDA1796				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gallon drum				
Weight:	Net:	8.1	kg	Net:	8.1 kg
Container:	Volume:	208.0	l	Full:	30.0 %
Density:		0.130	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:	23073	Batch Number:	1LANDA1796
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:	93080	Analysis Date:	6/24/2013

Net Weight	8100.0 g	
Pu mass	4.14E+000 +-	5.78E-001 g
TRU Alpha Activity	5.82E-001 +-	4.39E-002 Ci
TRU Activity Concentration	7.18E+004 +-	5.43E+003 nCi/g
Pu-239 Equivalent Activity	5.90E-001 +-	4.39E-002 Ci
Pu-239 FGE	3.84E+000 +-	5.34E-001 g
Decay heat	1.87E-002 +-	1.40E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.93E-003	5.66E-006	5.11E-007	4.36E-007
PU238	1.59E-003	2.76E-002	3.85E-003	1.14E-004
PU239	3.82E+000	2.40E-001	3.36E-002	9.94E-004
PU240	3.05E-001	7.00E-002	9.78E-003	2.90E-004
AM241	7.02E-002	2.44E-001	2.63E-002	8.37E-003
PU241	5.44E-003	5.66E-001	7.90E-002	2.34E-003
PU242	6.48E-003	2.57E-005	3.59E-006	0.00E+000
SR90	1.16E-009	1.60E-007	8.80E-008	0.00E+000
CS137	1.82E-009	1.60E-007	8.80E-008	1.22E-007
U233	<LLD	<LLD	0.00E+000	8.62E-004
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.31E-007
U238	<LLD	<LLD	0.00E+000	3.15E-006
AM243	1.60E-005	3.23E-006	3.83E-007	9.73E-007

Errors quoted at 1.000 sigma

Operator: D E R. Date: 6.27.13

ITR: Stan Barton Date: 7/1/13

Automated Independent Technical Review

Count Sequence Number: 23073 Batch Number: 1LANDA1796
Counter ID: MCS HENC #1
Container ID: 93080
Waste Matrix Code: Debris S5000 Count Type:
Sequence Type: Assay Date: 6/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. FRAM results applied. FRAM results attached.
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri C Chambers Date: 6-27-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93080**

BDR Number: **LA13FG8036**

Sampling Date: **6/26/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	92.10	U
74-82-8	Methane	213.40	U
67-56-1	Methanol	65.65	
60-29-7	Ethyl Ether	1.25	U
75-35-4	1,1-Dichloroethylene	5.71	U
67-64-1	Acetone	16.90	U
75-34-3	1,1-Dichloroethane	4.24	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	Methyl ethyl ketone	9.86	U
110-82-7	Cyclohexane	5.84	U
71-43-2	Benzene	0.71	U
107-06-2	1,2-Dichloroethane	1.51	U
71-36-3	1-Butanol	1.36	U
108-10-1	Methyl isobutyl ketone	9.34	U
108-88-3	Toluene	5.04	
108-90-7	Chlorobenzene	1.69	U
100-41-4	Ethylbenzene	2.62	U
108-38-3/106-42-3	m- and p-Xylene	1.48	U
95-47-6	o-Xylene	1.76	U
108-67-8	1,3,5-Trimethylbenzene	3.14	U
95-63-6	1,2,4-Trimethylbenzene	3.92	U

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\130626C\
Data File : 93080.D
Acq On : 26 Jun 2013 10:47 am (#1); 26 Jun 2013 10:46 am (#2)
Operator : RJ
Sample :
InstName : Unit 8
Misc : 55 Gallon drum through filter. (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 26 10:58:08 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	1705951	203.25	ppm	0.00
15) Chlorobenzene-d5	5.940	117	1272851	176.00	ppm	0.00
Target Compounds						Qvalue
4) Methanol	0.785	31	17049	65.65	ppm	100
17) Toluene	4.773	92	17982	5.04	ppm	100

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834633

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0078
Examination Date:	6/27/2013
Waste Container ID:	93081
Video/Audio Recorded Media Number:	LA-HERTR-13-0078 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA225
Waste Matrix Code:	S5400
Waste Stream I.D.:	LA-MHD01.001
Waste Container Weights:	Gross Wt.: 83.5 kg Tare Wt.: 33.4 kg Net Wt.: 50.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	55 %

CCP Radiography Data Sheet

Waste Container ID: 93081

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM: Scrap lead
OI:
C:
R:
XPM: Plastic bags
OR:
IN:
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):	42.1
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	8.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	
Soils (S):	
Total WMP Weight:	50.1

CCP Radiography Data Sheet

Waste Container ID: 93081

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	6/27/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93081		Count Sequence Number:	16094	
Operator:	DCLTD231\Operator				
Assay Start:	6/28/2013 10:22:34 AM				
Description 1:	2LANDA1187				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Debris S5000				
Container Type:	55 gal Drum				
Weight:	Net:	50.1 kg	Net:	50.1 kg	
Container:	Volume:	208.0 l	Full:	55.0 %	
Density:		0.440 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:	16094	Batch Number:	2LANDA1187
Assay Instrument:	HENC #2	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 14	Software Version:	NDA 2000 V.4.0
Item ID:	93081	Analysis Date:	6/28/2013

Net Weight	50100.0 g	
Pu mass	2.38E+000 +-	4.84E-001 g
TRU Alpha Activity	5.55E-001 +-	5.95E-002 Ci
TRU Activity Concentration	1.11E+004 +-	1.19E+003 nCi/g
Pu-239 Equivalent Activity	5.53E-001 +-	5.93E-002 Ci
Pu-239 FGE	2.20E+000 +-	4.45E-001 g
Decay heat	1.81E-002 +-	1.95E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	7.04E-003	5.03E-006	7.36E-007	5.91E-007
PU238	2.64E-003	4.57E-002	9.28E-003	3.07E-004
PU239	2.19E+000	1.38E-001	2.80E-002	9.25E-004
PU240	1.78E-001	4.10E-002	8.33E-003	2.75E-004
AM241	9.52E-002	3.31E-001	5.09E-002	9.52E-003
PU241	8.65E-004	8.99E-002	1.83E-002	6.04E-004
PU242	8.13E-003	3.22E-005	6.55E-006	0.00E+000
SR90	1.48E-009	2.04E-007	1.11E-007	0.00E+000
CS137	2.32E-009	2.04E-007	1.11E-007	1.42E-007
U233	<LLD	<LLD	0.00E+000	1.19E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.69E-007
U238	<LLD	<LLD	0.00E+000	3.86E-006
AM243	2.41E-005	4.86E-006	7.91E-007	1.60E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 7-9-13

ITR: _____ Date: 7-10-13

Automated Independent Technical Review

Count Sequence Number: 16094 Batch Number: 2LANDA1187
Counter ID: HENC #2
Container ID: 93081
Waste Matrix Code: Debris S5000 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 is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. FRAM results applied. FRAM results attached.
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 7-3-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93081**

BDR Number: **LA13FG2078**

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

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	45.58	
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	9.07	
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\130703c\
Data File : 93081.D
Acq On : 3 Jul 2013 12:34 pm (#1); 03-Jul-13, 12:33:39 (#2)
Operator : GR
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 03 12:42:34 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Mon Jun 24 14:13:48 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.574	96	3957926	205.75	ppmv	0.06
15) Chlorobenzene-d5	5.904	117	3259397	177.50	ppmv	0.04
Target Compounds						Qvalue
4) Methanol	0.824	31	14415	45.58	ppmv	100
17) Toluene	4.866	92	105820	9.07	ppmv	98

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

58 34633

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0035
Examination Date:	3/1/2013
Waste Container ID:	93082
Video/Audio Recorded Media Number:	LA-RTR2-13-0035 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 164.0 kg Tare Wt.: 145.1 kg Net Wt.: 18.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 93082

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM: Plastic bag
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP):Rigid Liner/Lid Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	16.9
Soils (S):	
Total WMP Weight:	18.9

CCP Radiography Data Sheet

Waste Container ID: 93082

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		3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93082		Count Sequence Number:	22208	
Operator:	D3PW2DK1\operator				
Assay Start:	3/6/2013 2:47:01 PM				
Description 1:	1LANDA1725				
Description 2:	POC, 164.0				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	18.9 kg	Net:	18.9 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.690 kg /l			

System Configuration

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

Errors quoted at 1.000 sigma

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22208	Batch Number:	1LANDA1725
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:	93082	Analysis Date:	3/6/2013

Net Weight	18900.0 g	
Pu mass	1.20E+001 +- 7.97E+000	g
TRU Alpha Activity	4.59E+000 +- 2.05E+000	Ci
TRU Activity Concentration	2.43E+005 +- 1.08E+005	nCi/g
Pu-239 Equivalent Activity	4.63E+000 +- 2.05E+000	Ci
Pu-239 FGE	1.11E+001 +- 7.94E+000	g
Decay heat	1.51E-001 +- 6.81E-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	6.01E-007
U233	<LLD	<LLD	0.00E+000	4.46E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.36E-006
NP237	6.08E-002	4.34E-005	7.99E-006	2.25E-006
PU238	2.31E-003	4.00E-002	2.93E-002	1.32E-003
U238	<LLD	<LLD	0.00E+000	1.34E-005
PU239	1.11E+001	6.95E-001	5.00E-001	2.29E-002
PU240	8.81E-001	2.03E-001	1.48E-001	6.67E-003
AM241	1.05E+000	3.65E+000	1.98E+000	4.84E-002
PU241	2.14E-002	2.23E+000	1.63E+000	7.33E-002
PU242	6.23E-003	2.47E-005	1.81E-005	0.00E+000
AM243	1.48E-004	2.99E-005	5.77E-006	5.97E-006

Errors quoted at 1.000 sigma

Operator: Sam Barton Date: 3/11/13

ITR: Date: 3-13-2013

Automated Independent Technical Review

Count Sequence Number: 22208 Batch Number: 1LANDA1725
Counter ID: MCS HENC #1
Container ID: 93082
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/6/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 3-9-13

Attachment 4 -- Flammable Gas Analysis Form

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

Waste Container ID: **93082**

BDR Number: **LA13FG12036**

Sampling Date: **5/2/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1295.74	
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.86	
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130502C\
Data File : 93082.D
Acq On : 2 May 2013 12:58 pm
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 13:07:31 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	4.063	96	8566793	207.75	ppmv	0.00
15) Chlorobenzene-d5	6.639	117	6955781	178.75	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.897	GC1	369587m	1295.74	ppmv	
17) Toluene	5.580	92	77806	2.86	ppmv	93

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834633

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0035	
Examination Date:	3/1/2013	
Waste Container ID:	93083	
Video/Audio Recorded Media Number:	LA-RTR2-13-0035	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 165.5 kg Tare Wt.: 145.1 kg Net Wt.: 20.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	70 %

CCP Radiography Data Sheet

Waste Container ID: 93083

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP):Rigid Liner/Lid Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	20.4
Soils (S):	
Total WMP Weight:	20.4

CCP Radiography Data Sheet

Waste Container ID: 93083

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		3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93083		Count Sequence Number:	22198	
Operator:	D3PW2DK1\operator				
Assay Start:	3/5/2013 3:47:41 PM				
Description 1:	1LANDA1724				
Description 2:	POC, 165.5				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	20.4 kg	Net:	20.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.697 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:	22198	Batch Number:	1LANDA1724
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:	93083	Analysis Date:	3/5/2013

Net Weight	20400.0 g	
Pu mass	6.77E+000 +-	1.59E+000 g
TRU Alpha Activity	5.58E+000 +-	2.74E+000 Ci
TRU Activity Concentration	2.74E+005 +-	1.34E+005 nCi/g
Pu-239 Equivalent Activity	5.60E+000 +-	2.74E+000 Ci
Pu-239 FGE	6.32E+000 +-	1.47E+000 g
Decay heat	1.85E-001 +-	9.16E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	6.32E-002	4.52E-005	8.36E-006	2.28E-006
PU238	1.39E-003	2.40E-002	5.65E-003	6.20E-005
PU239	6.25E+000	3.93E-001	9.26E-002	1.02E-003
PU240	4.98E-001	1.15E-001	2.70E-002	2.96E-004
AM241	1.45E+000	5.05E+000	2.74E+000	4.94E-002
PU241	1.21E-002	1.26E+000	2.98E-001	3.26E-003
PU242	3.53E-003	1.40E-005	3.30E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	6.52E-007
U233	<LLD	<LLD	0.00E+000	4.55E-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	1.04E-005
AM243	1.91E-004	3.86E-005	7.42E-006	6.46E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3 8 13

ITR: _____ Date: 3-9-13

Automated Independent Technical Review

Count Sequence Number: 22198 Batch Number: 1LANDA1724
Counter ID: MCS HENC #1
Container ID: 93083
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/5/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	OK
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	OK Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Section 4 - MGA Analysis 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-52,53,54.
Section 5 - Gamma Analysis Analysis Status: No errors.	OK
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: _____ Date: 3-8-13

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Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93083**

BDR Number: **LA13FG12036**

Sampling Date: **5/2/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	2520.18	
74-82-8	Methane	78.00	
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	4.45	
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130502C\
Data File : 93083.D
Acq On : 2 May 2013 3:25 pm (#1); 2 May 2013 3:24 pm (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 15:35:08 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	4.060	96	8107756	207.75	ppmv	0.00
15) Chlorobenzene-d5	6.639	117	6628613	178.75	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.903	GC1	718835m	2520.18	ppmv	
2) Methane	3.780	GC1	10218	78.00	ppmv	100
17) Toluene	5.577	92	115287	4.45	ppmv	93

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834633

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0034	
Examination Date:	3/1/2013	
Waste Container ID:	93084	
Video/Audio Recorded Media Number:	LA-RTR2-13-0034	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data		
Container Type:	55 Gallon Drum	
TRUCON Code:	LA226	
Waste Matrix Code:	S3110	
Waste Stream I.D.:	LA-MIN02-V.001	
Waste Container Weights:	Gross Wt.: 166.0 kg Tare Wt.: 145.1 kg Net Wt.: 20.9 kg	
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes	Lid: [ ] No [X] Yes
Number of Layers of Confinement:	Appears to be 1 layer	
Volume Utilization Percentage:	65 %	

CCP Radiography Data Sheet

Waste Container ID: 93084

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP):Rigid Liner/Lid Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	20.9
Soils (S):	
Total WMP Weight:	20.9

CCP Radiography Data Sheet

Waste Container ID: 93084

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	[signature]	3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93084		Count Sequence Number:	22235	
Operator:	D3PW2DK1\operator				
Assay Start:	3/8/2013 3:46:32 PM				
Description 1:	1LANDA1727				
Description 2:	POC, 166.0				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	20.9 kg	Net:	20.9 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.700 kg /l			

System Configuration

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

Errors quoted at 1.000 sigma

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	22235	Batch Number:	1LANDA1727
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:	93084	Analysis Date:	3/8/2013

Net Weight	20900.0 g		
Pu mass	5.69E+000	+- 3.95E+000	g
TRU Alpha Activity	4.98E+000	+- 2.48E+000	Ci
TRU Activity Concentration	2.38E+005	+- 1.18E+005	nCi/g
Pu-239 Equivalent Activity	5.00E+000	+- 2.48E+000	Ci
Pu-239 FGE	5.31E+000	+- 3.94E+000	g
Decay heat	1.65E-001	+- 8.27E-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	6.48E-007
U233	<LLD	<LLD	0.00E+000	4.93E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.50E-006
NP237	7.10E-002	5.07E-005	9.41E-006	2.49E-006
PU238	1.10E-003	1.90E-002	1.45E-002	1.26E-003
U238	<LLD	<LLD	0.00E+000	1.26E-005
PU239	5.25E+000	3.30E-001	2.48E-001	2.19E-002
PU240	4.19E-001	9.63E-002	7.34E-002	6.37E-003
AM241	1.31E+000	4.53E+000	2.46E+000	5.33E-002
PU241	1.02E-002	1.06E+000	8.07E-001	7.01E-002
PU242	2.96E-003	1.18E-005	8.96E-006	0.00E+000
AM243	2.13E-004	4.30E-005	8.24E-006	6.99E-006

Errors quoted at 1.000 sigma

Operator: Dan Rael Date: 3-12-13

ITR: Jon Barton Date: 3/13/13

Automated Independent Technical Review

Count Sequence Number: 22235 Batch Number: 1LANDA1727
Counter ID: MCS HENC #1
Container ID: 93084
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/8/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Steven Chamberlain Date: 3-11-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93084**

BDR Number: **LA13FG12036**

Sampling Date: **5/2/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	2547.91	
74-82-8	Methane	96.30	
67-56-1	Methanol	33.39	
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	3.41	
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130502C\
Data File : 93084.D
Acq On : 2 May 2013 1:26 pm (#1); 2 May 2013 1:25 pm (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 13:35:05 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	4.060	96	8512305	207.75	ppmv	0.00
15) Chlorobenzene-d5	6.639	117	6953698	178.75	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.907	GC1	726745m	2547.91	ppmv	
2) Methane	3.780	GC1	12615	96.30	ppmv	100
4) Methanol	0.827	31	27016	33.39	ppmv	100
17) Toluene	5.580	92	92756	3.41	ppmv	92

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834633

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0034	
Examination Date:	3/1/2013	
Waste Container ID:	93085	
Video/Audio Recorded Media Number:	LA-RTR2-13-0034	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 166.5 kg Tare Wt.: 145.1 kg Net Wt.: 21.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 93085

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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	17.4
Soils (S):	
Total WMP Weight:	21.4

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 93085

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	3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93085		Count Sequence Number:	22220	
Operator:	D3PW2DK1\operator				
Assay Start:	3/7/2013 2:17:05 PM				
Description 1:	1LANDA1726				
Description 2:	POC - Gross Wt. = 166.5				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	21.4 kg	Net:	21.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.702 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:	22220	Batch Number:	1LANDA1726
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:	93085	Analysis Date:	3/7/2013

Net Weight	21400.0 g		
Pu mass	2.62E+001 +-	4.18E+000	g
TRU Alpha Activity	4.56E+000 +-	5.33E-001	Ci
TRU Activity Concentration	2.13E+005 +-	2.49E+004	nCi/g
Pu-239 Equivalent Activity	4.64E+000 +-	5.33E-001	Ci
Pu-239 FGE	2.44E+001 +-	3.86E+000	g
Decay heat	1.48E-001 +-	1.75E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	4.71E-002	3.36E-005	6.27E-006	2.28E-006
PU238	5.06E-003	8.76E-002	1.40E-002	5.98E-005
PU239	2.42E+001	1.52E+000	2.43E-001	1.04E-003
PU240	1.93E+000	4.44E-001	7.08E-002	3.03E-004
AM241	7.21E-001	2.50E+000	4.69E-001	4.96E-002
PU241	4.70E-002	4.88E+000	7.78E-001	3.33E-003
PU242	1.37E-002	5.42E-005	8.64E-006	0.00E+000
SR90	8.51E-009	1.17E-006	5.58E-007	0.00E+000
CS137	1.34E-008	1.17E-006	5.58E-007	5.30E-007
U233	<LLD	<LLD	0.00E+000	4.45E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.34E-006
U238	<LLD	<LLD	0.00E+000	1.03E-005
AM243	1.13E-004	2.29E-005	4.55E-006	5.66E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3/11/13

ITR: _____ Date: 3-13-2013

Automated Independent Technical Review

Count Sequence Number: 22220 Batch Number: 1LANDA1726
Counter ID: MCS HENC #1
Container ID: 93085
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/7/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 3-11-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93085**

BDR Number: **LA13FG2044**

Sampling Date: **4/25/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1105.89	
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\130425c\
Data File : 93085.D
Acq On : 25 Apr 2013 1:19 pm (#1); 25-Apr-13, 13:19:09 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 25 13:28:08 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.499	96	4403555	201.25	ppmv	-0.07
15) Chlorobenzene-d5	5.845	117	3757382	177.00	ppmv	-0.06
Target Compounds						Qvalue
1) Hydrogen	1.595	GC1	7860m	1105.89	ppmv	

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

S834633

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0035
Examination Date:	3/1/2013
Waste Container ID:	93086
Video/Audio Recorded Media Number:	LA-RTR2-13-0035 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 168.5 kg Tare Wt.: 145.1 kg Net Wt.: 23.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 93086

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP):Rigid Liner/Lid Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	23.4
Soils (S):	
Total WMP Weight:	23.4

CCP Radiography Data Sheet

Waste Container ID: 93086

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	3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93086	Count Sequence Number:	22222		
Operator:	D3PW2DK1\operator				
Assay Start:	3/7/2013 3:45:03 PM				
Description 1:	1LANDA1726				
Description 2:	POC - Gross Wt. = 168.5				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	23.4	kg	Net:	23.4 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.713 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:	22222	Batch Number:	1LANDA1726
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:	93086	Analysis Date:	3/7/2013

Net Weight	23400.0 g	
Pu mass	3.60E+001 +-	5.63E+000 g
TRU Alpha Activity	4.74E+000 +-	1.10E+000 Ci
TRU Activity Concentration	2.03E+005 +-	4.70E+004 nCi/g
Pu-239 Equivalent Activity	4.86E+000 +-	1.10E+000 Ci
Pu-239 FGE	3.35E+001 +-	5.20E+000 g
Decay heat	1.52E-001 +-	3.65E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	4.51E-002	3.22E-005	6.07E-006	2.36E-006
PU238	6.95E-003	1.20E-001	1.88E-002	5.98E-005
PU239	3.33E+001	2.09E+000	3.27E-001	1.04E-003
PU240	2.65E+000	6.10E-001	9.53E-002	3.03E-004
AM241	5.53E-001	1.92E+000	1.04E+000	5.20E-002
PU241	6.45E-002	6.70E+000	1.05E+000	3.33E-003
PU242	1.88E-002	7.44E-005	1.16E-005	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.86E-007
U233	<LLD	<LLD	0.00E+000	4.75E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.41E-006
U238	<LLD	<LLD	0.00E+000	1.01E-005
AM243	9.49E-005	1.92E-005	4.00E-006	6.66E-006

Errors quoted at 1.000 sigma

Operator: Jon Barton Date: 3/11/13

ITR: Date: 3-13-2013

Automated Independent Technical Review

Count Sequence Number: 22222 Batch Number: 1LANDA1726
Counter ID: MCS HENC #1
Container ID: 93086
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/7/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Cleaves Date: 3-11-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93086**

BDR Number: **LA13FG2044**

Sampling Date: **4/25/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	870.92	
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\130425c\
Data File : 93086.D
Acq On : 25 Apr 2013 3:53 pm (#1); 25-Apr-13, 15:52:39 (#2)
Operator : NW
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Apr 25 16:01:16 2013
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Thu Jan 24 09:52:49 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.535	96	4243908	201.25	ppmv	-0.03
15) Chlorobenzene-d5	5.868	117	3656082	177.00	ppmv	-0.03
Target Compounds						Qvalue
1) Hydrogen	1.606	GC1	6190	870.92	ppmv	100

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

S834633

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0035	
Examination Date:	3/1/2013	
Waste Container ID:	93087	
Video/Audio Recorded Media Number:	LA-RTR2-13-0035	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 168.5 kg Tare Wt.: 145.1 kg Net Wt.: 23.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	80 %

CCP Radiography Data Sheet

Waste Container ID: 93087

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Hardware
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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
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):	21.3
Soils (S):	
Total WMP Weight:	23.4

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 93087

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		3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93087		Count Sequence Number:	22210	
Operator:	D3PW2DK1\operator				
Assay Start:	3/6/2013 4:11:03 PM				
Description 1:	1LANDA1725				
Description 2:	POC, 168.5				
Location:	LANL TA-54				
Comment:	AK-6, Not Precision				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	23.4 kg	Net:	23.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.713 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:	22210	Batch Number:	1LANDA1725
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:	93087	Analysis Date:	3/6/2013

Net Weight	23400.0 g	
Pu mass	1.99E+001 +-	8.18E+000 g
TRU Alpha Activity	3.64E+000 +-	1.25E+000 Ci
TRU Activity Concentration	1.56E+005 +-	5.35E+004 nCi/g
Pu-239 Equivalent Activity	3.71E+000 +-	1.25E+000 Ci
Pu-239 FGE	1.86E+001 +-	8.15E+000 g
Decay heat	1.18E-001 +-	4.13E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.90E-007
U233	<LLD	<LLD	0.00E+000	4.23E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.27E-006
NP237	4.72E-002	3.37E-005	6.34E-006	2.12E-006
PU238	3.85E-003	6.66E-002	3.09E-002	2.07E-003
U238	<LLD	<LLD	0.00E+000	9.77E-006
PU239	1.84E+001	1.16E+000	5.12E-001	3.60E-002
PU240	1.47E+000	3.38E-001	1.56E-001	1.05E-002
AM241	5.98E-001	2.08E+000	1.13E+000	4.68E-002
PU241	3.55E-002	3.69E+000	1.71E+000	1.15E-001
PU242	1.04E-002	4.12E-005	1.91E-005	0.00E+000
AM243	1.09E-004	2.20E-005	4.39E-006	5.39E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3/11/13

ITR: _____ Date: 3-13-2013

Automated Independent Technical Review

Count Sequence Number: 22210 Batch Number: 1LANDA1725
Counter ID: MCS HENC #1
Container ID: 93087
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/6/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 3-9-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93087**

BDR Number: **LA13FG12036**

Sampling Date: **5/2/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1434.27	
74-82-8	Methane	9.63	U
67-56-1	Methanol	33.36	
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	1.86	
107-06-2	1,2-Dichloroethane	2.50	
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.95	
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130502C\
Data File : 93087.D
Acq On : 2 May 2013 2:45 pm
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 14:55:49 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
3) Fluorobenzene	4.060	96	8108337	207.75	ppmv		0.00
15) Chlorobenzene-d5	6.636	117	6653737	178.75	ppmv		0.00
Target Compounds							Qvalue
1) Hydrogen	1.900	GC1	409099m	1434.27	ppmv		
4) Methanol	0.827	31	25716	33.36	ppmv		100
12) Benzene	3.720	78	60829	1.86	ppmv	#	89
13) 1,2-Dichloroethane	3.727	62	32729	2.50	ppmv		99
17) Toluene	5.577	92	76774	2.95	ppmv		93

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834633

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0035
Examination Date:	3/1/2013
Waste Container ID:	93088
Video/Audio Recorded Media Number:	LA-RTR2-13-0035 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 182.5 kg Tare Wt.: 145.1 kg Net Wt.: 37.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	100 %

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 93088

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 Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	4.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	33.4
Soils (S):	
Total WMP Weight:	37.4

CCP Radiography Data Sheet

Waste Container ID: 93088

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		3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93088		Count Sequence Number:	22214	
Operator:	D3PW2DK1\operator				
Assay Start:	3/7/2013 9:28:48 AM				
Description 1:	1LANDA1726				
Description 2:	POC - Gross Wt. = 182.5 Kg				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	37.4 kg	Net:	37.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.783 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:	22214	Batch Number:	1LANDA1726
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:	93088	Analysis Date:	3/7/2013

Net Weight	37400.0 g		
Pu mass	5.14E+001	+- 1.80E+001	g
TRU Alpha Activity	6.60E+000	+- 1.84E+000	Ci
TRU Activity Concentration	1.77E+005	+- 4.93E+004	nCi/g
Pu-239 Equivalent Activity	6.77E+000	+- 1.84E+000	Ci
Pu-239 FGE	4.78E+001	+- 1.79E+001	g
Decay heat	2.12E-001	+- 5.98E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.81E-007
U233	<LLD	<LLD	0.00E+000	5.70E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.74E-006
NP237	6.68E-002	4.77E-005	9.48E-006	2.86E-006
PU238	9.92E-003	1.72E-001	6.93E-002	2.67E-003
U238	<LLD	<LLD	0.00E+000	1.23E-005
PU239	4.75E+001	2.99E+000	1.13E+000	4.64E-002
PU240	3.78E+000	8.70E-001	3.50E-001	1.35E-002
AM241	7.42E-001	2.58E+000	1.41E+000	6.30E-002
PU241	9.20E-002	9.56E+000	3.86E+000	1.49E-001
PU242	2.68E-002	1.06E-004	4.29E-005	0.00E+000
AM243	1.36E-004	2.74E-005	5.79E-006	7.01E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3/11/13

ITR: _____ Date: 3-13-2013

Automated Independent Technical Review

Count Sequence Number: 22214 Batch Number: 1LANDA1726
Counter ID: MCS HENC #1
Container ID: 93088
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/7/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri C Leonard Date: 3-10-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93088**

BDR Number: **LA13FG12036**

Sampling Date: **5/2/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	46.86	
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.88	
107-06-2	1,2-Dichloroethane	1.10	
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.73	U
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\130502C\
Data File : 93088.D
Acq On : 2 May 2013 2:58 pm
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 15:07:45 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
3) Fluorobenzene	4.060	96	8052361	207.75	ppmv		0.00
15) Chlorobenzene-d5	6.636	117	6612784	178.75	ppmv		0.00
Target Compounds							Qvalue
1) Hydrogen	1.893	GC1	13366m	46.86	ppmv		
12) Benzene	3.714	78	28600	0.88	ppmv	#	89
13) 1,2-Dichloroethane	3.723	62	14309	1.10	ppmv		99

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5834633

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0034	
Examination Date:	3/1/2013	
Waste Container ID:	93089	
Video/Audio Recorded Media Number:	LA-RTR2-13-0034	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 12
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 159.5 kg Tare Wt.: 145.1 kg Net Wt.: 14.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	50 %

CCP Radiography Data Sheet

Waste Container ID: 93089

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	109.0
Plastics (PP):Rigid Liner/Lid Liner Bag (Inside POC)	8.1
Other:Fiberboard (CP), Liner/Sleeve(Inside POC)	28.0
Total Packaging Weight	145.1
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	
Rubber (R):	
Plastics (waste materials) (XPM):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	14.4
Soils (S):	
Total WMP Weight:	14.4

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2 (continued)

Waste Container ID: 93089

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	3/1/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	93089		Count Sequence Number:	22219	
Operator:	D3PW2DK1\operator				
Assay Start:	3/7/2013 1:34:55 PM				
Description 1:	1LANDA1726				
Description 2:	POC - Gross Wt. = 159.5 Kg				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	14.4 kg	Net:	14.4 kg	
Container:	Volume:	208.0 l	Full:	95.0 %	
Density:		0.667 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:	22219	Batch Number:	1LANDA1726
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:	93089	Analysis Date:	3/7/2013

Net Weight	14400.0 g	
Pu mass	9.52E+000 +-	1.48E+000 g
TRU Alpha Activity	1.81E+000 +-	5.83E-001 Ci
TRU Activity Concentration	1.26E+005 +-	4.05E+004 nCi/g
Pu-239 Equivalent Activity	1.84E+000 +-	5.83E-001 Ci
Pu-239 FGE	8.85E+000 +-	1.37E+000 g
Decay heat	5.88E-002 +-	1.95E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.24E-002	1.60E-005	2.91E-006	1.40E-006
PU238	1.84E-003	3.18E-002	4.96E-003	6.08E-005
PU239	8.79E+000	5.53E-001	8.63E-002	1.06E-003
PU240	7.01E-001	1.61E-001	2.51E-002	3.08E-004
AM241	3.06E-001	1.06E+000	5.76E-001	3.01E-002
PU241	1.70E-002	1.77E+000	2.76E-001	3.39E-003
PU242	4.96E-003	1.97E-005	3.07E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	3.56E-007
U233	<LLD	<LLD	0.00E+000	2.78E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	8.37E-007
U238	<LLD	<LLD	0.00E+000	8.15E-006
AM243	5.57E-005	1.13E-005	2.25E-006	3.67E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 3/11/13

ITR: _____ Date: 3-13-2013

Automated Independent Technical Review

Count Sequence Number: 22219 Batch Number: 1LANDA1726
Counter ID: MCS HENC #1
Container ID: 93089
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 3/7/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Steven C Chamberlain Date: 3-11-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **93089**

BDR Number: **LA13FG12036**

Sampling Date: **5/2/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	565.51	
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	3.87	
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

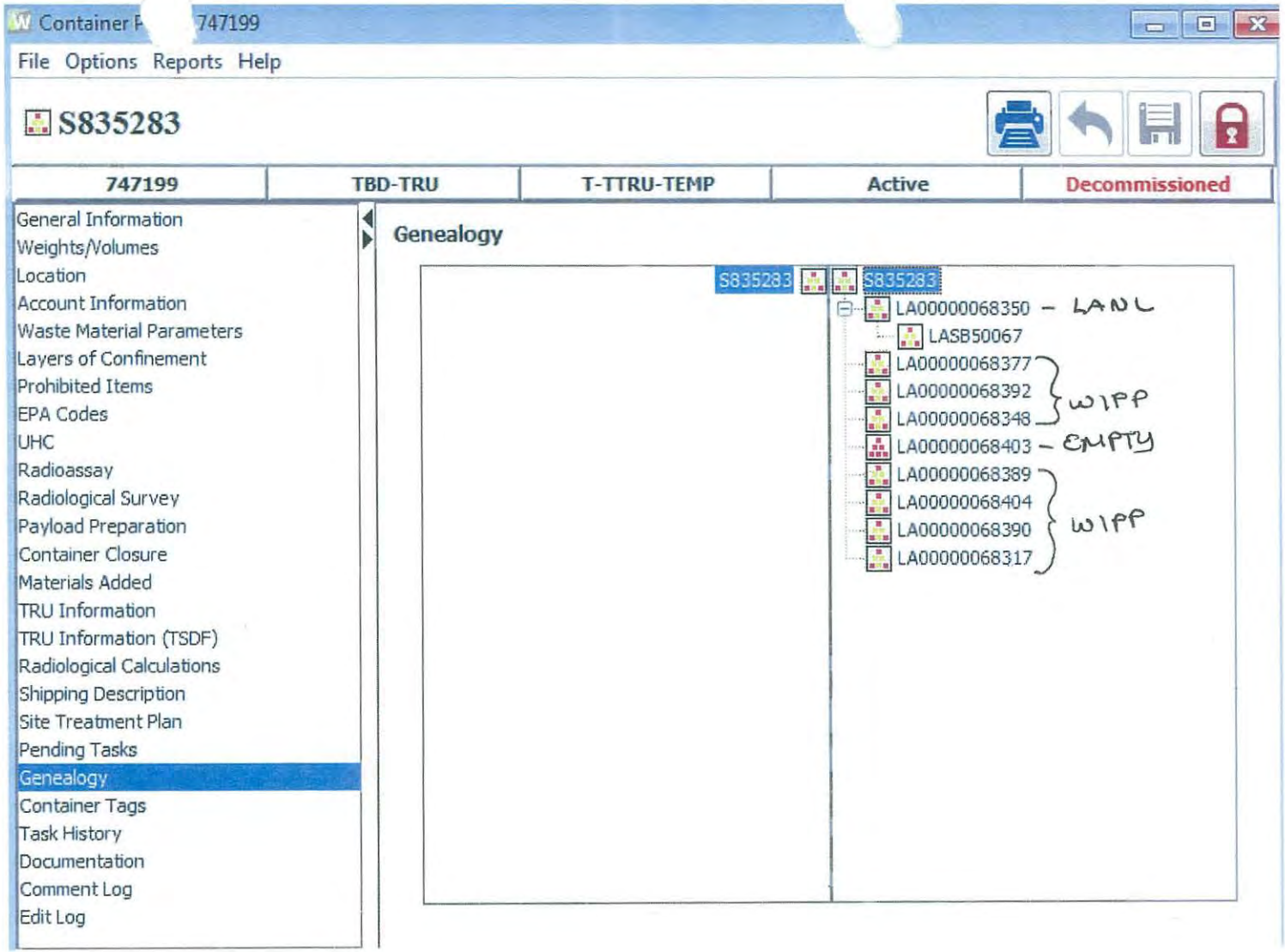
Data Path : C:\msdchem\1\DATA\130502C\
Data File : 93089.D
Acq On : 2 May 2013 2:32 pm
Operator : SA
Sample :
Misc : POC THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 02 14:41:23 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed Feb 20 11:23:15 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	4.060	96	7971568	207.75	ppmv	0.00
15) Chlorobenzene-d5	6.636	117	6588230	178.75	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.897	GC1	161301m	565.51	ppmv	
17) Toluene	5.577	92	99573	3.87	ppmv	91

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

S835283


Container P 747199
File Options Reports Help
S835283
747199
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
S835283
S835283
LA00000068350 – LANL
LASB50067
LA00000068377
LA00000068392
LA00000068348
WIPP
LA00000068403 – EMPTY
LA00000068389
LA00000068404
LA00000068390
LA00000068317
WIPP

Working Copy
Date: 9/16/13

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 935283

6.2[4] Date Processed: 9/16/13

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
N/A
(Initial and Date)

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

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

Performed By: Edward Martinez 239811 9-16-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT 1
Page 2 of 4

4.1[6][B] Parent Waste Container No.: 5835283

5.[18] Prepared Parent Drum Weight (lb) including items secured to drum top, as applicable: 4046 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 120 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 530.46 lb

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

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

Initials	Z#	Date
N/A		

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

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

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S835283

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	68317	68404	~~68377~~	68357
10.1[4]	Daughter Drum Filter No.	KL-441	KL-451	N/A	KL-449
10.1[4]	Daughter Drum Bag Filter No.	L-6449	L-6623		L-6449
10.1[4]	Daughter Drum Purchase Order No.	501321	501321		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	BOP	BOP	BOP	
	Model No.	GCPVC1.5-25PK	GCPVC1.5-25PK	GCPVC1.5-25PK	
	Serial No.	L-8168	L-8167	L-6696	
	Date of Manufacture	3-13	3-13	01-13	
10.2[5]	POC ID No	D2422-68350	D2412-68348	D2521-68389	
10.2[7][B]/10.2[6]	POC Item Description	Nitrate salt Kitty litter	Nitrate salt Kitty litter	Nitrate salt Kitty litter	N/A
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	EM 239911	EM 239911	EM 239911	
10.2[14]	POC Assembly Gross Weight (lb)	388.2	373.2	362.0	
10.2[15]	POC Rad. Survey Results (mrem/hr)	ZR	ZR	ZR	
10.3[3][A]	Approx. Containerized Liquid Vol./Units			N/A	
10.3[5][A]	Free Liquid Volume/Units	5-Gallons		N/A	
10.3[7][A]	Opaque/Non-penetrable Item Description:		N/A		lead shielding
10.3[9][A]	PCB-contaminated Waste Description				N/A
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	See comments		N/A	See comments
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)	10%			35%
10.5[3]/10.6[2]	Description Waste Added During Processing	Kitty litter Hex armor			Kitty litter Bale out bags Plastic

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: S835283

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.				
10.1[4]	Daughter Drum Filter No.		N		
10.1[4]	Daughter Drum Bag Filter No.		A		
10.1[4]	Daughter Drum Purchase Order No.				
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	BOP		
	Model No.	6CAN-15.25HC	6CAN-15.25HC		
	Serial No.	L-6685 7	L-6680		N/A
	Date of Manufacture	1.13	1.13		
10.2[5]	POC ID No	D-2559/608790	D-2560/608792		
10.2[7][B]/10.2[6]	POC Item Description	Nitrate Salt Kitty Litter	Nitrate Salt Kitty Litter		N
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	JM 228826	JM 228826		A
10.2[14]	POC Assembly Gross Weight (lb)	382.0	359.4		
10.2[15]	POC Rad. Survey Results (mrem/hr)	2 R	2 R		
10.3[3][A]	Approx. Containerized Liquid Vol./Units				
10.3[5][A]	Free Liquid Volume/Units				
10.3[7][A]	Opaque/Non-penetrable Item Description:				
10.3[9][A]	PCB-contaminated Waste Description			N	
10.3[9][B]	PCB Item ID No.			A	
10.3[10]	Remaining Waste Description				
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)				
10.5[3]/10.6[2]	Description Waste Added During Processing				

ATTACHMENT 1
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4.1[6][B] Parent Waste Container No.: 5835283

Comments: Kitty litter, Itex Armor, poly liner lid, nitrate salts, plastic, lead shielding

11.1[1] Performed By: Frederick Hobbs 1228526 9-17-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: [illegible] 149235 9/17/13 0940
SOS or designee (print) Signature Z # Date/Time

Work Copy
Date: 9-11-13

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413954
Lot No.: 211426
Manufacture Date: 7010

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

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

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: Q19DS
Serial No.: FK-1144
Manufacture Date: 6/10

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

5. [11] Performed By: 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: Was prepped at TA-50-69

8.1[1] Performed By: Edward Matthew 1239916 9-17-13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: G Mtz 149251 9/17/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 5
Page 1 of 1

Date: 9-17-13 GE
9-17-13 GE

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

7.[17] Overpack Drum Unique Identifier No.: 68403

7.[23] Overpack drum closure ring torque wrench information:
- M&TE No.: 038370
- Cal. Expiration Date: 08/02/2014
- Range in ft-lb: 10-80
- Tolerance: +/-3% cw and +/-6% ccw

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

Performed By: Edward Martinez (Waste Handling Technician (print) Signature) 123944 (Z #) 9-17-13 (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/c

8.1[1] Performed By: Frederick Schlotz (Waste Handling Technician (print)) (Signature) 1226936 (Z #) 9-12-13 (Date)

8.1[7] Reviewed By: G Martinez (Supervisor or designee (print)) (Signature) 1149358 (Z #) 9/17/13 (Date)

Working Copy
Date: 9-10-13

ATTACHMENT 1
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WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 68377

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 0240999
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: Bag
Model No.: LC PVC 1.5-25 PVC
Serial No.: L-6782
Manufacture Date: 1-13

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

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

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

Performed By: IAN MARQUEZ (Operator (print)) (Signature) Z16278 (Z #) 9-11-13 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 0990 9-11-13 019DS
Serial No.: AN670
Manufacture Date: 1-13

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

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

5.[30] Scale File ID number: 019065

ATTACHMENT 1
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5.[31] Scale is within the calibration frequency. ☑ SAT ☐ UNSAT

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

5.[34][E] Drum ID No.: 68377

Comments: N/C

5.[35] Performed By: IAN MARQUEL / [signature] 1276294 9-11-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: G Wh / [signature] N9235 9/17/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 2
Page 1 of 2

Working Copy
Date: 9-17-13

WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68377

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

M&TE No.: 038370
Cal. Expiration Date: 8-2-14
Range in ft-lb: 10-80
Tolerance: +/- 3% CW +/- 6% CCW

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

Performed By: Frederick Archuleta / [signature] 122556 / 9-17-13
Operator (print) Signature Z # Date

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

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

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

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

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

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

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

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

ATTACHMENT 2
Page 2 of 2

6.[3] Drum ID No.: 68377

6.[26] Scale File ID number: 019065

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

6.[28] Drum gross weight: 179.2 lbs

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

Comments: N/C

6.[32] Performed By: Frederick Schlefer / [signature] 1220826 / 9-17-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: G Mk / D N/f 14935 9/17/13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: 608404

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 #: 501321
- Lot #: 0237720
- Date of Manufacture: 2013

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 #: LCPVC 1.5 2.5PVC
- Serial #: L6623
- Date of Manufacture: 4/13

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 #: 0190S
- Serial #: KL4451
- 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: JOE QUINTANA Signature: Joe Q Z#: 239987

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: JOE QUINTANA Operator Sign: Joe Q Z#: 239987 Date: 9/19/13

Verifier Print: Edward MacHner Verifier Sign: [signature] Z#: 239911 Date: 9/17/13

Working Copy
Date: ~~9/16/13~~ 9-17-13
9-17-13 DE

ATTACHMENT 2
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WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: 68404

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

M&TE No.: 038370
Cal. Expiration Date: 08/02/2014
Range in ft-lb: 10-80
Tolerance: +/-3% cw and +/-6% ccw

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

Performed By: Edward Maltiner (Operator (print)) [signature] (Signature) 1239911 (Z #) 9/17/13 (Date)

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

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

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

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

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

Performed By: _____ (Operator (print)) N/A (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.: 68404

6.[26] Scale File ID number: 019065

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

6.[28] Drum gross weight: 229.4 lbs

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

Comments: N/C

6.[32] Performed By: Frederick Archuleta / [signature] / 172082 / 9-17-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: C Mk / [signature] / 104735 / 9/17/13
Supervisor or designee (print) Signature Z # Date

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

Drum ID#: ~~68377~~ 68317 9-16-13

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 #: 10237720
- Date of Manufacture: 2013

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: 8-15-13
- Manufacturer: ~~BOP~~ GLP
- Model #: CCPVC 1.5 -25 PVC
- Serial #: L-6464
- Date of Manufacture: 11/12

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

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

RECORD drum filter information:
- Manufacturer: NUCFIL
- Model #: 01905
- Serial #: RC 641
- Date of Manufacture: 11/11

RECORD torque wrench information:

Filter torque wrench:
- M&TE ID #: 100216
- Cal Expiration Date: 12-15-13
- Range (ft-lbs or in-lbs): 40-200
- Tolerance: +/- 4% CW +/- 4% CCW

Jam Nut / Bung torque wrench:
- M&TE ID #: 098369
- Cal Expiration Date: 12-18-13
- Range (ft-lbs or in-lbs): 10-50
- Tolerance: +/- 3% CW +/- 6% CCW

Torque wrenches listed above are within the acceptable ranges as displayed on the calibration certificate.
☑ Yes ☐ No
Print Name: IAN MARQUEZ Signature: [signature] Z#: Z76208

5. Weigh Drum Assembly
RECORD weight information
- Tare wtght (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: IAN MARQUEZ Operator Sign: [signature] Z#: Z76208 Date: 9-15-13

Verifier Print: Edward Martinez* Verifier Sign: [signature] Z#: Z39911 Date: ~~9-16-13~~ EM 9-16-13
9-16-13

ATTACHMENT 2
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6.[3] Drum ID No.: 68317

6.[26] Scale File ID number: C19065

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

6.[28] Drum gross weight: 980 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: Edward Martinez (Operator (print)) (Signature) 1239111 (Z #) 9-17-13 (Date)

7.1[4] Reviewed By: [illegible] (Supervisor or designee (print)) (Signature) 149235 (Z #) 9/17/13 (Date)

ATTACHMENT 2
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Working Copy
Date: 9/16/13 EDM

WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: ~~68317~~ 68317 68377 JM 9-16-13

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

M&TE No.: 038370
Cal. Expiration Date: 08/02/2014
Range in ft-lb: 16-80
Tolerance: +/- 3% cw and +/- 6% ccw

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

Performed By: Edward Martinez (Operator (print)) Ed Martinez (Signature) 1239111 (Z #) 9-16-13 (Date)

6.[12] Drum closure ring torque value: 160 ft-lb

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

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

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

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

Performed By: Edward Martinez (Operator (print)) Ed Martinez (Signature) 1239111 (Z #) 9-16-13 (Date)

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

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

ATTACHMENT 2
Page 2 of 2

6.[3] Drum ID No.: 68317

6.[26] Scale File ID number: C19065

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

6.[28] Drum gross weight: 980 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: Edward Martinez (Operator (print)) [signature] (Signature) 1239911 (Z #) 9-17-13 (Date)

7.1[4] Reviewed By: Supervisor or designee (print) [signature] (Signature) 149235 (Z #) 9/17/13 (Date)

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

72 NR C-10-12

Production Control

Container ID: S835283 | Container Type: 55-GAL | Gross Weight (lbs): 453
Inner Seal #: 015776 | Filter Prefix: LAVC | Filter Serial #: 02305
AK Waste Stream: LA-MHD01.001 | Certified RTR BDR: No BDR
TWSR Comments: LEACHED SOLIDS MST12 ROOM 434
Total PE-Ci Activity: 1.11E+01 | Equivalent Combustible PE-Ci: 4.18E+00 | AM-241 PE-Ci: 9.64E-01
Total Fissile Gram Equivalents: 120.4 | Total Surface Dose Rate (mrem/hr): 2
EPA Code(s): None
NCR RTR/NDA Comment: None
RTR Pre-Screen Date: 6/23/2007 | Comment: Impenetrable Obj,
Certified RTR Comment: None

Prohibited Items: ☑ Sealed > 4 Liters ☑ Liquid ☑ Pressurized Container ☑ Impenetrable Item ☑ Other
Security Determination: ☑ Green ☐ Yellow
Remediation Determination: ☑ ~~WE~~ MW 10/31/12 ☐ PID ☐ Split ☑ Repack
Estimated 30-cm Dose Rate (mrem/hr): ☐ <100 ☐ >100 and <1,000 ☑ >1,000 and <10,000 ☐ >10,000
TRUCON Code: LA125M
Production Control Comments: Ensure EPA Codes D007, D008, and D009 are on the label. A minimum of 1.2 volumes of ~~kitty litter~~ zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) | R. Jones (Signature) | 117434 (Z Number) | 12.8.11 (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: Leached solids- nitrate salts
Net Wt: 393lb. Thirteen items ranging from 5lb to 39lb
Drums w/ nitrate salts may contain undocumented liquids.
May require RWP for >1000 and <10000 mrem/hr @ 30 cm
Drum may have lead liner

Performed By: Valerie Rhodes (WDP Engineering (Print)) | V Valerie Rhodes (Signature) | 112609 (Z Number) | 12/5/11 (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 items with hands. Use Hexarmor gloves when processing waste.
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper mixture of kitty litter to waste in accordance with the procedure.

Performed By: Jose Jerez (TRU Remediation Operations (Print)) | Jose Jerez (Signature) | 22452 (Z Number) | 11-28-12 (Date)

Lab 24 249750 12/11/12
Hts Review. John Arnold CSP, may contain Pb, Cr, Hg. 11/5/12

Noncertified TRU Waste Drum Item Information

DrumID: 015776

Item No	ItemID	Process Status	Net Wt (kg)	Matrix	Meas Code	SNM (g)	MT	Auth (Pg/Ln)		Comments
1	IXFS-906-FA		2.250	NITRATE SALTS		5.47	52	6/11	G468	
2	IXFS-907-FA		17.700	NITRATE SALTS		27.51	52	6/11	G468	
3	IXFS-905-FA		6.590	NITRATE SALTS		4.13	52	6/11	G468	
4	IXFS-909-FA		8.180	NITRATE SALTS		11.65	52	6/11	G468	
5	IXFS-910-FA		17.270	NITRATE SALTS		7.74	52	6/11	G468	
6	IXFS-913-FA		20.910	NITRATE SALTS		20.47	52	6/11	G468	
7	9150XSOFA		6.820	NITRATE SALTS		14.77	52	6/11	G468	
8	IXFS-914-FA		15.000	NITRATE SALTS		10.98	52	6/11	G468	
9	IXFS-916-FA		7.270	NITRATE SALTS		0.65	52	6/11	G468	
10	IXFS-917-FA		3.640	NITRATE SALTS		1.32	54	6/11	G468	
11	IXFS-918-FA		8.640	NITRATE SALTS		16.92	52	6/11	G468	
12	IXFS-919-FA		8.180	NITRATE SALTS		4.29	53	6/11	G468	
13	IXFS-908-FA		6.140	NITRATE SALTS		2.28	54	6/11	G468	

Noncertified Waste Drum Material Summary

Gross Wt (kg): 205.5

Material Type	SNM (grams)	Items Net Wt (kg)
52	120.29	110.63
53	4.29	8.18
54	3.6	9.78
Totals	128.18	128.59

ATTACHMENT 1
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TA-54 AREA G WASTE CONTAINER HYDROGEN/VOC SAMPLE ANALYSIS DATA SHEET

5.[1] Sample Date: 3/29/12

Container No. (5.[1])	5833846	5835283				
Filtered Vent Type (5.[1])	72	72				
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])	48.37 ppm	63.09 ppm	ppm	ppm	ppm	ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	3640.35 ppm	7184.78 ppm	ppm	ppm	ppm	ppm
Methane Reading (< 16,000 ppm) (5.[5])	Ø ppm	Ø ppm	ppm	ppm	ppm	ppm

No Further Entries
4/2/12

5.[7] Certified CCP Technician:

Performed By: Erik Loechell / 234183
CCP (Print) Z #

Reviewed By: Sara Aragon / 237975
CCP (Print) Z #

Comments: N/C

6.1[2][A] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

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

6.1[2][B]/ 6.1[3] Performed By: Alicia Herrera Alicia Herrera 198450 / 4/2/12
Waste Handling Operator (print) Signature Z # Date

InstName : Unit-2

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\120329c\
Data File : S835283.D
Acq On : 29 Mar 2012 4:05 pm (#1); 29-Mar-12, 16:05:07 (#2)
Operator : SA
Sample :
Misc : 55 GALLON LFL DRUM THROUGH FILTER, 72 FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 29 16:14:46 2012
Quant Method : C:\msdchem\1\METHODS\vocgas.m
Quant Title : Flammable Gas Analysis
QLast Update : Tue Mar 06 12:05:15 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.655	96	3818199	209.00	ppmv	0.03
15) Chlorobenzene-d5	5.968	117	2618310	185.50	ppmv	0.03
Target Compounds						Qvalue
1) Hydrogen	1.623	GC1	53063m	7184.70	ppmv	
4) Methanol	0.872	31	35564	53.11	ppmv	100
13) 1,2-Dichloroethane	3.332	62	59720	9.98	ppmv	99

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

vocgas.m Thu Mar 29 16:14:57 2012

6309

9-16-13

1801 Assuming WCRR operations enter. JCoreman
1819 Beginning Pre-job. Card reader not communicating notified on call person for card reader.
1820 Received call back from on-call person. He will call me back at 1840.
1825 Discussing safety stand down issues.
1855 Badge reader back up and running. Pre-job and safety stand down completed.
1930 Operators entering 5019 to resume operations on S823[illegible]
2052 Operators report to SOS, while conducting inspections on the Retarder they found a chunck missing on the front wheel.
2105 Bagging off 1 daughter, bagging on another daughter.
2120 Bag off/on complete.
2243 Bagging off 1 daughter, bagging on S835283.
2315 Bag off/on complete.
0010 Initiating a drum movement from 5019 to a transportation
0020 Drum movement out of 5019 complete. Operators out for lunch.
0120 Operators back from lunch.
0153 Bagging off 1 daughter and 3 PCC's, bagging off SC 9-17-16 on another daughter.
0250 Bag off/on complete
0400 Beginning outside rounds.
0409 Beginning inside rounds.
0417 Item #19 on the rounds is unsat, Okay to proceed. FSE in place.
0426 Item #163 on the rounds is OOS. Per CSE documentation, Okay to proceed.
0427 Inside rounds complete,
0430 Outside rounds complete.
0438 Both rounds reviewed by SOS.
9-17-13 0600 Relieved by OCC Clarissa Velarde. JCoreman

See further entries on this page.

9/16/13 Night Sh. ft

1810 Reviewed Shift Turnover Checklist as assumed WCRR SOM position

1815 Attended pre job brief conducted by SOS. Started w/ Safety pause as directed by FOD to discuss recent RPO's @ Area G and WCRR including possible causes and distractions contributing to events. Discussed current conditions inside 50-69 w/ inventory, maintenance completed today, status of water leaks and IOD performed on Bldg in Segregity. Covered current Shift Orders in place for manual drum movements and preventing bag tears.

1855 Completed pre job briefing and safety stand-down.

1930 MSS on site to replace light plant located @ transport truck staging area - existing one would not start due to dead battery.

2105 Operators bagging off first daughter - continuing to process.

2315 Completed Parent # 5823221 - bagged off another daughter C2 to Bagged on 5835283.

9/17/13 0020 Completed move out of 3 drums from 50-69 to transporters, Operators breaking for lunch.

0120 Resuming operations.

0250 Bagging off 1 daughter and 3 POC's. Continuing processing of 5835283

0355 Operators identified that extension cord used to charge roto-grip in 50-69 is damaged and labeled "do not use". Instructed operator to cut off plug end and place in trash. Utilized extension cord for scissor lift next to 50-54 so that Roto-grip may be used for drum movements.

0555 Operators reported having difficult time w/ completion of parent drum bagged on - lead to sandwiched between steel drum and inner poly liner

9/17/13 0612 Relieved by J. Guadagnolo as SOM.

No further entries this page
KAG

9/16/13 WCRR SOS Log Book

1811 Assuming SOS position. CA
1819 Starting Pre-Job, discussed the safety stand down regarding incidents from TA-54 and here at TA-50.
1910 Pre-Job and safety stand down complete.
2052 Notified by operators that there is a small ~~chunck~~ chunk 9-16-13 missing on the front wheel of the roto-grip. Still safe to use.
2105 Bagging off 1 daughter, bagging on a second.
2120 Bag off/on complete.
2243 Bagging off 2nd daughter, bagging on S835283.
2315 Bag off/on complete.
0010 Starting movement out of 50-69.
0020 Move out complete.
0153 Bagging off 1 daughter and 3 POC's, bagging on a 2nd daughter.
0250 Bag off/on complete.
0438 Signed off on the rounds.
RRa 0610 Relieved by Gilbert Martinez 9/17/13. CA

No Further Entries on this Page

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5835283

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0112
Examination Date:	9/20/2013
Waste Container ID:	68317
Video/Audio Recorded Media Number:	LA-RTR2-13-0112 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 44.5 kg Tare Wt.: 33.4 kg Net Wt.: 11.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	25 %

CCP Radiography Data Sheet

Waste Container ID: 68317

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	
AM:	
OM:	
OI:	
C:	Leather gloves
R:	
XPM:	*Plastic bags, 90 mil liner lid*
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	
Other Inorganic Materials (OI)	
Cellulosics (C):	0.3
Rubber (R):	
Plastics (waste materials) (XPM):	1.5
Organic Matrix (OR):	
Inorganic Matrix (IN):	9.3
Soils (S):	
Total WMP Weight:	11.1

CCP Radiography Data Sheet

Waste Container ID: 68317

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68317	Count Sequence Number:	23634
Operator:	D3PW2DK1\operator		
Assay Start:	9/23/2013 2:11:06 PM		
Description 1:	1LANDA1846		
Description 2:	N/A		
Location:	LANL TA-54		
Comment:	AK-6		
Matrix Type:	Homo Sol. S3000		
Container Type:	55 gallon drum		
Weight:	Net: 11.1 kg	Net:	11.1 kg
Container:	Volume: 208.0 l	Full:	25.0 %
Density:	0.210 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

CJ 6/12/14 DB

NDA 2000 Assay Report

Item Information

Item ID:	68317		Count Sequence Number:	23634	
Operator:	D3PW2DK1\operator				
Assay Start:	9/23/2013 2:11:06 PM				
Description 1:	1LANDA1846				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	11.1 kg	Net:	11.1 kg	
Container:	Volume:	208.0 l	Full:	25.0 %	
Density:		0.210 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

CS 6/12/14

CS 6/12/14 018A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23634	Batch Number:	1LANDA1846
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68317	Analysis Date:	9/23/2013

Net Weight	11100.0 g	
Pu mass	3.20E+000 +-	6.47E-001 g
TRU Alpha Activity	1.44E+000 +-	2.46E-001 Ci
TRU Activity Concentration	1.30E+005 +-	2.22E+004 nCi/g
Pu-239 Equivalent Activity	1.45E+000 +-	2.46E-001 Ci
Pu-239 FGE	3.02E+000 +-	6.05E-001 g
Decay heat	4.74E-002 +-	8.16E-003 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.12E-002	1.49E-005	1.53E-006	9.07E-007
PU238	2.93E-004	5.01E-003	1.01E-003	3.35E-005
PU239	3.00E+000	1.86E-001	3.75E-002	1.24E-003
PU240	2.00E-001	4.54E-002	9.16E-003	3.04E-004
AM241	3.51E-001	1.20E+000	2.43E-001	8.05E-003
PU241	4.07E-003	4.19E-001	8.46E-002	2.80E-003
PU242	6.41E-004	2.53E-006	5.12E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.79E-007
U233	<LLD	<LLD	0.00E+000	2.05E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.58E-007
U238	<LLD	<LLD	0.00E+000	4.19E-006
AM243	6.03E-004	1.21E-004	1.26E-005	2.72E-006

Errors quoted at 1.000 sigma

Operator: B Hamm Date: 6-6-14

ITR: [signature] Date: 6-9-14

019
CS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23634	Batch Number:	1LANDA1846
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68317	Analysis Date:	9/23/2013

Net Weight	11100.0 g		
Pu mass	3.20E+000	+- 6.47E-001	g
TRU Alpha Activity	2.70E-001	+- 3.93E-002	Ci
TRU Activity Concentration	2.44E+004	+- 3.54E+003	nCi/g
Pu-239 Equivalent Activity	2.78E-001	+- 3.93E-002	Ci
Pu-239 FGE	3.01E+000	+- 6.05E-001	g
Decay heat	8.51E-003	+- 1.22E-003	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	2.12E-002	1.49E-005	1.53E-006	9.07E-007
PU238	2.93E-004	5.01E-003	1.01E-003	3.35E-005
PU239	3.00E+000	1.86E-001	3.75E-002	1.24E-003
PU240	2.00E-001	4.54E-002	9.16E-003	3.04E-004
AM241	9.89E-003	3.39E-002	6.85E-003	2.27E-004
PU241	4.07E-003	4.19E-001	8.46E-002	2.80E-003
PU242	6.41E-004	2.53E-006	5.12E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	2.79E-007
U233	<LLD	<LLD	0.00E+000	2.05E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	5.58E-007
U238	<LLD	<LLD	0.00E+000	4.19E-006
AM243	6.03E-004	1.21E-004	1.26E-005	2.72E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/24/13

ITR: _____ Date: 9-24-13

CS 6/12/14

CS6/12/14 019A

Automated Independent Technical Review

Count Sequence Number: 23634 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68317
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information
Results are marked as invalid.	utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	Fill height acceptable, neutron results applied.

020
CS 6/12/14

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

Expert Review by: Bart B. Marah Date: 6/5/14

021
CS 6/12/14

CJ 6/12/14

Automated Independent Technical Review

Count Sequence Number: 23634 Batch Number: 1LANDA1846
Counter ID: MCS HENC #1
Container ID: 68317
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/23/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
Add-a-Source correction factor was set to one.	Ok
Section 2 - Passive Neutron Analysis	
Analysis Status: No errors.	Ok
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237, MT-52,53,54
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok
Density is outside range (0.02 to 2.10 g/cc) or fill height is below 30%.	Fill height acceptable, neutron results applied.

CJ 6/12/14 021A ~~020~~

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

Expert Review by: Sherri Chamberlain Date: 9-24-13

ES 6/12/14

ES6/12/14 021B

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68317**

BDR Number: **LA13FG12107**

Sampling Date: **10/23/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	275.68	
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.73	U
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131023C\
Data File : 68317.D
Acq On : 23 Oct 2013 12:31 pm (#1); 23 Oct 2013 12:30 pm (#2)
Operator : RJ
Sample :
Misc : 55 Gallon drum through filter.
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 23 12:39:21 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	4.060	96	7194517	207.75	ppmv	0.00
15) Chlorobenzene-d5	6.636	117	5317721	178.75	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.907	GC1	78639	275.68	ppmv	100

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5835283

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0112	
Examination Date:	9/20/2013	
Waste Container ID:	68348	
Video/Audio Recorded Media Number:	LA-RTR2-13-0112	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 169.0 kg Tare Wt.: 145.1 kg Net Wt.: 23.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	75 %

CCP Radiography Data Sheet

Waste Container ID: 68348

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	23.9
Soils (S):	
Total WMP Weight:	23.9

CCP Radiography Data Sheet

Waste Container ID: 68348

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

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68348		Count Sequence Number:	23621	
Operator:	D3PW2DK1\operator				
Assay Start:	9/20/2013 1:57:00 PM				
Description 1:	1LANDA1845				
Description 2:	POC 169.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	23.9	kg	Net:	23.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.715	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:	23621	Batch Number:	1LANDA1845
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:	68348	Analysis Date:	9/20/2013

Net Weight	23900.0 g		
Pu mass	2.29E+001 +-	1.41E+001	g
TRU Alpha Activity	7.27E+000 +-	3.95E+000	Ci
TRU Activity Concentration	3.04E+005 +-	1.65E+005	nCi/g
Pu-239 Equivalent Activity	7.33E+000 +-	3.95E+000	Ci
Pu-239 FGE	2.16E+001 +-	1.41E+001	g
Decay heat	2.38E-001 +-	1.31E-001	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.82E-007
U233	<LLD	<LLD	0.00E+000	7.17E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.18E-006
NP237	9.58E-002	6.75E-005	1.27E-005	3.18E-006
PU238	2.10E-003	3.59E-002	2.41E-002	8.44E-004
U238	<LLD	<LLD	0.00E+000	1.32E-005
PU239	2.15E+001	1.33E+000	8.75E-001	3.13E-002
PU240	1.43E+000	3.25E-001	2.18E-001	7.65E-003
AM241	1.63E+000	5.58E+000	3.85E+000	1.53E-001
PU241	2.91E-002	3.00E+000	2.02E+000	7.06E-002
PU242	4.59E-003	1.81E-005	1.22E-005	0.00E+000
AM243	2.63E-003	5.26E-004	9.97E-005	9.89E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.24.13

ITR: Jim Barton Date: 9/24/13

Automated Independent Technical Review

Count Sequence Number: 23621 Batch Number: 1LANDA1845
Counter ID: MCS HENC #1
Container ID: 68348
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/20/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 9-23-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68348**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

S835283

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	178.61	
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\131105C\
Data File : 68348.D
Acq On : 5 Nov 2013 2:38 pm (#1); 05-Nov-13, 14:37:54 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 14:46:30 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.548	96	4571306	205.75	ppmv	0.03
15) Chlorobenzene-d5	5.855	117	3521391	177.50	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.612	GC1	1343m	178.61	ppmv	

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

VOCGAS.M Wed Nov 06 12:34:55 2013

CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0112
Examination Date:	9/20/2013
Waste Container ID:	68350
Video/Audio Recorded Media Number:	LA-RTR2-13-0112 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 176.0 kg Tare Wt.: 145.1 kg Net Wt.: 30.9 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	85 %

CCP Radiography Data Sheet

Waste Container ID: 68350

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	30.9
Soils (S):	
Total WMP Weight:	30.9

CCP Radiography Data Sheet

Waste Container ID: 68350

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

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

5835283

NDA 2000 Assay Report

Item Information

Item ID:	68350		Count Sequence Number:	23622	
Operator:	D3PW2DK1\operator				
Assay Start:	9/20/2013 2:40:32 PM				
Description 1:	1LANDA1845				
Description 2:	POC 176.0				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	30.9	kg	Net:	30.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.751	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:	23622	Batch Number:	1LANDA1845
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:	68350	Analysis Date:	9/20/2013

Net Weight	30900.0 g	
Pu mass	3.65E+001 +-	6.51E+000 g
TRU Alpha Activity	1.15E+001 +-	4.84E+000 Ci
TRU Activity Concentration	3.73E+005 +-	1.56E+005 nCi/g
Pu-239 Equivalent Activity	1.16E+001 +-	4.84E+000 Ci
Pu-239 FGE	3.43E+001 +-	6.09E+000 g
Decay heat	3.78E-001 +-	1.61E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.41E-001	9.94E-005	1.92E-005	4.11E-006
PU238	3.34E-003	5.71E-002	1.02E-002	3.21E-005
PU239	3.41E+001	2.12E+000	3.78E-001	1.19E-003
PU240	2.28E+000	5.17E-001	9.22E-002	2.91E-004
AM241	2.58E+000	8.83E+000	4.82E+000	1.02E-001
PU241	4.63E-002	4.77E+000	8.52E-001	2.69E-003
PU242	7.30E-003	2.88E-005	5.15E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	9.74E-007
U233	<LLD	<LLD	0.00E+000	9.47E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.86E-006
U238	<LLD	<LLD	0.00E+000	1.70E-005
AM243	3.95E-003	7.90E-004	1.54E-004	1.28E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.24.13

ITR: _____ Date: 9/24/13

Automated Independent Technical Review

Count Sequence Number: 23622 Batch Number: 1LANDA1845
Counter ID: MCS HENC #1
Container ID: 68350
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/20/2013

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

Comments	Disposition
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlain Date: 9-23-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68350**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

9835283

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	4589.20	
74-82-8	Methane	148.14	
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\131105C\
Data File : 68350.D
Acq On : 5 Nov 2013 2:16 pm (#1); 05-Nov-13, 14:15:25 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 14:24:12 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	3.581	96	4560129	205.75	ppmv	0.06
15) Chlorobenzene-d5	5.881	117	3603222	177.50	ppmv	0.02
Target Compounds						Qvalue
1) Hydrogen	1.623	GC1	34507m	4589.20	ppmv	
2) Methane	3.200	GC1	482	148.14	ppmv	100

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

VOCGAS.M Wed Nov 06 12:34:03 2013

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5835283

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0112	
Examination Date:	9/20/2013	
Waste Container ID:	68377	
Video/Audio Recorded Media Number:	LA-RTR2-13-0112	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 81.5 kg Tare Wt.: 33.4 kg Net Wt.: 48.1 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	30 %

CCP Radiography Data Sheet

Waste Container ID: 68377

Section 3: Container Inventory and Comments (Detailed descriptions)	
IM:	Metal hardware
AM:	
OM:	Scrap lead
OI:	
C:	Tape roll
R:	
XPM:	Plastic bags
OR:	
IN:	Homogeneous solids
S:	

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	0.1
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	12.5
Other Inorganic Materials (OI)	
Cellulosics (C):	0.2
Rubber (R):	
Plastics (waste materials) (XPM):	6.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	29.3
Soils (S):	
Total WMP Weight:	48.1

CCP Radiography Data Sheet

Waste Container ID: 68377

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68377		Count Sequence Number:	23641	
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 11:04:36 AM				
Description 1:	1LANDA1847				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	48.1 kg	Net:	48.1 kg	
Container:	Volume:	208.0 l	Full:	30.0 %	
Density:		0.770 kg /l			

System Configuration

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

Errors quoted at 1.000 sigma

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23641	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68377	Analysis Date:	9/24/2013

Net Weight	48100.0 g	
Pu mass	4.88E+000 +- 7.94E-001	g
TRU Alpha Activity	2.73E+000 +- 1.30E+000	Ci
TRU Activity Concentration	5.67E+004 +- 2.70E+004	nCi/g
Pu-239 Equivalent Activity	2.74E+000 +- 1.30E+000	Ci
Pu-239 FGE	4.61E+000 +- 7.43E-001	g
Decay heat	9.00E-002 +- 4.31E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	5.79E-002	4.08E-005	8.01E-006	1.93E-006
PU238	4.47E-004	7.64E-003	1.24E-003	3.14E-005
PU239	4.57E+000	2.83E-001	4.61E-002	1.17E-003
PU240	3.05E-001	6.92E-002	1.13E-002	2.85E-004
AM241	6.91E-001	2.37E+000	1.30E+000	5.13E-002
PU241	6.20E-003	6.39E-001	1.04E-001	2.63E-003
PU242	9.78E-004	3.86E-006	6.28E-007	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	5.26E-007
U233	<LLD	<LLD	0.00E+000	4.61E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.30E-006
U238	<LLD	<LLD	0.00E+000	8.05E-006
AM243	1.49E-003	2.99E-004	5.91E-005	6.33E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/25/13

ITR: _____ Date: 9.25.13

Automated Independent Technical Review

Count Sequence Number: 23641 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68377
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis	
Add-a-Source WARNINGS:	
Add-a-Source correction factor is less than one.	Ok
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
No Warnings Reported.	
Section 3 - Data Combiner Analysis	
Override enabled; Passive Neutron Pu and Gamma U data specified as input.	Passive Neutron Pu and Gamma U data specified as input.
Pu results taken from Passive Neutron data, U from Quantitative Gamma data.	
Results comparison test passed.	
Section 4 - MGA Analysis	MGA analysis failed. AK isotopics applied. The AK information
Results are marked as invalid.	utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

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

Expert Review by: Sherri Chamberlain Date: 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: **68377**

BDR Number: **LA13FG12106**

Sampling Date: **10/22/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	176.48	
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	0.47	U
107-06-2	1,2-Dichloroethane	0.92	U
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.73	U
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131022c\
Data File : 68377.D
Acq On : 22 Oct 2013 1:21 pm
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 13:32:33 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	4.060	96	7392321	207.75	ppmv	0.00
15) Chlorobenzene-d5	6.639	117	5135649	178.75	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.910	GC1	50341m	176.48	ppmv	

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

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5835283

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0112
Examination Date:	9/20/2013
Waste Container ID:	68389
Video/Audio Recorded Media Number:	LA-RTR2-13-0112 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A 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.: 164.5 kg Tare Wt.: 145.1 kg Net Wt.: 19.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 68389

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):	18.4
Soils (S):	
Total WMP Weight:	19.4

CCP Radiography Data Sheet

Waste Container ID: 68389

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

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68389		Count Sequence Number:	23623	
Operator:	D3PW2DK1\operator				
Assay Start:	9/20/2013 3:25:52 PM				
Description 1:	1LANDA1845				
Description 2:	POC 164.5				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	19.4	kg	Net:	19.4 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.692	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:	23623	Batch Number:	1LANDA1845
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:	68389	Analysis Date:	9/20/2013

Net Weight	19400.0 g		
Pu mass	2.22E+001	+- 1.19E+001	g
TRU Alpha Activity	7.02E+000	+- 3.79E+000	Ci
TRU Activity Concentration	3.62E+005	+- 1.95E+005	nCi/g
Pu-239 Equivalent Activity	7.07E+000	+- 3.79E+000	Ci
Pu-239 FGE	2.09E+001	+- 1.19E+001	g
Decay heat	2.30E-001	+- 1.26E-001	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.37E-007
U233	<LLD	<LLD	0.00E+000	6.83E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.07E-006
NP237	8.86E-002	6.24E-005	1.15E-005	3.04E-006
PU238	2.03E-003	3.47E-002	2.03E-002	7.83E-004
U238	<LLD	<LLD	0.00E+000	1.26E-005
PU239	2.08E+001	1.29E+000	7.35E-001	2.91E-002
PU240	1.33E+000	3.02E-001	1.77E-001	6.81E-003
AM241	1.57E+000	5.39E+000	3.71E+000	1.47E-001
PU241	2.56E-002	2.64E+000	1.55E+000	5.95E-002
PU242	4.44E-003	1.75E-005	1.03E-005	0.00E+000
AM243	2.46E-003	4.91E-004	9.14E-005	9.37E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9.24.13

ITR: _____ Date: 9/24/13

Automated Independent Technical Review

Count Sequence Number: 23623 Batch Number: 1LANDA1845
Counter ID: MCS HENC #1
Container ID: 68389
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/20/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. Results taken from Quantitative Gamma data. Results comparison test passed.	Results taken from quantitative gamma data.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 9-23-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68389**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

S835283

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1330.07	
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\131105C\
Data File : 68389.D
Acq On : 5 Nov 2013 1:20 pm (#1); 05-Nov-13, 13:20:09 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 13:29:04 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.562	96	4765426	205.75	ppmv	0.04
15) Chlorobenzene-d5	5.868	117	3696700	177.50	ppmv	0.00
Target Compounds						Qvalue
1) Hydrogen	1.613	GC1	10001m	1330.07	ppmv	

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

VOCGAS.M Wed Nov 06 12:32:01 2013

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5835283

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0112	
Examination Date:	9/20/2013	
Waste Container ID:	68390	
Video/Audio Recorded Media Number:	LA-RTR2-13-0112	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data		
Container Type:	55 Gallon Drum	
TRUCON Code:	LA226	
Waste Matrix Code:	S3110	
Waste Stream I.D.:	LA-MIN02-V.001	
Waste Container Weights:	Gross Wt.: 173.0 kg Tare Wt.: 145.1 kg Net Wt.: 27.9 kg	
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes 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: 68390

Section 3: Container Inventory and Comments (Detailed descriptions)

IM:

AM:

OM:

OI:

C:

R:

XPM:

OR:

IN: Homogeneous solids

S:

Section 4: Packaging Material and Waste Material Parameters

Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	27.9
Soils (S):	
Total WMP Weight:	27.9

CCP Radiography Data Sheet

Waste Container ID: 68390

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

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68390	Count Sequence Number:	23645		
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 2:09:35 PM				
Description 1:	1LANDA1847				
Description 2:	POC - GW = 173.0 kg				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	27.9	kg	Net:	27.9 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.735	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:	23645	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68390	Analysis Date:	9/24/2013

Net Weight	27900.0 g	
Pu mass	3.75E+001 +-	6.40E+000 g
TRU Alpha Activity	7.40E+000 +-	3.22E+000 Ci
TRU Activity Concentration	2.65E+005 +-	1.16E+005 nCi/g
Pu-239 Equivalent Activity	7.49E+000 +-	3.22E+000 Ci
Pu-239 FGE	3.53E+001 +-	5.99E+000 g
Decay heat	2.41E-001 +-	1.07E-001 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	8.68E-002	6.12E-005	1.17E-005	2.95E-006
PU238	3.43E-003	5.86E-002	1.00E-002	3.17E-005
PU239	3.51E+001	2.18E+000	3.72E-001	1.18E-003
PU240	2.34E+000	5.31E-001	9.07E-002	2.87E-004
AM241	1.35E+000	4.64E+000	3.20E+000	1.43E-001
PU241	4.76E-002	4.90E+000	8.38E-001	2.65E-003
PU242	7.51E-003	2.97E-005	5.07E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	7.21E-007
U233	<LLD	<LLD	0.00E+000	6.57E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	2.02E-006
U238	<LLD	<LLD	0.00E+000	1.24E-005
AM243	1.97E-003	3.94E-004	7.60E-005	9.06E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/25/13

ITR: D R Date: 9-25-13

Automated Independent Technical Review

Count Sequence Number: 23645 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68390
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers 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: **68390**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

5835283

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1910.05	
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\131105C\
Data File : 68390.D
Acq On : 5 Nov 2013 1:09 pm (#1); 05-Nov-13, 13:09:06 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 13:17:45 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	3.581	96	4822457	205.75	ppmv	0.06
15) Chlorobenzene-d5	5.877	117	3767239	177.50	ppmv	0.02
Target Compounds						Qvalue
1) Hydrogen	1.617	GC1	14362m	1910.05	ppmv	

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

VOCGAS.M Wed Nov 06 12:31:42 2013

CCP Radiography Data Sheet

CCP-TP-053 Attachment 2

5835283

Section 1: General Information		
[X] RTR Examination	[ ] RTR Replicate Scan	[ ] RTR Independent Observation
Site ID:	LANL	
Batch Number:	LA-RTR2-13-0112	
Examination Date:	9/20/2013	
Waste Container ID:	68392	
Video/Audio Recorded Media Number:	LA-RTR2-13-0112	A&B
Procedure and Revision No.:	CCP-TP-053	Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A	

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 179.5 kg Tare Wt.: 145.1 kg Net Wt.: 34.4 kg
Rigid Liner and Liner Vent Description:	Liner: [ ] No [X] Yes Lid: [ ] No [X] Yes Type: [ ] 30-mil [X] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [X] Yes [ ] N/A Punctured: [ ] No [X] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [X] No [ ] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 1 layer
Volume Utilization Percentage:	90 %

CCP Radiography Data Sheet

Waste Container ID: 68392

Section 3: Container Inventory and Comments (Detailed descriptions)
IM:
AM:
OM:
OI:
C:
R:
XPM:
OR:
IN: Homogeneous solids
S:

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	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):	
Organic Matrix (OR):	
Inorganic Matrix (IN):	34.4
Soils (S):	
Total WMP Weight:	34.4

CCP Radiography Data Sheet

Waste Container ID: 68392

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68392	Count Sequence Number:	23643		
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 12:42:06 PM				
Description 1:	1LANDA1847				
Description 2:	POC - GW = 179.5 kg				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	34.4	kg	Net:	34.4 kg
Container:	Volume:	208.0	l	Full:	95.0 %
Density:		0.768	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:	23643	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68392	Analysis Date:	9/24/2013

Net Weight	34400.0 g	
Pu mass	9.10E+000 +-	1.60E+000 g
TRU Alpha Activity	2.25E+000 +-	8.72E-001 Ci
TRU Activity Concentration	6.55E+004 +-	2.53E+004 nCi/g
Pu-239 Equivalent Activity	2.28E+000 +-	8.72E-001 Ci
Pu-239 FGE	8.57E+000 +-	1.50E+000 g
Decay heat	7.36E-002 +-	2.90E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	3.07E-002	2.17E-005	4.27E-006	1.81E-006
PU238	8.33E-004	1.42E-002	2.51E-003	3.14E-005
PU239	8.52E+000	5.28E-001	9.31E-002	1.17E-003
PU240	5.68E-001	1.29E-001	2.27E-002	2.85E-004
AM241	4.61E-001	1.58E+000	8.66E-001	4.36E-002
PU241	1.16E-002	1.19E+000	2.10E-001	2.63E-003
PU242	1.82E-003	7.20E-006	1.27E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	4.54E-007
U233	<LLD	<LLD	0.00E+000	3.87E-003
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	1.23E-006
U238	<LLD	<LLD	0.00E+000	7.88E-006
AM243	7.05E-004	1.41E-004	2.79E-005	5.44E-006

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/25/13

ITR: D = R.C Date: 9.25.13

Automated Independent Technical Review

Count Sequence Number: 23643 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68392
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. No Warnings Reported.	Ok
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54
Section 5 - Gamma Analysis Analysis Status: No errors.	Ok
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chambers 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: **68392**

BDR Number: **LA13FG2113**

Sampling Date: **11/5/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	1125.26	
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\131105C\
Data File : 68392.D
Acq On : 5 Nov 2013 12:48 pm (#1); 05-Nov-13, 12:47:20 (#2)
Operator : SA
Sample :
Misc : POC THROUGH FILTER
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 05 12:55:59 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis
QLast Update : Mon Aug 26 13:12:56 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
3) Fluorobenzene	3.581	96	4912706	205.75	ppmv	0.06
15) Chlorobenzene-d5	5.878	117	3821646	177.50	ppmv	0.02
Target Compounds						Qvalue
1) Hydrogen	1.616	GC1	8461m	1125.26	ppmv	

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

VOCGAS.M Wed Nov 06 12:30:54 2013

CCP Radiography Data Sheet

5835283

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-RTR2-13-0112
Examination Date:	9/20/2013
Waste Container ID:	68404
Video/Audio Recorded Media Number:	LA-RTR2-13-0112 A&B
Procedure and Revision No.:	CCP-TP-053 Rev. 13
NCR(s) associated with the container? (e.g., Prohibited Items)	[X] No [ ] Yes NCR No.: N/A NCR No.: N/A

Section 2: Waste Container Data	
Container Type:	55 Gallon Drum
TRUCON Code:	LA226
Waste Matrix Code:	S3110
Waste Stream I.D.:	LA-MIN02-V.001
Waste Container Weights:	Gross Wt.: 104.0 kg Tare Wt.: 33.4 kg Net Wt.: 70.6 kg
Rigid Liner and Liner Vent Description:	Liner: [X] No [ ] Yes Lid: [X] No [ ] Yes Type: [ ] 30-mil [ ] 90-mil [ ] 110-mil [ ] 125-mil Vented: [ ] No [ ] Yes [X] N/A Punctured: [X] No [ ] Yes Mechanical Vent: [X] No [ ] Yes Fiberboard Liner: [ ] No [X] Yes Lead Lined: [X] No [ ] Yes
Number of Layers of Confinement:	Appears to be 2 layers
Volume Utilization Percentage:	65 %

CCP Radiography Data Sheet

Waste Container ID: 68404

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

Section 4: Packaging Material and Waste Material Parameters	
Packaging Material:	**Estimated Weight (kg)**
Steel (ST):	27.7
Plastics (PP): Plastic Liner Bag	2.0
Other: Fiberboard (CP)	3.7
Total Packaging Weight	33.4
Waste Material Parameter:	**Estimated Weight (kg)**
Iron-based Metal / Alloys (IM):	
Aluminum-based Metals / Alloys (AM):	
Other Metals (OM):	3.5
Other Inorganic Materials (OI)	
Cellulosics (C):	1.0
Rubber (R):	
Plastics (waste materials) (XPM):	10.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	56.1
Soils (S):	
Total WMP Weight:	70.6

CCP Radiography Data Sheet

Waste Container ID: 68404

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

RTR Operator:

Michael Simmons		9/20/2013
Print Name	Signature	Date

NDA 2000 Assay Report

Item Information

Item ID:	68404		Count Sequence Number:	23642	
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 11:49:19 AM				
Description 1:	1LANDA1847				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	70.6 kg	Net:	70.6 kg	
Container:	Volume:	208.0 l	Full:	65.0 %	
Density:		0.520 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

010
CS 6/17/14

NDA 2000 Assay Report

Item Information

Item ID:	68404		Count Sequence Number:	23642	
Operator:	D3PW2DK1\operator				
Assay Start:	9/24/2013 11:49:19 AM				
Description 1:	1LANDA1847				
Description 2:	N/A				
Location:	LANL TA-54				
Comment:	AK-6				
Matrix Type:	Homo Sol. S3000				
Container Type:	55 gallon drum				
Weight:	Net:	70.6	kg	Net:	70.6 kg
Container:	Volume:	208.0	l	Fill:	65.0 %
Density:		0.520	kg /l		

SUPERCEDED CJ 6/13/14

System Configuration

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

Errors quoted at 1.000 sigma

CJ 6/13/14 010A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23642	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68404	Analysis Date:	9/24/2013

Net Weight	70600.0 g	
Pu mass	3.98E+001 +-	6.53E+000 g
TRU Alpha Activity	9.74E+000 +-	1.18E+000 Ci
TRU Activity Concentration	1.38E+005 +-	1.67E+004 nCi/g
Pu-239 Equivalent Activity	9.83E+000 +-	1.18E+000 Ci
Pu-239 FGE	3.75E+001 +-	6.11E+000 g
Decay heat	3.18E-001 +-	3.90E-002 W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.82E-001	1.28E-004	2.00E-005	5.43E-006
PU238	4.00E-003	6.85E-002	1.12E-002	3.46E-005
PU239	3.72E+001	2.31E+000	3.79E-001	1.17E-003
PU240	2.48E+000	5.63E-001	9.23E-002	2.84E-004
AM241	1.98E+000	6.80E+000	1.12E+000	3.43E-003
PU241	5.05E-002	5.20E+000	8.54E-001	2.63E-003
PU242	1.08E-002	4.25E-005	6.97E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.16E-006
U233	<LLD	<LLD	0.00E+000	1.15E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
U238	<LLD	<LLD	0.00E+000	2.06E-005
AM243	3.78E-003	7.56E-004	1.20E-004	1.65E-005

Errors quoted at 1.000 sigma

Operator: B Harmon Date: 6-9-14

ITR: D=Rc Date: 6-9-14

011
CJ 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number:	23642	Batch Number:	1LANDA1847
Assay Instrument:	MCS HENC #1	Location:	LANL TA-54
Analysis Method:	CCP-TP-063 v 15	Software Version:	NDA 2000 V.4.0
Item ID:	68404	Analysis Date:	9/24/2013

Net Weight	70600.0 g		
Pu mass	3.98E+001 +-	6.53E+000	g
TRU Alpha Activity	3.36E+000 +-	3.96E-001	Ci
TRU Activity Concentration	4.76E+004 +-	5.61E+003	nCi/g
Pu-239 Equivalent Activity	3.46E+000 +-	3.97E-001	Ci
Pu-239 FGE	3.74E+001 +-	6.11E+000	g
Decay heat	1.06E-001 +-	1.24E-002	W

Nuclide	Mass g	Activity Ci	Activity Uncert. Ci	MDA Ci
NP237	1.82E-001	1.28E-004	2.00E-005	5.43E-006
PU238	4.00E-003	6.85E-002	1.12E-002	3.46E-005
PU239	3.72E+001	2.31E+000	3.79E-001	1.17E-003
PU240	2.48E+000	5.63E-001	9.23E-002	2.84E-004
AM241	1.23E-001	4.21E-001	6.91E-002	2.13E-004
PU241	5.05E-002	5.20E+000	8.54E-001	2.63E-003
PU242	1.08E-002	4.25E-005	6.97E-006	0.00E+000
SR90	<LLD	<LLD	0.00E+000	0.00E+000
CS137	<LLD	<LLD	0.00E+000	1.16E-006
U233	<LLD	<LLD	0.00E+000	1.15E-002
U234	<LLD	<LLD	0.00E+000	0.00E+000
U235	0.00E+000	0.00E+000	0.00E+000	3.34E-006
U238	<LLD	<LLD	0.00E+000	2.06E-005
AM243	3.78E-003	7.56E-004	1.20E-004	1.65E-005

Errors quoted at 1.000 sigma

Operator: _____ Date: 9/25/13

ITR: _____ Date: 9.25.13

SUPERSEDED

CJ 6/19/14

CJ 6/19/14 011A

Automated Independent Technical Review

Count Sequence Number: 23642 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68404
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54

012
CS 6/17/14

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 64.97%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified. Am-241 direct reported from gamma analysis.

Expert Review by: Bert B. Marah Date: 6/3/14

013
CS 6/17/14

Automated Independent Technical Review

Count Sequence Number: 23642 Batch Number: 1LANDA1847
Counter ID: MCS HENC #1
Container ID: 68404
Waste Matrix Code: Homo Sol. S3000 Count Type:
Sequence Type: Assay Date: 9/24/2013

Comments	Disposition
Section 1 - Add-A-Source Analysis No Add-a-Source warnings.	Ok
Section 2 - Passive Neutron Analysis Analysis Status: No errors. Ones Rate Analysis complete with warnings. - Error calculating the Ones Rate Pu-240 Effective MDA.	Ok Not data affecting.
Section 3 - Data Combiner Analysis Override enabled; Passive Neutron Pu and Gamma U data specified as input. Analysis Status: Override enabled; data marked not available but were used. Pu results taken from Passive Neutron data, U from Quantitative Gamma data. Results comparison test passed.	Passive Neutron Pu and Gamma U data specified as input.
Section 4 - MGA Analysis Results are marked as invalid.	MGA analysis failed. AK isotopics applied. The AK information utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,54

SUPERSEDED
CS 6/17/14

CS 4/17/14 013A 012

Comments	Disposition
Section 5 - Gamma Analysis Analysis Status: No errors. MCA Deadtime greater than the upper limit of 50.0%. Spectrum Validity Check engine has suggested data review.	No spectral distortion observed. Gamma spectrum valid. MCA deadtime = 64.97%
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chandler Date: 9-25-13

CS 6/17/14

CS 6/17/14 0136

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **68404**

BDR Number: **LA13FG12106**

Sampling Date: **10/22/2013**

CAS NUMBER	COMPOUND	Measured ppmv	Reporting Flag
1333-74-0	Hydrogen	768.82	
74-82-8	Methane	9.63	U
67-56-1	Methanol	30.57	U
60-29-7	Ethyl Ether	1.77	U
75-35-4	1,1-Dichloroethylene	5.36	U
67-64-1	Acetone	11.55	U
75-34-3	1,1-Dichloroethane	2.29	U
156-59-2	cis-1,2-Dichloroethene	0.36	U
78-93-3	Methyl ethyl ketone	2.55	U
110-82-7	Cyclohexane	2.09	U
71-43-2	Benzene	1.17	
107-06-2	1,2-Dichloroethane	3.18	
71-36-3	1-Butanol	0.54	U
108-10-1	Methyl isobutyl ketone	3.11	U
108-88-3	Toluene	2.73	U
108-90-7	Chlorobenzene	0.87	U
100-41-4	Ethylbenzene	1.15	U
108-38-3/106-42-3	m- and p-Xylene	0.59	U
95-47-6	o-Xylene	0.63	U
108-67-8	1,3,5-Trimethylbenzene	0.72	U
95-63-6	1,2,4-Trimethylbenzene	0.78	U

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

Quantitation Report (QT Reviewed)

InstName : FGA Unit 12

Data Path : C:\msdchem\1\DATA\131022c\
Data File : 68404.D
Acq On : 22 Oct 2013 3:11 pm (#1); 22 Oct 2013 3:10 pm (#2)
Operator : SA
Sample :
Misc : 55 GALLON DRUM THROUGH FILTER (Sig #1); (Sig #2)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 22 15:38:28 2013
Quant Method : C:\msdchem\1\METHODS\VOCGAS.M
Quant Title : Flammable Gas Analysis for Transportation Only
QLast Update : Wed May 22 12:06:27 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
3) Fluorobenzene	4.063	96	7350090	207.75	ppmv		0.00
15) Chlorobenzene-d5	6.639	117	5337275	178.75	ppmv		0.00
Target Compounds							Qvalue
1) Hydrogen	1.910	GC1	219306m	768.82	ppmv		
12) Benzene	3.720	78	35242	1.17	ppmv	#	92
13) 1,2-Dichloroethane	3.727	62	32634	3.18	ppmv		99

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