55 ENTERED RECEIVED

SEP - 9 2014

NMED
Hazardous Waste Bureau

Los Alamos
NATIONAL LABORATORY
EST 1943

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 remeditation 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.

36596

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)

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

September 2014

Los Alamos
NATIONAL LABORATORY
EST. 1943

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

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 – EMPTY

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.: S8334181

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) N/A
(SAC 5.10.1.7.2) (Initial and Date)

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

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

Performed By: 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.: 5833481

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. 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.: 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.	6cPVC1.5x25P/C	6cPVC-1.5x25P/C		
	Serial No.	L-10329	L-6792		
	Date of Manufacture	6-13	1-13		
10.2[5]	POC ID No	68582	68617	N	A
10.2[7][B]/10.2[6]	POC Item Description	Nitrate Salts Kitty Litter	Nitrate Salts w/ Kitty Litter		
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/A		
10.3[5][A]	Free Liquid Volume/Units	2 GALLONS		N/A	
10.3[7][A]	Opaque/Non-penetrable Item Description:	Lead Shielding	Lead Shielding		
10.3[9][A]	PCB-contaminated Waste Description			N/A	
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	See Comments	See Comments		
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)	75%	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, 1 Poly Liner Lid, Kitty Litter, Room trash, Degraded Lead 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] 1240092 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.: 501563
Lot No.: 0238364
Manufacture Date: 13

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

	Filtered Vent	2-in. Bung
M&TE No.:	100216	036249
Cal. Expiration Date:	12-18-13	8-5-13
Tolerance:	±4% cw ±1% ccw	±3% cw ±6% ccw

Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: 12-1889
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 / [signature] / 1237201 / 10/31/13
Waste Handling Technician (print) Signature Z # Date

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

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

Comments: N/C

8.1[1] Performed By: GERALD ESPINOZA / [signature] / 1237201 / 10/31/13
Waste Handling Technician (print) Signature Z # Date

8.1[6] Reviewed By: Clayton Mullins / [signature] / 1240021 / 11/8/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 5
Page 1 of 1

Work Date: ~~11/1/13~~ 11-8-13 ~~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 (print) / Signature / Z# 1276202 / Date 11-8-13

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: 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 / Z# 1276202 / Date 11-8-13

8.1[7] Reviewed By: Clayton Mullins (Supervisor or designee (print)) / Signature / Z# 1240096 / Date 11/8/13

11-7-13

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] 204712 / 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/A

5.[35] Performed By: Brandon Chavez / [signature] / 120712 / 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 / [signature] / D767021 / 11-8-13
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:	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] (Signature), 1276202 (Z #), 11-8-13 (Date)

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

ATTACHMENT 1
Page 1 of 2

11-7-13 [illegible]

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.: 6cpvc1.528pvc
Serial No.: L-10144
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] 2047102 11-7-13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: 0909S
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.: 68634

Comments: N/C

5.[35] Performed By: Brandon Chavez / [signature] 124174121 11-7-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] 1240096 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.: 68C34

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% cu +/.(% cu

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

Performed By: _____ _____ _____ 12/18/13
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:	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.: 68634

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] / Z0270011 / 11-8-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: Clayton Mullins / [signature] / Z40092 / 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 / [signature] / 267129 11-07-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: Clayta Mullins / [signature] / 246094 / 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 / [signature] / 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: 340 lb, Twelve items ranging from 12 lb to 71 lb.
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 117609 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 heavy duty gloves 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 234079 1/18/12
TRU Remediation Operations (Print) Signature Z Number Date
Darrel L. Blain 218069 10/29/13

IHS Review Johnny Arnold CSP, No IH Concerns 12/4/1
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	604631	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	N ppm	ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	Ø ppm	Ø ppm	462.19 ppm	2010.10 ppm	ppm	ppm
Methane Reading (< 16,000 ppm) (5.[5])	Ø ppm	Ø ppm	Ø ppm	Ø ppm	ppm	ppm

No Further Entries 1/18/12 No Further Entries 1/18/12

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 / 198450 1/18/12
Waste Handling Operator (print) Signature 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 ~~MOVEME~~ 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 S332499 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

1527 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 ~~1656~~ HS BAG OFF COMPLETE

1738 11/7/13 BEGINNING MOVEMENT FROM TA50-69 TO TRANSPORTAINER

1739 BAGGING ON S833481

1756 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 - JColeman

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.

0010 Operators out for lunch.

0138 Operators back from lunch.

0150 Beginning outside rounds and RCRA inspections.

0205 Outside rounds completed.

0238 Beginning inside rounds.

0257 Item #63 in OOS, 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 rounds 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 WCRRF yard and cold in 50-69.

0530 End of day. OCU position secured. - JColeman

No further entries this page -

11-7-13 DAYSHIFT

0600 Reviewed the shift turnover checklist and assumed the SOM position [illegible]

0645 Completed attending the pre-job brief conducted by the SOS (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 processed. RCTs noted that a bag seam split when prepping a drum in the containment pillar. The present drum was repropped. Operators were reminded to be cautious. Shift orders in effect were discussed. There are no transfers today.

0710 Completed daily call in with ARCN & SOM providing POD.

0822 Operators inside report B.g off daughter and bag on a drum and continue to process present drum SE 33409

0825 B.g off is completed.

0837 Interacted with RP-1 supervisor obtaining 3 8" post covers for the WCC from the ARCN Center.

0847 Operators outside initiate a movement out of SD-69 - 7 drums total

0944 Operators completed movement in of 3 drums into SD-69.

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 Drum SE 32449 - completed (Note: SE 33409 generated 2 daughters 1 POC).

12:5 Completed the daily SOM phone call with SOM and PM.

1315 Updated posting for Radiological Source Inventory sheet in SD-69 Room 104 located on the RADIOLOGICAL SAFE. A copy of the posting was placed in the Posting LOGBOOK

1459 Operators bag off 1 daughter, bag on another and continue to process.

1510 Operators notified the Operations Center/SOS and 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. Operators and RP-1

(Continued on NEXT PAGE)

1500 (Cont) could not locate any lead tape, phone calls were made to upper-group. Currently obtaining the lead tape from TA-55 - tool crib through Bianca. Notification was made to the CAM and a unique number was provided to procure the lead tape.

1640 The SOS will send an operator over to the TA-55 access control to meet with the Tool Crib lead. - When obtained, lead tape will be applied to stations 7 and 8 to cover gaps/cracks.

1712 Inside operations completed bagging on one daughter and bagging off and continue operations inside GB - clean up - Pot lower on - Parent Drum 5832449 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 5833481. (ready for nightshift)

1810 Completed shift turnover checklist with oncoming SOR.

1830 Released by R. Axtell as RCRR SOR after [illegible]

No further Entries this Page

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 S.S. covers. Briefed the active shift orders and the status of the WCG w/ a new parent being bagged on just before shift turnover. Discussed need to have facility in Cold @ end of shift w/ allowing time for WCG maintenance and glove inspections.

1951 Informed that one of the entry way lights at break trailer 50 194 is out. OCO submitted ESR.

2244 Completed bag off 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 WCG and wiping down / cleaning gloves for inspection.

0353 Completed reviewing round sheets for AM.

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 WCG 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

RAG

PROJECT NAME WERF SCS LOG BOOK NOTEBOOK NO.

11/7/15

0600 Assuming SCS Position Shelled m-f

0615 Conducted shift brief. Discussed status of Glovebox Alert status at Lead lined windows status and Alarm Pinnacle.

0645 Shift brief Concluded.

0832 Operators Entering 50-69 For Processing.

0870 Bagging off Daughter Bagging on Mother.

0835 Bag off/on complete.

0841 Filling out at 50-69 To transportation.

0842 Movement Complete.

0843 Moving into 50-69 from transferlanes

0844 Move in complete.

1644 Bagging off Daughter and Pec Bagging on 5832499 and denesting.

11.57 Bag off/on and denesting Complete.

1446 Relieved by Clarissa Velarde

1447 Assuming WERF SCS Position - CVelarde

1459 Bagging off 1 daughter, Bagging on 1 daughter.

1516 Bag on, Bag off complete.

1527 Started Inside rounds and outside rounds.

1551 Completed outside rounds

1620 Rounds have been signed off.

1630 Bagging off 1 daughter

1712 Bag off completed, waiting to receive lead tape.

1741 Bagged on 3833481

1742 Started movement out of 50-69.

1750 Completed movement into 50-69

-7-15 1806 Relieved by SCS 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. CK

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~~ 11-7-13 entrance to 50-196.

2219 Bagging off 1 daughter and 1 POC + bagging on a 2nd daughter.

MG 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~~ 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. CK

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
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 15
Item ID: 68582

Batch Number: 2LANDA1242
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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. 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-52,51,54
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 Chandler 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:

Print Name	Signature	Date
Benito Maestas		11/14/2013

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.	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. 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

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:

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

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: [signature] Date: 11/22/13

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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: **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		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: Jim Barton 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 Chambers 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

5833846

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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11-12-13 AE

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 MEI-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 | 733911 | 11-12-13
Waste Handling Tech (print) Signature Z # Date

ATTACHMENT I
Page 2 of 4

4.1[6][B] Parent Waste Container No.: S833846

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

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

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

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

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 5833846

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	68650	68653		
10.1[4]	Daughter Drum Filter No.	AN-676	AN-661	N/A	
10.1[4]	Daughter Drum Bag Filter No.	L-6733	L-6733		
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.	6CPVC525PC	6CPVC525PC		
	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	nitrate salts	Nitrate salts		
10.2[13]	POC Assembly closed per Manufacturer's instructions. (initial and /#)	GM 239911	GM 228226		
10.2[14]	POC Assembly Gross Weight (lb)	361.8	383.4		
10.2[15]	POC Rad. Survey Results (mrem/hr)	3,000	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.: 5033846

Comments: Nitrate salts, lead, plastic, poly lid, Kitty litter, Stukanets

11.1[1] Performed By: [illegible] [illegible] 122500 11-03-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: [illegible] [illegible] [illegible] [illegible]
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: NULFIL
Model No.: 013
Serial No.: TL 1032
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 [signature] 239987 11/7/13
Waste Handling Technician (print) Signature Z # Date

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

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

Comments: N/A

8.1[1] Performed By: JOE QUINTANA [signature] 239987 11/7/13
Waste Handling Technician (print) Signature Z # Date

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

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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 [signature] 0391 11-13-13
Waste Handling Technician (print) Signature Z # Date

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

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

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

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

Comments: n/a

8.1[1] Performed By: Federico Rebolloso [signature] 122884 11-13-13
Waste Handling Technician (print) Signature Z # Date

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

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.: 02401119
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC 1.5 - 23PVC
Serial No.: L-6733
Manufacture Date: N/A

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%ocw ±6%occw	±3%ocw ±6%occw

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

Performed By: [illegible] [illegible] 491368 / 11/12/13
Operator (print) Signature Z # Date

5.[23] Filtered vent information:
Manufacturer: [illegible]
Model No.: 019DS
Serial No.: [illegible]-676
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.: 68650

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] [illegible]
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] (Signature) 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: N/A
Operator (print) Signature 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 [signature] 77000 11-13-13
Operator (print) Signature Z # Date

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

ATTACHMENT 1
Page 1 of 2

11/12/13 [illegible]

WCRRF DRUM PREPARATION DATA SHEET

5.[34][E] Drum ID No.: 686053

5.[3] Drum information:
Purchase Order No.: 501578
Lot No.: 034019
Manufacture Date: 2013

5.[17] Drum Liner Bag/Filter Assembly:
Manufacturer: BOP
Model No.: 6CPVC 18-25PVC
Serial No.: L-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	636245
Cal. Expiration Date:	12-18-13	8-5-14
Range:	40-200 in-lb	16-80 ft-lb
Tolerance (+/-):	+4/00 -4/00	+-3/00 -3/00

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

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

5.[23] Filtered vent information:
Manufacturer:
Model No.: 019DS
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: [illegible] [illegible] [illegible] [illegible]
Operator (print) Signature Z # Date

7.1[4] Reviewed By: [illegible] [illegible] [illegible] [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)) [signature] (Signature) 23911 (I.D.) 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 jam nut and the locking ring lugs are not touching. ☑ SAT ☐ UNSAT

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

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

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

Performed By: N/A (Operator (print)) N/A (Signature) (I.D.) (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: MC

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

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

11-13-13 AE

ATTACHMENT 3
Page 1 of 1

WCRRF PARENT 55-GAL DRUM PREPARATION DATA SHEET

6.3[21] Prepared Parent 55-Gal Drum Number: 5933846

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): 386.2

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

Comments: N/A

8.1[1] Performed By: Edward Martinez [signature] 239911 11-13-13
Waste Handling Technician (print) Signature Z # Date

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

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

8.1[8][D] Approved by: [signature]
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-RTR2-11-0147

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 volumes of kitty litter/zeolite must be mixed with 1.0 volume of nitrate salts.

Performed By: R. W. Jones — Production Control (Print) — Signature — 117434 — Z Number — 1-24-12 — Date

WDP Engineering

SUSAN S RAMSOY — 100681 — 11/28/12

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 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) — Signature — Z Number — 2/6/12 — 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: The proper ratio of kitty litter to waste in accordance with the procedure.

Performed By: Joe Jerez — TRU Remediation Operations (Print) — Signature — 222412 — Z Number — 1-8-13 — Date

Robin Shult 272995 1-14-13

IH&S Review: [illegible] CSP, No IH concerns 12/4/1

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 Correct 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):	2.0
Organic Matrix (OR):	
Inorganic Matrix (IN):	65.0
Soils (S):	
Total WMP Weight	134.9

Can not verify

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 5833846	72 5835203				
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])	4937 ppm	6309 ppm	ppm	ppm	ppm	ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	3040.35 ppm	7184.70 ppm	ppm	ppm	ppm	ppm
Methane Reading (< 16,000 ppm) (5.[5])	Ø ppm	Ø ppm	ppm	ppm	ppm	ppm

No Thermal Exceedance 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 : 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 DAUGHER.
2113 NOTIFIED BY INSIDE PIC OF ELEVATED CAMS.
2127 BAGOFF COMPLETE, CAMS HAVE WENT BACK TO NORMAL.
2234 STARTING TO DENEST 2 DRUMS.
2257 DENESTING COMPLETE, BAGGING OFF and BAGGING ON S833846.
2331 BAG ON BAG OFF COMPLETE
0213 STARTING OUTSIDE ROUNDS.
0245 BEING RELIEVED BY OCO TERRI COLEMAN. G. Espinoza
0245 Assuming WCRR operations center, TColeman
0258 Outside rounds complete.
0310 Bagging off 1 daughter, 1 POC, bagging on another daughter.
0337 Bagoff/on complete.
0428 Beginning inside rounds.
0430 Being relieved by OCO Gerald Espinoza TColeman
0430 ASSUMING WCRR OPERATIONS CENTER. G. Espinoza
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 G. Espinoza

NO FURTHER ENTRIES THIS PAGE.

11/12/13 Night Shift

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

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

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

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

2257 Operators completed denesting 2 drums

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

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

0511 Reviewed inside and outside round sheets.

0545 Reviewed compliance tracking schedule and updated status board.

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

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

No further entries this page RR

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

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:

Print Name	Signature	Date
Benito Maestas		11/19/2013

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.	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 Pu-240 Eff. Mass Variance is negative, Pu-240 Eff. Mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis 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 Chandler 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

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CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-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

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

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	B. 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: [signature] 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.	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 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: 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**

5833846

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

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

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:

Print Name	Signature	Date
Benito Maestas		11/19/2013

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: _____ 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.	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. 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.	Ok
MCA Deadtime greater than the upper limit of 50.0%.	Deadtime=57.62%, no spectral distortion observed.
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 Chandler 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

TestName : 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

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

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	[signature]	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	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.	

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 Chamberlin 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

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S833937

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

S833937

- S833937
  - 93157 - EMPTY
  - 93156
  - 93155
  - 93154
  - 93153
    - SB02051
  - 93150
    - LASB02093

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-SPVC	3CPV-1.5-2-SPVC	3CPV.1.5-2-SPVC	
	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	600.6	
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 litter, hex armers	plastic, knives, kitty litter, 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 Mullins / [signature] 240091 / 3/4/13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Joe Jerez / [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.: 013
Serial No.: EL-417
Manufacture Date: 08/11

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: BRIAN GALLEGOS [signature] 267129 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 [signature] 267129 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 SOTO [signature] 221432 3-5-14
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 5
Page 1 of 1

3H-1 gr

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: 3-10-13
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: Gerald Espinoza / [signature] 1237700 / 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/A

8.1[1] Performed By: Gerald Espinoza / [signature] 1237700 / 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] 2214021 / 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 #: 8223813
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: PDO
Model #: GCNL 1.5-2 CPVC
Serial #: L-6334
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: NUCFIL
Model #: 019DS
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:	8-26-13	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 ±8% 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: [signature] Z#: 239987

5. Weigh Drum Assembly

RECORD weight information

Tare wight (lbs) 75.8
File ID #: 019065

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

6. Label Drum Assembly

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

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

Operator Print: JOE QUINTANA Operator Sign: [signature] Z#: 239987 Date: 2/27/13

Verifier Print: Gerald Espinoza Verifier Sign: [signature] 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: 3-14-13

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): 254.6

Scale ID#: 0190165

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

4. FINALIZE DOCUMENTATION

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

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

✓ Complete TWSR.

Operator Print/Sign: Gerald Espinoza Date 3-4-13

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

2-24-13 ω

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
- [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 #: 02333413
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPVC-15-23PVC
Serial #: L-16308
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: Nuc-Fil
Model #: 019-D3
Serial #: LM-6308
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: +/- 5% 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: [illegible] Z#: 240092 Date: 3/4/13

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

DRUM ID#: 93153

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 / 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#: 014065

✓ 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 / UET Date: 3/4/13

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

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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 | Production Control (Print) | Signature | 117434 Z Number | 12.8.11 Date
Susan S. Ramsey | Signature | 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: 355 lb. Fourteen items ranging from 5 lb to 62 lb.
Drums w/ nitrate salts may contain undocumented liquids
May require RWP for >1000 and <10000 mrem/hr @ 30 cm
Drums may have lead liner

Performed By: Valerie Rhodes | WDP Engineering (Print) | Signature | 112609 Z Number | 12/15/11 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 with hands. Use Hexamaxx gloves during processing
Processing Determination: ☑ Accept ☐ Reject
TRU Remediation Operations Comments: Use proper mixture of kitty litter to waste in accordance with procedures.

Performed By: Jose Jerez | TRU Remediation Operations (Print) | Signature | 224452 Z Number | 11-28-12 Date

Lt Z# 249750 12/11/12
IHS Review Johnny Amaldo 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	S832250	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])	23.62 ppm	435.44 ppm	Ø ppm	409.31 ppm	614.31 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 [signature] 104840, 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 WCRR operations center. Scheuman
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.
0756 Both rounds reviewed by SOS.
0810 Initiating a drum movement from transportainer to the transfer vehicle for a shipment to area G.
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 Mode change complete. We are now in operations in WCRRF yard and 5069.
1104 Late entry - at 0818 - went to operations, at 0910 changed from operations to warm in 5069 and WCRRF yard (SC)
1427 RCT reports the zip ties are failing.
1503 Bagging off S833937 and PEC's.
1642 Bag off complete.
SC 3-4-13 1645 Beginning outside rounds.
1646 Beginning inside rounds.
1655 Item #3 unsat, FSR in place, okay to proceed.
SC 3-4-13 1703 Item #61 is OOS, POD in place, okay to proceed.
1705 ~~703~~ Outside rounds complete.
1725 Initiating a drum movement from 5069 to a transportainer
Continued on next page. Scheuman

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

No further entries

PROJECT NAME 3/4/13 NOTEBOOK NO

0600 Reviewed Shift turnover checklist and assumed the WCRR SOM position.

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.

3-4-13

No further entries this page

SIGNATURE DATE 3/4/ 20 13
READ AND UNDERSTOOD DATE 20

3-4-13 WCRR SOS Log Book

0600 Assuming SOS position for the day. [illegible]

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 cuts 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 SOS position. [illegible]

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
Examination Date:	3/9/2013
Waste Container ID:	93150
Video/Audio Recorded Media Number:	LA-RTR2-13-0040 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		3/9/2013
Print Name BENITO MARTINS	Signature	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 Cole 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. 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: **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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 93153

Batch Number: 1LANDA1795
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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. [illegible] 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	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

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

Expert Review by: Sheri Chamberlin 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

S833937

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: [signature] Date: 3-15-13

ITR: [signature] 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

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

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL 3.18.13 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 3.13.18 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	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. [illegible] Date: 3.18.13

ITR: [illegible] 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.	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. 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 Chamberlin 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: [signature] Date: 3.18.13

ITR: [signature] 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

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
  - 92939
  - 92938
  - 92937
  - 92936
  - LA00000092935
  - 92934
  - 92933

COPY
2-14-13

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 / Bri Gallegos / 260129 / 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 Z # 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	N/A	
10.1[4]	Daughter Drum Filter No.	KL-354	AM-715		
10.1[4]	Daughter Drum Bag Filter No.	L-6207	L-1760		
10.1[4]	Daughter Drum Purchase Order No.	501011	416113		
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.	6CPVC1.5-2SPVC	6CPVC1.5-2SPVC	6CPVC1.5-2SPVC	6CPVC1.5-2SPVC
	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. S834406

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

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

11.1[7] Reviewed By: [signature] [signature] 14,235 x 13 2 16 30
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 267129	BG 267129	BG 267129	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
Page 4 of 4

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 2-14-13 ~~415528~~ 415525
Lot No.: 0220645
Manufacture Date: 2011

5.[8] Overpack filtered vent information:

Manufacturer: [illegible]
Model No.: [illegible]
Serial No.: JL-1951
Manufacture Date: 10/11

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

	Filtered Vent	2 in. Bung
M&TE No.:	040694	083369
Cal. Expiration Date:	9/26/15	12/15/12
Tolerance:	+/- 4% +/- 6% [illegible]	+/- 5% +/- 6% [illegible]

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

Performed By: Miguel Gonzalez [illegible] [illegible] 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 Gonzalez [illegible] [illegible] 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: GMK [illegible] 149351 2.15.13
Supervisor or designee (print) Signature Z# Date

2-14-13 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.: 038367
Cal. Expiration Date: 3-16-13
Range in ft-lb: 10-80
Tolerance: ±3% ow ±6% ocw

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

Performed By: Brian Gallegos [signature] 261129 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 [signature] 261129 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 [signature] 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

- [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 #: 0233413
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:
Manufacturer: BOP
Model #: 6cpvc-1.5 25pvc
Serial #: L-6207
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: 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% ccw ±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.
[x] Yes [ ] No
Print Name: Brandon Chacon Signature: [signature] Z#: 204702

5. Weigh Drum Assembly

RECORD weight information
Tare witght (lbs) 75.8
File ID #: 019065

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

6. Label Drum Assembly

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

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

Operator Print: Brandon Chacon Operator Sign: [signature] Z#: 204702 Date: 2-10-13
Verifier Print: Brian Gallegos 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) 200.6

Scale ID#: 019065

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

4. FINALIZE DOCUMENTATION

✓ Have RCT monitor drum prior to moving to storage area

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

✓ Complete TWSR.

Operator Print/Sign: B. Holley Date: 2-14-13

Verifier Print/Sign: B. Fortner 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 #: 0229223
Date of Manufacture: 12

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 6CPVC 1.5 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 #: 401-715
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:	±4% cw ±6% ccw	Tolerance:	±4% 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 wtight (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. FORDNAM Verifier Sign: B. Fordnam Z#: 235655 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#: 08065

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

4. FINALIZE DOCUMENTATION

✓ Have RCT monitor drum prior to moving to storage area

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

✓ Complete TWSR.

Operator Print/Sign: [illegible] Date: 2-14-13

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

2 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: 5834406

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] / 1268129 / 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: [illegible] / [signature] / 1498375 / 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: [illegible] / [signature] / 1498375 / 2.15.13 / 1000
SOS/SOM or designee (print) Signature Z # Date Time

WDP TRU Waste Container Management Operations

UET

Document No: EP-DIV-AP-0107
Attachment: 1
Revision: 1
Effective Date: 12/22/2009

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 1.0 volume of nitrate salts.

Performed By: R. W. Jones (Production Control (Print)) Signature 117434 (Z Number) 10.6.09 (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 corr RTR data. Failed RTR pre-screen. May remove DWP for > 100 mrem/hr. Multiple items with high surf. meas. Note: Nitrate salts sometimes contain unidentified liquids. Note: ~~[illegible]~~ for high-dose campaign.

Performed By: Zachary L. Gaffey (WDP Engineering (Print)) Signature 1130356 (Z Number) 11-18-10 (Date)

TRU Remediation Operations

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

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

IHS Review Johnny Amalbert CSP, may contain Pb, mercury, chromium, 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	IX8500X45FA		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	8550X46-FA		12.270	NITRATE SALT		13.54	52	6/11	G468	
9	IXFS857FA		5.000	NITRATE SALT		5.64	52	6/11	G468	
10	860-0X47-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		1236973	10-2010
	/	/	/

Container No. (7.[1]):	S834406	S825814	S832233
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]):	22.58 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] (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)) Kenny Romero (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 lower vehicle access gates
0826 Starting the denesting of 5 drums.
0845 Operators notifying ops center that drum S851517 will not be getting denested top of drum is to degraded will put the lid back on and rejected.
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 Denesting is complete, bagging on S825026
0941 bag on complete, PPE Check is sat.
1029 starting movement of 50-69.
1033 bagging off S825026, bagging on S834406.
1037 movement out of 50-69 completed.
1050 bag on, bag off complete, PPE Check is sat
1213 bagging off S834406 and 7 Pacs, bagging on S814927
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 S834406 then will depost and continue
- Continued on next page -Orlando

2-14-13 - Continued from previous page - Crelands to process and bag off 5 tote pacs. TOO1 drum has become a daughter and new 55 will become a too1 drum.

1557 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 ~~thrust~~ 2-14-13 Nrust 5811725

1648 SOM will be seeking permission to leave 5814927 bagged on.

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 ~~1846~~ 2-14-13 Bag off complete

2-14-13 1842 Mode change being performed 5D-169 and WCRRF yard in warm.

2-14-13 1900 End of day WCRR operations Center secure-CRC

HG

No further entries this page

PROJECT NAME 2/14/13 NOTEBOOK NO

0600 Assumed WCRR SOM position.

0615 Attended pre job brief conducted by SOS. Discussed yesterday unauthorized access incident and having a questioning att. to the 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 USS 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 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.

No further entries this page

SIGNATURE DATE 2/14 20 13

READ AND UNDERSTOOD DATE 20

2-15-13 14 Gm2 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 saftly

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 Martinez 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.

1530 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

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

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	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

S834406

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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 92932

Batch Number: 1LANDA1723
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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 utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

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

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

Attachment 4 – Flammable Gas Analysis Form

583406

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

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CCP Radiography Data Sheet

Section 1: General Information	
[X] RTR Examination [ ] RTR Replicate Scan [ ] RTR Independent Observation	
Site ID:	LANL
Batch Number:	LA-HERTR-13-0017
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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 92933

Batch Number: 1LANDA1736
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: Ami Barton Date: 3/26/13

ITR: Martha Gi 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 utilized was provided by Steve Schafer, AKE, and consists of data from CCP-AK-LANL-006, AK Source Document M237. MT-52,53,56
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%.	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 Chamber 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

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

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.	Ok
Cosmic Ray Rejection Analysis complete with warnings. - The CRR High-Z mass Mass Variance is negative, High-Z mass Uncertainty set to zero so analysis could continue.	Ok
Section 3 - Data Combiner Analysis Override enabled; Gamma data specified as input. 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.	Ok
Spectrum Validity Check engine has suggested data review.	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

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

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	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 Chamberlin 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

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. S3000		
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
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 14
Item ID: 92936

Batch Number: 2LANDA1132
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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

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	[signature]	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 Chambers 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	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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 92938

Batch Number: 1LANDA1723
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 3-7-13

ITR: [signature] 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 Chamberlin 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

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

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: [signature] Date: 3/4/13

ITR: [signature] 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: Sheri 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	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

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

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.: 019065
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): Ø 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
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~~4.1[6][B]~~ Parent Waste Container No.: _____

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

N/A

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.				
10.1[4]	Daughter Drum Filter No.				
10.1[4]	Daughter Drum Bag Filter No.		N/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.	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	
10.2[7][D]/10.2[8][D]	Bag-out Bag Filter No.	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 2-6-12
10.2[14]	POC Assembly Gross Weight (lb)	374.4	366.0		
10.2[15]	POC Rad. Survey Results (mrem/hr)	1/01	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
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4.1[6][B] Parent Waste Container No.: S834539

Comments: Lead, plastic, Salts

11.1[1] Performed By: Michael Romero Michael Romero 182723 / 2-6-12
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:	NVCF:1-013
Filter ID Number:	FS-2204
Date of Manufacture:	10/98

TORQUE WRENCH INFORMATION

Filter Torque Wrench		**Drum Lid Ring Bolt**	
M&TE ID#		M&TE ID#	038373
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	I#	Date
Brian Fordham	Brian Fordham	B.F.	255635	2-6-12
Michael Romero	Michael Romero	MR	1182723	2-6-12

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

Drum ID#: 90855

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 #: 414992
Lot #: 217304
Date of Manufacture: 11

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 #: 3cpul.5-2SPVC
Serial #: WA1609
Date of Manufacture: 6/11

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 #: 019DS
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.

[x] Yes [ ] No

Print Name: Timmy Romero Signature: [signature] Z#: 234253

5. Weigh Drum Assembly

RECORD weight information

Tare witght (lbs) 74.6
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: Timmy Romero Operator Sign: [signature] Z#: 234253 Date: 1-4-12

Verifier Print: Michael Romero Verifier Sign: Michael Romero 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: ~~9-18-12~~ 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.): 165.4

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: 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: R. W. Jones Z Number: 117434 Date: 12-1-11

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 115 lb and others ranging from 11 lb to 76 lb.
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 142 g; one item is 84 g

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: 112609 Date: 12/12/11

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 Velarde (TRU Remediation Operations (Print)) Signature: [illegible] Z Number: 234079 Date: 12/12/11

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						

ATTACHMENT 1
Page 1 of 2

HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

7.[1] Sample Date: 1/18/11

7.[7] Certified CCP Technician:

CCP (Print)	Signature	Z #	Date
Gabe Romero	[redacted]	1236773	1-26-11
	/	/	/

Container No. (7.[1]):	S863070 LS	S862515	S834539 LS
Container Type (SWB, 110/85/55-gal) (7.[1]):	55gal	55 gal	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
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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
WIPP Approved (SAT/UNSAT) (7.[9][F][c]/7.[9][G][a]):	SAT	SAT	SAT
Torque Wrench M&TE/ID Number (7.[9][F][a]/7.[9][G][a]):	N/A	N/A	N/A
Torque Wrench Calibration Due Date (7.[9][F][a]/7.[9][G][a]):	N/A	N/A	N/A
Torque Wrench Tolerance (7.[9][F][a]/7.[9][G][a]):	N/A	N/A	N/A
VERIFY Torque Wrench is within acceptable range as specified on Cal Certificate. (7.[9][F][a]/7.[9][G][b])	☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A	☐ YES ☐ NO ☑ N/A
Filter Torque Value (7.[9][F][a]/7.[9][G][d]) *	N/A	N/A	N/A

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

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

11.1[1] Performed By: Alicia Herrera / [signature] 198450 / 1/24/11
Waste Handling Operator (print) Signature Z # Date

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

☑ No deficiencies

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

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

11.1[7][B]/ 11.1[8] Reviewed By: Kenny Romero [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. - JCOleman
0602 Beginning inside rounds.
0615 Item #60 on the rounds is OOS. Per CSE, we are Okay to proceed.
0616 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 SOM 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 SOM 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 2612 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 2612 transfer vehicle.
1009 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. ~~Beg~~ 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. JCOleman

No further entries this page

SIGNATURE _____ DATE _____ 20
READ AND UNDERSTOOD _____ DATE _____ 20

PROJECT NAME 2612 NOTEBOOK NO.

0000 Reviewed shift turnover from previous shift and assumed the WCRR SDM position. General Office
0040 Listened in to morning call in. WCRR is awaiting engineering support to sign off on work packages for maintenance work performed on 2.3.12.
0745 Most of all 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 connection the cord for the MAC21 is broken. Operators were instructed not to use it until engineering and the electricians were notified and they could time replace it. The operators will resume with de-netting 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 tray can be used. Per ~~engineer~~ 2612 maintenance manager operations
1640 personnel may install cord without a work package or and electrician present.
1640 Mode change complete WCRR YARD and SD69 from
@2612 OPERATIONS to WARM.
1650 Leaving the WCRR SDM duties

no further Entries

SIGNATURE [signature] DATE 2-6 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 operation's 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 Per 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 Mr. Grief ok to use Cord. (Any Compatible Cord)

1106 Contacted OM he gave the ok to proceede with operations And Allow Operators to Connect cord.

1558 Reviewed Inside And outside Rounds.

1640 Mode Change Complete WCRR Yard And SO-69 in to warm standby

1706 End of shift Securing SOS Position

EJD 2/10/12

As further Information Will Follow

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: [signature] Date: 2-27-12

ITR: [signature] 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 Chambers 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

4-12-13a

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 70865

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] 114661 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] (S) Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

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

N/A

EWMO-FOD (print) Signature Z # Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 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#)			A	
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 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.: 20885

Comments: Plastic, Glove Box Gloves, Hex Arms

11.1[1] Performed By: James [illegible] / [illegible] 1111162 10-22-13
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: B. Fossman / B. [illegible] 1235635 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.: 5010R
Lot No.: 0233945
Manufacture Date: 2012

5.[8] Overpack filtered vent information:
Manufacturer: Nucleal
Model No.: 213
Serial No.: E-3084
Manufacture Date: 8/11

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

	Filtered Vent	2 in. Bung
M&TE No.:	0406094	0285269
Cal. Expiration Date:	9-26-13	12-18-13
Tolerance:	+/- 4% cw +/- 6% ccw	+/- 2% cw +/- 6% ccw

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

Performed By: Frederick Rebolloh / [signature] 122[illegible] / 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 Rebolloh / [signature] 122[illegible] / 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 Fogolman / [signature] / 23[illegible] / 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.: 98 M 12 13 90 93 465

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% cum)

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

Performed By: James [illegible] [signature] 116662 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: James [illegible] [signature] 116662 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 B. [signature] 123563 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
  - 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 #: 0233763
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
  - 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 #: 60PUC1.525PUC
Serial #: L-6567
Date of Manufacture: 1-13

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: 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.

☐ Yes ☐ No

Print Name: Brandon Chavez Signature: [signature] Z#: 204742

5. Weigh Drum Assembly

RECORD weight information

Tare wtight (lbs) 75.8

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: [signature] Z#: 204742 Date: 4-11-13

Verifier Print: James G. [illegible] Verifier Sign: [signature] Z#: 116062 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:

NR ✓ 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 gl 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)) [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 lb. Parent drum contained nitrate salts. BDR for this daughter drum shows scrap lead, leaded rubber gloves, plastic bags, boxtanks, plastic lid liner, + homogenous solid material. Remaining nitrate salts require repack w/ admixture. No chemicals identified; drum carries waste code for chromium, lead, + mercury.

Performed By: Valerie Rhodes (WDP Engineering (Print)) [signature] (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: 6

Performed By: [illegible] (TRU Remediation Operations (Print)) [signature] (Signature) 14923 (Z Number) 3/26/13 (Date)
OK Z# 249750 4/10/13 * Potential Sharps - utilize hemostat, gloves & tools to handle waste. Do not push/press waste with hands. Has Rad Waste. [illegible] CSP. May Contain lead, chromium, and Mercury
3-7-13

Document No: EP-DIV-AP-0107

Discardable Waste Log Sheet

DrumID: 015780

Item#	ItemID	Net (kg)	Material	M Code	NM	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 Area, which is 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: [illegible]		
Are there heat-sealed bags (unvented) GREATER than 4 liters and LESS than 390 square inches in the waste, or heat sealed bags not authorized in the RH TRUCON Code?	☐	☑
Were there Non-approved Closure Methods used on liner bags or inner bags greater than 4 liters?	☐	☑
Are there sealed containers GREATER than 4 liters?	☐	☑
Are there indications of inadequate protection for heavy and/or sharp objects?	☐	☑

Comments: N/A

RTR Operator:

Print Name	Signature	Date
Philip Dillard	[signature]	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])	072					
Filtered Vent Unobstructed (5.[1])	☑ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
WIPP-Approved Filtered Vent (5.[2])	☑ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT	☐ SAT ☐ UNSAT
Total CCP VOC value (< 7,000 ppm) (5.[4])	0 ppm	ppm	ppm	ppm	ppm	ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	0 ppm	ppm	ppm	ppm	ppm	ppm
Methane Reading (< 16,000 ppm) (5.[5])	0 ppm	ppm	ppm	ppm	ppm	ppm

N/A

5.[7] Certified CCP Technician:

Performed By: Sara Aragon — 23 1715
CCP (Print) Z#

Reviewed By: Nathan Bailes — 2
CCP (Print) Z#

Comments:

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

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

6.1[3] Performed By: Susan S Ramsey — 100091 — 3/25/13
Waste Handling Operator (print) Signature Z# 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 - Delaude
0610 Starting outside rounds.
0615 Pre job briefing being conducted
0619 Item # 3 is unsat, 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 G
0813 mode change performed TA50-69 and WCRRF yard now in operations
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 OOS, POD in place okay to proceed.
1553 Item #3 is unsat, FSR in place okay to proceed
.00 Bagging off 90855
1602 Outside rounds complete.

-Continued on next page - Delaude

4-12-13 Continued from previous page - Cleland

1419 Bag 886 complete.

1649 mode change performed TA50-69 and WCRCF now in warm standby

1730 end of day WCRCF operations center secure C Veland

no further entries this page

4/13/13

0000 Reviewed the previous shift turnover, and assumed the WCRR SOM position. [signature]

0015 Attended the pre-boring conducted by the SPS. Discussed repairs to ARTIC roll up doors. West door (primary) is operational electronically and mechanical. South roll up 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.

0806 Operations bagging on first drum of the day.

1000 Operations reported bagging off 1 daughter and 2 POCs.

1007 Bag off of first drum complete.

1458 Bagging off 1 daughter and 2 POCs, and bagging on another daughter drum.

1440 Verified all rounds complete and signed off by SPS (afternoon rounds).

1445 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. [signature]

y
4-17-13

No further entries this page.

[signature]

4-13

13

4/13/13 WCRR SOS Log Book

0600 Assuming SOS position. CK

0615 Starting Pre-Job, discussed the artic roll up doors back to ~~operat~~ operational and watching out for leaks inside 50-69. Re-briefed to processing RWP. CM 4-13-13

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

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: [signature] Date: 7-24-13

ITR: [signature] 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	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.
Results are marked as invalid.	
Section 5 - Gamma Analysis	
Analysis Status: No errors.	Ok

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

Expert Review by: Sheri Chamberlin 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 SAA

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

18

~~18~~

7-24-13 SA

WORKING COPY
11-1-12

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 90958

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] (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.: 019065
Cal. Due Date: 7-31-13

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) N/A
(Initial and Date)

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

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

Performed By: BRIAN GALLEGOS [signature] [signature] 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	Z #	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		N/A	
10.1[4]	Daughter Drum Bag Filter No.	L-3875			
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)			N/A	
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 (%)	75%		N/A	
10.5[3]/10.6[2]	Description Waste Added During Processing	STUFF OUT BAGS, KITTY LITTER			

ATTACHMENT I
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] [illegible] 11-01-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: JOSE JOYER / [signature] 122452 11-5-12 1030
SOS or designee (print) / Signature Z # Date/Time

UE WORKING COPY
ID 30 12 DV

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: 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	021115
Cal. Expiration Date:	9-26-13	6-11-13
Tolerance:	± 4% rdg ± 6% scale	± 3% rdg ± 6% scale

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

Performed By: Brandon Chavez / Brandon Chavez 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/A

8.1[1] Performed By: Brandon Chavez / Brandon Chavez 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 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.: 040327
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 / [signature] [illegible] 11-01-12
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: 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 / [signature] [illegible] 11-01-12
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 JUAREZ / [signature] 221452 11-5-12
Supervisor or designee (print) Signature Z# 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
- [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 #: 416184
- Lot #: 0229229
- Date of Manufacture: 12

2. Drum Liner Bag/Filter Assembly:

- [x] Place yellow vinyl tape, with arrow 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 #: 6 CPV 1.5 - 2 SPUC
- 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
- [x] Place cardboard/plastic liner into drum liner bag/filter assembly
- [x] Line up filter with drum seam
- [x] Place liner/bag/filter assembly into drum
- [x] Roll excess liner bag into cardboard liner/plastic liner

4. Install Lid/Drum Filter

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

RECORD drum filter information:
- Manufacturer: NUCFIL
- Model #: 01905
- Serial #: AM-780
- Date of Manufacture: 10-12

RECORD torque wrench information

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	040694	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% 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: Brandon Chavez Signature: [signature] ZI#: 204992

5. Weigh Drum Assembly

RECORD weight information
- Tare wight (lbs) 760
- File ID #: 040005

- [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:	Brandon Chavez	Operator Sign:	[signature]	ZI#: 204992	Date: 10-23-12
Verifier Print:	Brian Gallegos	Verifier Sign:	[signature]	ZI#: 207129	Date: 11-01-12

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

DRUM ID#: 92292

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: 3-15-12

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 Espinosa Date 11/1/12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90858 Container Type: PQC Gross Weight (lbs): 352

Liner Seal #: None Filter Prefix: None Filter Serial #: EL-10; EL-19

RTR 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 WL 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 770 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 / 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 - PQC

Net Wt: 4215 Parent drum (SEDs attached) was part of HWRR nitrate salt repack campaign using Waste loc 770. This resulting daughter PQC 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.

May exceed PAR for [illegible] and 1000 mrem/hr

Performed By: Valerie Rhodes / Valerie Rhodes / [illegible] / 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 2x kitty litter 1x to 1 pot of salt.

Performed By: Gilbert Martinez / [signature] / 142225 / 9.27.12
TRU Remediation Operations (Print) Signature Z Number Date

IHS Review: [signature] CSP, Contains lead, Chromium, + Hg. 9-26-12

Document No: EP-DIV-AP-0107 JJ - 221452 - 9-28-12

Discardable Waste Log Sheet

DrumID: 015780

Detail	DrumID	Net (kg)	Material	M Code	NRM	NET	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	

161.70 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) 190298 (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 (+) signals summed

11-1-12

0540 Assuming WCC operations with J. Kleiman
0544 Beginning outside rounds.
0603 Outside rounds complete.
0604 Air quality has issued 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 reviewed by SCS.
0715 Mode change complete, we are now in operations.
0810 Initiating drum movement from SC-69 to staging area
0842 Bagging on 90SC. Drum movement complete.
0853 Bag on complete
~~1625~~ Bagging off 90SC bagging on 90858.
1020 Bag on complete.
1105 Bagging off 90858, bagging on 90853.
1130 Bag on complete.
1158 Bagging off 90853, bagging on 90866.
1215 Bag off + on complete.
1333 Bagging off 90866.
1404 Bag off complete.
1415 Mode changing to warm standby for the maintenance company to sample inside SC-69. WO#416885 to initiate drum movement from SC-69 to staging area
1433 Drum movement complete. Maintenance has been turned over from the facility.
1442 Mode changed back to operations. Relamping complete. Operations will begin to run empty ESS's in on SC-B.
1455 Beginning inside rounds.
1519 Beginning outside rounds
1525 Inside rounds complete.
1530 Outside rounds complete.
1537 ~~Both~~ JC 11-1-12 Both rounds reviewed by SCS.
1620 Mode change complete. We are now in warm standby in WCC-1 and CCD in SC-69.
1630 End of day operations with J. Kleiman

No further entries this page

Entry employee number
192351
Intermediate Decade - 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 / Blds 50-69 from Warm / Warm to Operations / Operations.

0830 Per OM and OSP&T are cancelling today's incoming shipment due to potential storage space available being insufficient over weekend. Rescheduling for Monday.

0845 Released W.O # 447598-01 50-69 TSR/ISI Daily & Weekly Rounds.

1038 WMC 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 worksites 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 / Blds 50-69 from Operations / Operations to Warm / Warm to support relamping.

1442 Completed Mode Change WCRR Yard / Blds 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 / Blds 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 WCRRF In operations

1415 Mode Change Complete For Elect. could change out bulbs on WCG.

1442 Mode Change Complete WCRRF In operations.

1537 Reviewed Inside And outside Rounds.

1620 Mode Change Complete WCRR Yard In warm SO-69 In Cold.

11-1-12 Thu 1631 End of shift Securing SOS Position. [signature]

No further entries on this Page.

CCP Radiography Data Sheet

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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 92292

Batch Number: 1LANDA1837
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 6-6-14

ITR: [signature] Date: 6/9/14

026
PS 6/12/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 23552
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 92292

Batch Number: 1LANDA1837
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: Am Barton Date: 9/10/13

CS 6/12/14

CS 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
CS 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:

NA

EWMO-FOD (print) Signature Z # Date

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.	WD-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	~~Ron Bag~~			
	Model No.	3CPU1.5 2.5mil			
	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 2#)	RC 24782			
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 with the cans			

ATTACHMENT 1
Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90859

Comments: Plastic, cardboard, Stainless Steel

11.1[1] Performed By: Brandon Chavez / [signature] 1264/1421 10-2-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez / [signature] 1221452 / 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:

Purchase Order No.: ~~020614~~ 414995
Lot No.: 217366
Manufacture Date: 2010

5.[8] Overpack filtered vent information:

Manufacturer: NUCFIL
Model No.: 013
Serial No.: HL-946
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% rdg / +-6% scale	+-3% rdg / +-6% scale

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: 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 Jerez (print) Signature 22142 10-3-12

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: ~~16-80~~ 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: Brandon Chavez [signature] 1204521 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] 1204521 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 Jerez [signature] 2214521 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#: 92133

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 #: 0223225
Date of Manufacture: N/A

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
- [ ] Inspect bungee cord
  - NOTE: Reject bag if bungee cord is broken or damaged

RECORD bag filter information:

Manufacturer: RCP
Model #: Gaporous 25 SPC
Serial #: 230-7813
Date of Manufacture: 7/2012

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
- [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: WAFIL
Model #: 0195
Serial #: AM-28N
Date of Manufacture: 1-12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	020614	M&TE ID #:	021151
Cal Expiration Date:	10-19-12	Cal Expiration Date:	6/11/2013
Range (ft-lbs or in-lbs):	50-300	Range (ft-lbs or in-lbs):	10-50
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: Eddie Rios Signature: [signature] Z#: 187822

5. Weigh Drum Assembly

RECORD weight information

Tare wight (lbs) 76.0
File ID #: 059065

- [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: Eddie Rios Operator Sign: [signature] Z#: 187822 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): 16-80

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

Container Seal #: None Filter Prefix: None Filter Serial #: EL-317; EL-56

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 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 loc 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 Ralsey (Production Control (Print)) Signature: Susan P. Ralsey Z Number: 100681 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: 96lb, Parent drum (S834539 attached) was part of WCRR nitrate salt repack campaign using Waste Loc 770. This resulting daughter POC is being repacked to adjust admixture/nitrate salt ratio. Nitrate salts can 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 Z Number: 112609 Date: 9/25/12

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: Gilbert Martinez (TRU Remediation Operations (Print)) Signature: [signature] Z Number: 149235 Date: 9-26-12

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#	DrumID	Net (kg)	Matrix	RI Code	NW	NT	Audit	Remarks
1		92.96	NITRATE SALTS		93.63	32	6/11	
2		34.33	NITRATE SALTS		34.33	33	6/11	
3		5.19	NITRATE SALTS		5.19	34	6/11	
4		12.56	NITRATE SALTS		12.56	35	6/11	
5		6.99	NITRATE SALTS		6.99	36	6/11	
		151.93 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 received 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 OCO, Clarissa Velarde. TColeman.
0937 Assuming WCRR operations CCoten - CVelarde.
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 OCO Terri Coleman - CVelarde.
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~~ JC 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, JC 10-2-12
continued on next page. TColeman

continued from previous page. JColeman
1550 Bag of complete. 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 - JColeman

No further entries this page.

10/2/12

0600 ~~Relieved SOM tue~~ 10/2/12 Assumed SOM position.

0615 Attended prejob brief conducted by SOS. Discussed yesterday's processing of SP-72 salt drums. Workers added 15/1 ratio of KitKy 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 / LTP management. Discussed increase in production w/ SP 72 drums and need to keep shipments on schedule. Require SEDS/CFCL's to be increased.

1255 Notified by MSS supervisor that no evidence of rodents in walls or ceiling of 50-84. Walkdown to scope new furnace install will occur 10/2/12 tomorrow.

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. [illegible]

0615 Starting Pre-Job brief. Discussed Barriers and Postings. Ensure that all entries and exit into the WCRRE 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 fifth drum, Baggin on sixth drum

[illegible] 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. [illegible]

No Further Entries on this Page

CCP Radiography Data Sheet

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:		
Dennis Powell Eric Lyles		1-15-13 1/15/2013
Print Name	Signature	Date

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 S5000		
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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 92133

Batch Number: 1LANDA1698
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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 [illegible] Date: 1·31·13

ITR: [illegible] Date: 1-31-2017

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 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: **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

5834539

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
Assay Instrument: HENC #2
Analysis Method: CCP-TP-063 v 14
Item ID: 92134

Batch Number: 2LANDA1077
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 1·15·13

ITR: [signature] 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. 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.	Pu results taken from Passive Neutron data, U from Quantitative Gamma data.
Section 4 - MGA Analysis Expert review is recommended; the following validity tests failed: Pu239 weight percent is outside limits [92.5, 95.0].	QFIT and NQFIT within limits. After EA review, MGA valid.

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

29

90860

Best Available Copy

10-9-12a

ATTACHMENT 1
Page 1 of 4

WCRRF WCG WASTE PROCESSING DATA SHEET

4.1[6][B] Parent Waste Container No.: 9680

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: D003, D008, D005

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.: 00065
Cal. Due Date: 3-15-12

4.3[5][B] ($) Three 1-Liter containers carbon spheroids or MET-L-X in WCG: (SAC 5.10.1.7.1) ☑ YES ☐ NO ☐ 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: [illegible] / [illegible] / [illegible] / 6-5-12
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: 152.0 lb

6.2[5][A] Parent Drum Lead Blanket Weight (lb): 0 lb

6.2[5][B]/ 6.2[6] Total Parent Drum Weight (lb) 152.0 lb

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

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

EWMO-FOD (print)	Signature	Z #	Date
	NA		

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.	9218			
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]/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer	[illegible]			
	Model No.	[illegible]			
	Serial No.	[illegible]			
	Date of Manufacture	7-12			
10.2[5]	POC ID No	9218			
10.2[7][B]/10.2[6]	POC Item Description	[illegible]			
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	[illegible]			
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	Repack [illegible]			

ATTACHMENT 1

Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90260

Comments: cardboard, plastic, metal LID, bolts, bits

11.1[1] Performed By: [illegible] [illegible] [illegible] 282782 10-5-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez [illegible] 221452 10-10-12 1133
SOS or designee (print) Signature Z # Date/Time

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10-3-12a)

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: NuFil
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 (Waste Handling Technician (print)) (Signature) 240009 (Z #) 10-03-12 (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 (Waste Handling Technician (print)) (Signature) 240012 (Z #) 10-03-12 (Date)

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

8.1[7] Reviewed By: Jose Perez (Supervisor or designee (print)) (Signature) 221452 (Z #) 10-10-12 (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.: [illegible]

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] [illegible]
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: [illegible] 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] [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: Jose Juarez / [illegible] 221852 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#: 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 #: 416265
Lot #: 0229225
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

- [x] Place yellow vinyl tape, with arrow 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 #: ~~[illegible]~~ GCPVC 1.5-2 SPVC
Serial #: ~~[illegible]~~ 63546
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 #: 619-05
Serial #: AM-755
Date of Manufacture: 4/12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	020614	M&TE ID #:	021151
Cal Expiration Date:	10-19-12	Cal Expiration Date:	6-11-13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	10-40
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: Steven Mandragon Signature: Steven Mandragon ID#: 104741

5. Weigh Drum Assembly

RECORD weight information

Tare weight (lbs): 75.4
File ID #: 0446

- [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 Mandragon Operator Sign: Steven Mandragon ID#: 104741 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 # 040524

Cal expiration date: 3-15-13

Range/ Value (ft-lbs): 1000

--- Tolerance +/-3% or +/-6% max

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): 173.16

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: Hugo Cuevas 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

Seal #: None Filter Prefix: None Filter Serial #: EL-306; EL-445

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 10/1/12

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 pent (SGDs attached) of WCRF Nitrate salt repack re-packaging using Wheelpak 720. This is setting chargeable atomic RC is being repacked to adjust administrative nitrate salt pkg. Nitrate salts require waste codes for alk ... cm, 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

HS 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	M Code	Filled	RST	Appr'd	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])	Ø ppm	ppm	ppm	ppm	ppm	ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	Ø ppm	ppm	ppm	ppm	ppm	ppm
Methane Reading (< 16,000 ppm) (5.[5])	Ø ppm	ppm	ppm	ppm	ppm	ppm

5.[7] Certified CCP Technician:

Performed By: 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 - Cleland
0615 Starting outside rounds
0631 Starting inside rounds
0650 Complete outside rounds
0657 Inside rounds completed.
0705 Inside and outside rounds signed off by SOS.
0715 Mode change performed by 10941 TAS 50-69 and WCRRF now in operations.
0747 Starting movement into 50-69.
0822 bagging on 90848 by 10941
0830 bag off ~~complete~~ on complete.
0903 bagging off 90848, bagging on 90860
0920 bag on complete
0927 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 - Cleland
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. [signature]
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 JOD 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 operation (SOS 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 | YARD all in WARM.
1400 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 SOS 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.
1445 Mode change complete WCRR YARD | 50.69 from OPERATIONS | OPERATIONS to WARM | WARM.
1455 Secured watch. [signature]

10-15-12

No Nuclear Events this past

[signature] 10/9 12

10.9.12 WCRR SOS LOGBOOK

0600 Assuming SOS Position [illegible]

0615 Conducted shift Brief went over Revision on WO-DOP-0202.

0645 Conducted shift Brief.

0705 Reviewed Inside And outside Rounds.

0715 Mode Change Complete WCRRF In Operations Mode

1612 Reviewed Inside And outside Rounds.

1645 Mode Change Complete

1648 end of shift Securing Position [illegible]

No further entries on this page.

CCP Radiography Data Sheet

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 Stamms		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 Gu Date: 1·23·13

ITR: [illegible] 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 Chamberlin 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 Simmons		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: [signature] Date: 1-29-13

ITR: [signature] 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 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 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) 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: [illegible] / [signature] / [illegible] / [illegible]
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: 363.4 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) 363.4 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

EWMO-FOD (print) Signature 7/8 Date

ATTACHMENT 1
Page 3 of 4

4.1[6][B] Parent Waste Container No.: 9[illegible]

Daughter Drums					
10.1[4]/10.2[4]	Daughter Drum No.	9[illegible]			
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:			N/A	
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 (%)	95%			
10.5[3]/10.6[2]	Description Waste Added During Processing	Bag out [illegible]			

ATTACHMENT 1
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4.1[6][B] Parent Waste Container No.: 90861

Comments: Hazardous, cardboard, dirty metal, big bags, rad liner

11.1[1] Performed By: [illegible] [illegible] 222722 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

10-3-12a

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413954
Lot No.: 211424
Manufacture Date: 10

5.[8] Overpack filtered vent information:

Manufacturer: nucfil
Model No.: 013
Serial No.: H2-717
Manufacture Date: 8-11

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	6-11-13
Tolerance:	±4% cw ±6% ccw	±3% ±6% ccw

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

Performed By: Michael Romero [signature] [illegible] 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 [signature] [illegible] 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 [signature] 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 Jerez / [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#: 41162

1. Drum/Lid Assembly

- [x] Remove and discard ½" 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 #: 41162165
Lot #: 922 7225
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:

Manufacturer: BOP
Model #: LC.PVC.15-2.5PVC
Serial #: L-2512
Date of Manufacture: 06-12

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 ½" 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 #: 019065
Serial #: AM-112
Date of Manufacture: 01-12

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	02-01414	M&TE ID #:	02-1151
Cal Expiration Date:	10-19-12	Cal Expiration Date:	10-11-12
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	16-80
Tolerance:	±3% of reading	Tolerance:	±3% of reading

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

[x] Yes [ ] No

Print Name: Brian Gallegos Signature: B. Gallegos Z#: 267129

5. Weigh Drum Assembly

RECORD weight information

Tare wight (lbs) 77.0
File ID #: 019065

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

6. Label Drum Assembly

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

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

Operator Print: Brian Gallegos Operator Sign: B. Gallegos Z#: 267129 Date: 10-02-12

Verifier Print: [illegible] Verifier Sign: [illegible] Z#: 22272 Date: 10-2-12

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

DRUM ID#: [illegible]

1. LID INSTALLATION

NOTE: Install lid per manufacturer's instructions

✓ Mount lid with filter directly over drum seam.

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

✓ Engage bolt and nut and torque per manufactures instructions

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

✓ Tighten jam nut

Record torque wrench information:

MT&E #: [illegible]

Cal expiration date: [illegible]

Range/ Value (ft-lbs): [illegible]

Tolerance [illegible]

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): [illegible]

Scale ID#: [illegible]

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

4. FINALIZE DOCUMENTATION

✓ Have RCT monitor drum prior to moving to storage area

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

✓ Complete TWSR.

Operator Print/Sign: [illegible] Date: [illegible]

Verifier Print/Sign: [illegible] Date: 12-9-12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90861 Container Type: POC Gross Weight (lbs): 363

Container 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 ? Nitrate

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 Lock 770 from previous repack campaign. A minimum of liquid at 5% by volume must be mixed with the volume of nitrate salts

Performed By: Susan Ramsey (Production Control (Print)) Signature: Susan P. Ramsey Z Number: 100681 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: 531lb Parent drum (SEDs attached) was part of WCRR Nitrate salt repack campaign using Waste Lock 770. This qualifying daughter POC is being repacked to adjust the admixture rate of salt. Nitrate salts carry waste codes for chromium, lead & mercury. No chemicals present.

Mega-response PWIP for >100 & <1000 mrem/hr

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: 112609 Date: 9/27/12

TRU Remediation Operations

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

Other Specific Safety Concerns: Use Kevlar glove. Do not push or press on waste

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Use kitty litter to soak in waste per procedure.

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) Signature: Gilbert Martinez Z Number: 149235 Date: 10-1-12

IHS Review. Jobsheet & CSP contains lead, chromium, Hg 9-27-12.

221452 - 10-1-12

Discardable Waste Log Sheet

DrumID: 015780

Drum#	DrumID	Net (kg)	Dtmatrix	RE Code	FIRM	RET	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	
		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])	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 center - Cleland
0615 Starting outside rounds
0631 Starting inside rounds
0650 Complete outside rounds
0657 Inside rounds completed.
0705 Inside and outside rounds signed off by SOS.
0715 Mode change performed at 1600 TA50-69 and WCRRF now in operations
0747 Starting movement into 50-69.
0822 bagging on 90848 CY 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 Peri Coleman - Cleland.
1231 Assuming WCRR operations center. - JColeman
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 rounds reviewed by SOS.
1616 Bag off complete.
1645 Mode change complete. We are now in warmstandby
1646 End of daily operations secure. - JColeman
No further entries this page.

10/8/12 10/9/12

0600 Reviewed previous shift turnover and assumed the WCRR SOM position. [signature]
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 JOD 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 | YARD all in WARM.
1400 Notified by KP-1 Supervisor that operations was observed overpacking empty POC's by hand. Procedure doesn't speak to over-packing of POC's. SOM instructed SOS not to perform further overpacks until investigated by IH and ESH-Q manager. ES manager and ON 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. [signature]

JF 10/15/12

No Positive Events this past

[signature] 10/9 12

WCRR SOS LOGBOOK

10.9.12

0600 Assuming SOS Position [signature]

0615 Conducted shift Brief went over Revision on WO-DOP-0202.

0645 Concluded shift Brief.

0705 Reviewed Inside And outside Rounds.

0715 Mode Change Complete WCRF In Operations Mode

1612 Reviewed Inside And outside Rounds.

1645 Mode Change Complete

1648 end of shift Securing Position [signature]

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		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.	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. 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
Spectrum Validity Check engine has suggested data review.	After EA review, spectrum valid.
Miscellaneous	No additional nuclides contributing to 95% of the radiological hazard identified.

Expert Review by: Sheri Chamberlin Date: 1-29-13

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: _____ / _____ / _____ / _____
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: 379.6 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) 379.6 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 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 I

Page 4 of 4

4.1[6][B] Parent Waste Container No.: 90262

Comments: metal lid, bottle, bag w/ stuff, wipes, misc. plastic pieces, cardboard

11.1[1] Performed By: [illegible] [illegible] / 222722 / 10-11-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Jerez / [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 Mandragon / Steven Mandragon / 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 Mandragon / Steven Mandragon / 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 / [signature] / 1214521 / 10-15-12
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 5
Page 1 of 1

10-11-12

WCRRF OVERPACK DRUM CLOSURE DATA SHEET

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

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]
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: [illegible] 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] / [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: Jose Perez / [illegible] 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: Bop
Model #: Secure 1.5-25SRC
Serial #: L-3677
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: Nucfil
Model #: 915 D4
Serial #: Am-757
Date of Manufacture: 1/12

RECORD torque wrench information:

Filter torque wrench:	020614 M2	Jam Nut / Bung torque wrench:	
M&TE ID #:	020614 M2	M&TE ID #:	028151
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: [signature] ID#: 182723

5. Weigh Drum Assembly

RECORD weight Information

Tare weight (lbs) 35.7
File ID #: 21904 5

- [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: [signature] ID: 182723 Date: 10-3-12

Verifier Print: [illegible] Verifier Sign: [signature] 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 # 0480209

Cal expiration date: 10-8-12 3-15-13

Range/ Value (ft-lbs): 1-20

— Tolerance 61-20% 61-6% [illegible]

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#: 410065

✓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

Container 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 D007 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: TBD Production Control Comments: Need to add EPA Codes D007 & D009

Nitrate salts mixed with kaolinite & from previous repack campaign. Minimum of 10 drums must be mixed with 1:0 drums. Nitrate salts

Performed By: 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: 641lb Parent drum (SEDs attached) was part of WCRR nitrate salt repack campaign using Weight Tracker. This repackaging designation POC is being requested to adjust the admixture/nitrate salt ratio. Nitrate salts carry weight codes for Chromium, lead, + Hg. No chemicals present.

May require RWP for ≥100 + <1000 mrem/hr

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature Z Number 112609 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 Hexamesh gloves.

Processing Determination: ✓ Accept Reject

TRU Remediation Operations Comments: Use kitty litter to mix in with waste per procedure.

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) Signature Z Number 119235 Date 10-1-12

IHS Review: CSP contains lead, chromium, Hg 9-27-12

Document No: EP-DIV-AP-0107 JJ 221452 10-1-12

Placardable Waste Log Sheet

DrumID: 015780

Drum#	DrumID	Net (kg)	Waste	M Code	HM	MT	Audit	Remarks
1		52.71	NITRATE SALTS		53.03	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	

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])	90862					
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])	Ø ppm	ppm	ppm	ppm	ppm	ppm
Hydrogen Reading (< 64,000 ppm) (5.[5])	Ø ppm	ppm	ppm	ppm	ppm	ppm
Methane Reading (< 16,000 ppm) (5.[5])	Ø ppm	ppm	ppm	ppm	ppm	ppm

5.[7] Certified CCP Technician:

Performed By: 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 : 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 WCRRF operations center - Crelander
0601 Outside rounds being performed.
0730 Starting outside rounds.
0811 Inside rounds have been completed.
0804 Inside and outside rounds signed off by SCS.
1148 ~~1142~~ CV 10-11-12 mode change performed TA-50-69 and WCRRF yard now in operations
1217 bagging on 90862
1222 Operations notifying operations center of an elevated CAM pausing operations until CAMS come back in normal range.
1230. CAMS back in normal range continuing operations
1241 bag on complete.
1402 Shift turnover performed with Tim Coleman - Crelander
~~1401 bagging off 90863 by~~ JC 10-11-12
1401 Assuming WCRRF 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 a drum movement from 50-69 to a transportainer.
1526 Inventory 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 CELD in 50-69 and warm in WCRRF yard.
1630 End of day. Operations secure - JColeman

No further entries this page

10/11/12

0600 Assumed the WCRR SOM position. [signature]
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.
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 charles
1030 Attended drum disposition project team meeting. Discussed solution packages 72 and struggles to bring until slingpure available.
1300 Working with production control on bringing up other drums from other solution packages while slingp and available for POC re-mixing.
1330 SDS and operators want to evaluate disassembly of the inside WCG and placing parts in a separate container drum. OM SSC and SOM consulted for a Engag Solutions TH to evaluate.
1400 Production control is working on drums to bring up on-site inventory from SP#1 and SP#21 also drums (55 gallon non-POCs) drum SP#72.
1430 Meeting to discuss BIO/TSR changes at TA50-54 conference room.
1551 ~~Leaving HQ~~ @ 10/11/12. Turning over SOM to R Axtell. [signature]
1551 Received SOM 54 ft turnover checklist and assumed SOM position [signature]
1613 Completed Mode Change: WCRR Yard / Bldg 50-69 from Operations / Operations to Warm / Cold.
1630 Secured SOM position [signature]

[signature] 10/15/12

No further entries this page

[signature] 10/11 12

10-11-12 SOS LOG BOOK

0600 Assuming SOS Position [illegible]

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 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 [illegible]

1010 Late Entry 0930 Turn over completed Assuming SOS position. [illegible]

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. [illegible]

No further entries on this page.

CCP Radiography Data Sheet

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	[signature]	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

24

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.: [illegible]

6.2[4] Date Processed: [illegible]

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: [illegible]

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.: [illegible]
Cal. Due Date: [illegible]

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) [illegible]
(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: [illegible] [illegible] [illegible] [illegible]
Waste Handling Tech (print) Signature Z # 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:

EWMO-FOD (print) Signature 7/11 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 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:			N/A	
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 (%)	100%			
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, bolts, cardboard, bin, metal, misc.

11.1[1] Performed By: [illegible] / [illegible] [illegible] 10-11-12
Waste Handling Tech (print) Signature Z # Date

11.1[7] Reviewed By: Jose Torres [illegible] 221452 10-15-12 0915
SOS or designee (print) Signature Z # Date/Time

UET 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-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:	9-24-13	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 109741 / 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 109741 / 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 Tenez / Jose Tenez 221450 10-15-12
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.: [illegible]

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] / [illegible]
Waste Handling Technician (print) Signature Z # Date

7.[28] Overpack drum closure ring torque value: [illegible] 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] / [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: [illegible] / [illegible] / 221412 / 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 #: 416-765
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 #: 6epvc 1.5-2 spvc
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
- [ ] 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 #: GS 05
Serial #: Am-760
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 40
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 ZB: 182723

5. Weigh Drum Assembly

RECORD weight information

Tare wtight (lbs) 18.7
File ID #: 6963

- [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 ZB: 182723 Date: 10-3-12

Verifier Print: [illegible] Verifier Sign: [illegible] ZB: 21732 Date: 10-3-12

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

DRUM ID#: 92147

1. LID INSTALLATION	3. WEIGH DRUM ASSEMBLY
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 # [illegible] Cal expiration date: 8-15-13 Range/ Value (ft-lbs): [illegible] --- Tolerance [illegible]	Record weight information: Gross Weight(lbs) 246.10 Scale ID#: [illegible] ✓Using a permanent marker, write the gross weight on the drum lid.
2. DRUM LABELING	**4. FINALIZE DOCUMENTATION**
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.	✓Have RCT monitor drum prior to moving to storage area. ✓Place attachment 1 and 2 and HMPT Tag into a protective sleeve. ✓Complete TWSR.

Operator Print/Sign: [illegible] Date [illegible]

Verifier Print/Sign: Clyde Millines CMT Date: 10/14/13

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

Production Control

Container ID: 90863 Container Type: POC Gross Weight (lbs): 366

Container 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 Lock 770 from previous repack campaign. A minimum of 1:2 volume of kitty litter/solid must be mixed with 1:1 volume of nitrate/salts.

Performed By: Susan Ramsey (Production Control (Print)) Signature: Tom S. Ramsey Z Number: 100681 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 Fiberboard drum (SCDs attached) was part of WCRR nitrate salt repack campaign using Waste Lock 770. This resulting dewatered POC is being repackaged to adjust the admixture of nitrate salt ratio. Nitrate Salts carry waste code to chromium, lead, + mercury. No chemicals present.

May require RWP for >100 & <1000 mrem/hr

Performed By: Valerie Rhodes (WDP Engineering (Print)) Signature: Valerie Rhodes Z Number: [illegible] 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 Hexamum gloves for processing.

Processing Determination: ☑ Accept ☐ Reject

TRU Remediation Operations Comments: Use kitty litter to mix in solids waste per procedure.

Performed By: Gilbert Martinez (TRU Remediation Operations (Print)) Signature: Gilbert M. G Z Number: 147235 Date: 10-1-12

HS Review: Small 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

Record	DrumID	Net (kg)	Matrix	M Code	RN	MT	Auth	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	

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

0700 Assuming WCRF operations center - Crelander
0601 Outside rounds being performed.
0730 Starting outside rounds.
0811 Inside rounds have been completed
0804 Inside and outside rounds signed off by SCS.
1148 ~~1142~~ CV 10-11-12 mode change performed TA 50-69 and WCRF yard now in operations
1217 bagging on 90862
1222 Operators notifying operations center of an elevated CAM pausing operations until cams are back in normal range.
1230 CAMS back in normal range continuing operations
1241 bag on complete.
1402 Shift turnover performed with Tim Coleman - Crelander
~~1401 bagging off 90863 - JC 10-11-12~~
1401 Assuming WCRF operations center. - JCleaman
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 a drum movement from 50-69 to a transportainer.
1526 Inventory 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 CERD in 50-69 and warm in WCRF yard.
1630 End of day. Operations secure - JCleaman

No further entries this page

10/11/12

0600 Assumed the WCRR SOM position.
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 procedural compliance with all operators and SDS.
0732 SOM spoke to E3 manager on operator concerns and questions about how POCs are supposed to be handled during contamination minimums and taken them off the WCG left status
0830 Attended drum disposition project team meeting. Discussed Solution Package 12 and struggles to bring until slings are available.
1300 Working with production control on bringing up other drums from other solution packages while slings are available for POC re-melting.
1330 SDS and operators want to evaluate disassembly of POC inside WCG and placing parts in a separate container drum. Spoke SDS and SOM advised for a Energy Solutions TH to evaluate.
1400 Production Control is working on drums to bring up on next shipment 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 ~~Leaving HCG~~ 10/11/12. Turning over SOM to R Axtell.
1551 Received SOM shift 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

10-18-12

No further entries this page

10/11 12

10-11-12 SOS LOG BOOK

0600 Assuming SOS Position [illegible]

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 mock 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 [illegible]

1010 Late Entry 0930 Turn over completed Assuming SOS position. Jim 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.

11-2 1630 Securing SOS position for the day. Jim 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: [signature] Date: 1/30/13

ITR: [signature] 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.	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. 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 Cleaver 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

S834633

Container 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 Chacz / [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.: S834653

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		
10.1[4]	Daughter Drum Purchase Order No.	501011	501011	A	
10.1[13][C]	WCG Fire Watch Stationed		☐ YES	☐ NO	☑ N/A
10.1[14][C][d]3/11.1[3]	WCG Fire Watch Secured		☐ YES	☐ NO	☑ N/A
10.2[4]	POC bag-on bag: Manufacturer	BOP	BOP	BOP	BOP
	Model No.	6cpc1.52Spc	6cpc1.52Spc	6cpc1.52Spc	6cpc1.52Spc
	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	Nitty litter Liquid	Nitty Litter Liquid	Nitty Litter Liqoid	Salts Nitty Litter
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	BC 204742	BC 204742	BC 204742	BC 204742
10.2[14]	POC Assembly Gross Weight (lb)	~~373~~ 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. Fossham / B. [signature] 285655 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.	6cpnc 1.52 Spnc	6cpnc 1.52 Spnc	6cpnc 1.52 Spnc	6cpnc 1.52 Spnc
	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
Waste Handling Tech (print) Signature Z# 1207792 Date 12-25-13

11.1[7] Reviewed By: B. FORDHAM
SO or designee (print) Signature Z# 235235 Date/Time 13/9/13 0840

UET Working Copy
Date: 2-19-13

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: Nacfil
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	0383169
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] 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] 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 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] 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/a

8.1[1] Performed By: Brandon Chavez / [signature] 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. Fordham 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

- [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 #: 0233413
Date of Manufacture: 2012

2. Drum Liner Bag/Filter Assembly:

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

RECORD bag filter information:

Manufacturer: BOP
Model #: 6cPVC 1.5-25PVC
Serial #: L-6411
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
- [ ] Roll excess liner bag into cardboard liner/plastic liner

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: Nuc-Fil
Model #: 09-DS
Serial #: LM-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):	~~[illegible]~~ 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: B. Fordham Signature: B. Fordham Z#: 235635

5. Weigh Drum Assembly

RECORD weight information

Tare witght (lbs) 75.4
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. Fordham Operator Sign: B. Fordham Z#: 235635 Date: 2/23/13

Verifier Print: Brandon Chavez Verifier Sign: [illegible] Z#: 204792 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 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. Fordham Z#: 235635 Date: 2/23/13

Verifier Print: Brandon Chavez Verifier Sign: [signature] Z#: 204742 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 [illegible] Date 2-25-13

Verifier Print/Sign: [illegible] Date: 02-25-13

72
NER
6.10.12

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 — Production Control (Print) — Signature — 117434 — 12.8.11

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: 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 — WDP Engineering (Print) — Signature — 112609 — 12/15/11 — 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 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: Melissa Lebarde — TRU Remediation Operations (Print) — Signature — 234079 — 1/24/12 — Date

IHS Review [illegible] 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

HYDROGEN/VOC SAMPLING USING GAS CHROMATOGRAPHY DATA SHEET

5 [1] Sample Date: 1/11/12

5.[7] Certified CCP Technician:

CCP (Print)	Signature	Z #	Date
Crabe Romero	[redacted]	7026923	1-12-12
	/	/	/

Container No. (5.[1]):	S832473	S832945	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])	S832473	S832965	S836633
Hydrogen Reading (ppm) (5.[10])	92.23 ppm	1511.54 ppm	8156.14 ppm
Methane Reading (ppm) (5.[10]):	Ø ppm	Ø ppm	183.28 ppm
Total VOC Reading (ppm) (5.[11]):	155.33 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 [signature] 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] (S) WCRRF waste container satisfies the following criteria: ☑ SAT ☐ UNSAT

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

8.1[7][B]/ 8.1[8] Reviewed By: Juan Garcia [signature] 1168401
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 - Crelando
0615 Pre job Being conducted by SOS
0630 starting inside rounds
0700 starting outside rounds
0705 Item #1 is OOS, PCD in place OK to continue.
0711 Item # 3 is unsat, AR in place OK to continue.
0716 Inside rounds complete
0717 Rets noting operations with that station 2 ~~left~~ 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 Rep Units Rets notified ops center Station 2 readings at 8000 dpm direct, 1650 removable alpha RPO will be generated, WCA 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 noting Crew-RM-AU
1000 mode change performed SC-09 and WCRRF yard is operations.
1010 Bagging on 9834633, PPE check is out
1012 Vehicle access gates have restored movement to transport vehicle complete.
1018 Bag on complete.
1030 Starting movement out of SC-09
1127 Movement out of SC-09 complete.
1132 Bagging of 6 slaughter and 2 PCCS
Continued on next page - Crelando

2-25-13
1147 Permission granted to lower vehicle access gates for loading of transport vehicle.
1234 Vehicle access gates have been restored, makes complete to transport vehicle
1410 PPE check is sat.
1453 Bagging of 3 PCC's and will continue process of drum
1455 Starting inside rounds.
1513 Item #1 is OOS, PCD in place, OK to continue.
1516 Starting movement into 50-L9.
1521 Inside rounds complete.
1630 Starting ~~[illegible]~~ @ 2-25-13 Outside rounds.
1632 Item #3 is unsat, FSR in place, OK to proceed.
1647 Outside rounds complete.
[illegible] Bag off complete.
1755 Rounds have been signed off by SES.
1801 Starting movement out of 50-L9
1816 Movement complete out of 50-L9
1818 Mode Change performed TASC L9 in cold, warm and in warm.
1830 End of day. WCREF operations center notified - [illegible] cleared

no further entries this page

0715 Received the shift turnover from the previous shift and assumed the WCRR SOM position. Jeneane Hernandez
0725 Operations performing glove changes on Station #2 (L) and Station #5 (R). Notified by RP-1 of possible breach. RP-1 investigating.
0748 Notified by RP-1 supervisor that upon further investigation glovebox glove # Station 2 (L) was detected to have 5000dpm alpha direct and 1450 removable. Limits are over RWPC 20dpm alpha). OCO entering EP-WCRR-RM-ADP 0210 "Loss of Glovebox Integrity".
0750 SOM notified OM.
0800 SOM notified FOD & DOE, OM will notify FOD.
0950 Glove changes complete.
1000 Mode change complete. WCRR YARD/50-49 from WARM/WARM to OPERATIONS/OPERATIONS.
1005 OM gave SOM permission to process a drum from SP#72B due to no other feedstock inside facility and outside crew is in the middle of working a shipment OUT.
1015 Late entry 0950 entry EP-WCRR-RM-ADP 0210 Loss of Glovebox Integrity.
1200 Call in status meeting with the project manager. Notified WCRR and DNS.
1500 SOM going to TA46 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 #S851517 questionable integrity drum. Reviewed photos with all. Everyone doesn't feel that WCRR has the controls in place to remove drum 55 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/50-49 from OPERATIONS/OPERATIONS to WARM/WARM.
1830 Securing the SOM position. Jeneane Hernandez

no further entries this page.

SIGNATURE Jeneane Hernandez DATE 2/25 20 13
READ AND UNDERSTOOD DATE 20

3-25-13 WCER SOS Log Book

0600 Assuming SOS Position [illegible] 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 HV solution package M2 today.

0645 Concluded shift brief.

0717 For RCTs need to change gloves on station 2 left and 5 right.

0748 Entering EP-WCER-RIM-AOP 0210 loss of Glove Box Integrity It was noted by RCT's Performing their morning 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 AOP

1000 Mod. Change Complete WCERF In operations.

1016 Bagging on SS 346533 PPE Check Sgt

1132 Bagging off 1 daughter And 2 POC's PPE check

1410 PPE check sat

1453 Bagging off 3 POCs and continuing Processing

1755 Reviewed Inside and outside Rounds.

1848 Mod Change complete WCERF In Cold.

1550 end of shift securing SOS position [illegible]

No further entries on this page

CCP Radiography Data Sheet

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. R. [illegible] Date: 6.27.13

ITR: Jim 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 Chandler 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

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: [signature] Date: 7-9-13

ITR: [signature] 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 Chandler 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	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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 93083

Batch Number: 1LANDA1724
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 3 8 13

ITR: [signature] 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: R Bauman Date: 3-8-13

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

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CCP Radiography Data Sheet

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 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:	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 R Ard Date: 3.12.13

ITR: Jim 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: Sherri Chambers 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

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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-RTR2-13-0034
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

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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 93085

Batch Number: 1LANDA1726
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: Jim Batton 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

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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: [signature] Date: 3/11/13

ITR: [signature] 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.	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. 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: 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

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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

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	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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 14
Item ID: 93087

Batch Number: 1LANDA1725
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 3/11/13

ITR: [signature] 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

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	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: [signature] Date: 3/11/13

ITR: [signature] 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.	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 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 Cleaver 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

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CCP Radiography Data Sheet

S834633

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

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: [signature] Date: 3/11/13

ITR: [signature] 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: 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: **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

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S835283

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
  - LA00000068403 – EMPTY
  - LA00000068389
  - LA00000068404
  - LA00000068390
  - LA00000068317

WIPP

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.: 9035283

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: ☑ N/A
(> 300 PE-Ci Equivalent Combustible)
(SAC 5.10.1.7.2) N/A
(Initial and Date)

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

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

Performed By: Edward Mathner [signature] 23911 / 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: 410 46 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] **(S)** Total Parent Drum Weight < 624 lb (SR 4.5.1): ☑ SAT ☐ UNSAT

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

Initials	Z#	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~~	68317
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)	2R	2R	2R	
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:				lead shielding
10.3[9][A]	PCB-contaminated Waste Description		N/A		N/A
10.3[9][B]	PCB Item ID No.				
10.3[10]	Remaining Waste Description	See Comments			See comments
10.3[13]/10.4[10]/ 10.5[4]/10.6[10]	Daughter Drum % Full (%)	10%		N/A	35%
10.5[3]/10.6[2]	Description Waste Added During Processing	Kitty litter Nex armor			Kitty litter Sub 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.	6GAL-15.25MC	6GAL-15.25MC	N	
	Serial No.	L-6657	L-6680	A	
	Date of Manufacture	1.13	1.13		
10.2[5]	POC ID No	D-2559/68790	D 2560/68392		
10.2[7][B]/10.2[6]	POC Item Description	Nitrate Salt Kitty Litter	N-Nate Salt Kitty Litter	N	
10.2[13]	POC Assembly closed per Manufacturer's instructions. (Initial and Z#)	228826	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
Page 4 of 4

4.1[6][B] Parent Waste Container No.: S835283

Comments: Kitty litter, Hex Armor, poly liner lid, nitrate salts, plastic, lead shielding

11.1[1] Performed By: Frederico Rodriguez [signature] 1228526 9-17-13
Waste Handling Tech (print) Signature Z # Date

11.1[8] Reviewed By: [signature] [signature] 149235, 9/17/13 0400
SOS or designee (print) Signature Z # Date/Time

Working Copy
Date: 9-17-13

ATTACHMENT 2
Page 1 of 1

WCRRF OVERPACK DRUM ASSEMBLY PREPARATION DATA SHEET

5.[3] Overpack drum information:

Purchase Order No.: 413954
Lot No.: 211426
Manufacture Date: 2010

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.: 019DS
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 Martinez
Waste Handling Technician (print) Signature 1239911 Z # 9-17-13 Date

8.1[6] Reviewed By: G Mt
Supervisor or designee (print) Signature 1492251 Z # 9/17/13 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 [signature] 1239941 / 9-17-13
Waste Handling Technician (print) Signature Z # Date

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

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

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

7.[34][D] 85-gal overpack drum gross weight (lb): 162.4 lb

Comments: N/C

8.1[1] Performed By: Frederico Schlotz [signature] 1278826 / 9-12-13
Waste Handling Technician (print) Signature Z # Date

8.1[7] Reviewed By: G Martinez [signature] 1149355 9/17/13
Supervisor or designee (print) Signature Z # Date

ATTACHMENT 1
Page 1 of 2

Working Copy
Date: 9-10-13

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: BAP
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] (Signature) Z26281 (Z #) 9-11-13 (Date)

5.[23] Filtered vent information:
Manufacturer: NUCFIL
Model No.: ~~0911D~~ 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
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.: 68377

Comments: N/C

5.[35] Performed By: IAN MARONEY / [signature] 1276728 9-11-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: G Wh / [signature] M9235 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.:	N/A	N/A
Cal. Expiration Date:		
Range in ft-lb:		
Tolerance:		

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

Performed By: 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: Frederico Ashlety / [signature] / 1228826 / 9-17-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: G Mk / [signature] / 1492355 / 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: 1/13

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

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

4. Install Lid/Drum Filter

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

RECORD drum filter information:

Manufacturer: NUCFIL
Model #: 0190S
Serial #: K-451
Date of Manufacture: 11/11

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	100216	M&TE ID #:	038369
Cal Expiration Date:	12/18/13	Cal Expiration Date:	12/18/13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	10-80
Tolerance:	+/- 4% CW +/- 6% CCW	Tolerance:	+/- 3% CW +/- 6% CCW

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

[x] Yes [ ] No

Print Name: JOE QUINTANA Signature: Joe Z Z#: 239987

5. Weigh Drum Assembly

RECORD weight information

Tare witght (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 Z Z#: 239987 Date: 8/19/13

Verifier Print: Edward Martinez Verifier Sign: [signature] Z#: 239911 Date: 9/17/13

Working Copy
Date: ~~9/16/13~~ 9-17-13
9-17-13 DE

ATTACHMENT 2
Page 1 of 2

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 Mattiner (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.:	N/A	N/A
Cal. Expiration Date:		
Range in ft-lb:		
Tolerance:		

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

Performed By: 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.: 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 Rebolete / [signature] / 172058 / 9-17-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: C Mk / [signature] / 149235 / 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 - 6449
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: NULITE
Model #: 019DS
Serial #: RC 947
Date of Manufacture: 11/11

RECORD torque wrench information:

Filter torque wrench:		Jam Nut / Bung torque wrench:	
M&TE ID #:	100216	M&TE ID #:	038369
Cal Expiration Date:	12-18-13	Cal Expiration Date:	12-18-13
Range (ft-lbs or in-lbs):	40-200	Range (ft-lbs or in-lbs):	10-80
Tolerance:	+/- 4% CW +/- 6% CCW	Tolerance:	+/- 3% CW +/- 6% CCW

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

☑ Yes ☐ No

Print Name: IAN MARQUEZ Signature: [signature] Z#: 276208

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#: 276208 Date: 9-15-13

Verifier Print: Edward Martinez Verifier Sign: [signature] Z#: 739911 Date: ~~9-16-13~~ EM 9-16-13 9-16-13

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) 1239941 (Z #) 9-17-13 (Date)

7.1[4] Reviewed By: [illegible] (Supervisor or designee (print)) [signature] (Signature) 149235 (Z #) 9/17/13 (Date)

ATTACHMENT 2
Page 1 of 2

Working Copy
Date: 9/16/13 (EM)

WCRRF DRUM CLOSURE DATA SHEET

6.[3] Drum ID No.: ~~68317~~ 68317 ~~68377~~ 68317 JA 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)) [signature] (Signature) 1239911 (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)) [signature] (Signature) 1239911 (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 [signature] 1239911 9-17-13
Operator (print) Signature Z # Date

7.1[4] Reviewed By: [illegible] [signature] 149235 9/17/13
Supervisor or designee (print) Signature Z # Date

72
NR
C-10-12

WDP WASTE REMEDIATION SAFETY EVALUATION DATA SHEET

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: ☑ ~~PE~~ 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)) 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: 393 lb. Thirteen items ranging from 5 lb to 39 lb
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)) Signature 112609 (Z Number) 12/15/11 (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 Perez (TRU Remediation Operations (Print)) Signature 22452 (Z Number) 11-28-12 (Date)

LD 24 249750 12/11/12

HS Review. [illegible] 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

1 9 1 0 6 1 8 9

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])	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 center. JWeiman

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 5069 to resume operations on S823221

2052 Operators report to SOS, while conducting inspections on the Rotogrip 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 5069 to a transportation

0020 Drum movement out of 5069 complete. Operators out for lunch.

0120 Operators back from lunch.

0153 Bagging off 1 daughter and 3 PCC's, bagging off SC 9-17-6 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 #63 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. JWeiman

~~No further entries this page.~~

9/16/13 Night Shift

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 integrity. 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 (2 total). Bagged on 5835283.

9/17/13 0020 Completed move out of 3 drums from 50-69 to transportainers. 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 is sandwiched between steel drum and inner poly liner

9/17/13 0612 Relieved by J. Guadagnolo as SOM.

No further entries this page

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 missing on the front wheel of the roto-grip. Still safe to use. CM 9-16-13

2105 Bagging off 1 daughter, bagging on a second.

2120 Bag off/on complete.

2243 Bagging off 2nd daughter, bagging on 5835283.

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.

RAa 0610 Relieved by Gilbert Martinez 9/17/13. CA

No Further Entries on this Page

CCP Radiography Data Sheet

S835283

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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68317

Batch Number: 1LANDA1846
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] 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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68317

Batch Number: 1LANDA1846
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 9/24/13

ITR: [signature] 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 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.

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 Chamberlin Date: 9-24-13

CS 6/12/14

CS 6/12/14 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

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: [signature] 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

S835283

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 Chamberlin 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

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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68377

Batch Number: 1LANDA1847
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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 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

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

Expert Review by: Sherri Chandler Date: 9-25-13

Attachment 4 – Flammable Gas Analysis Form

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

Waste Container ID: **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

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: Ann Barton 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

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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68390

Batch Number: 1LANDA1847
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: _____ 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.	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. 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

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
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68392

Batch Number: 1LANDA1847
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 9/25/13

ITR: D. R. [signature] 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 CD 6/12/14

System Configuration

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

Errors quoted at 1.000 sigma

CD 6/12/14 010A

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 23642
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68404

Batch Number: 1LANDA1847
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 6-9-14

ITR: [signature] Date: 6-9-14

011
CJ 6/17/14

Radioassay Data Sheet

Engine Version: MMRes. Cmb. V1.2

Count Sequence Number: 23642
Assay Instrument: MCS HENC #1
Analysis Method: CCP-TP-063 v 15
Item ID: 68404

Batch Number: 1LANDA1847
Location: LANL TA-54
Software Version: NDA 2000 V.4.0
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: [signature] Date: 9/25/13

ITR: [signature] 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.	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. 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

013A
CS 6/17/14 ~~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