



Waste Profile Form

For rapid processing, complete all sections in black or blue ink and mail to: Waste Acceptance Group at MS J496.

For assistance with completing this form, contact your WMC. Click [here](#) for instruction in completing the form.

Contact (if other than given below)

Matthew Whitaker 662-7600

Reference Number

(for Waste Acceptance Group Use Only)

Generator's Z Number 115625	Waste Generator's Name (print) John McCann	WMC's Z Number 135015	WMC's Name (print) Michael C. Le Scouarnec	Generator's Phone 665-1091
Generator's Mail Stop M992	Waste Generating Group CAP	Waste Stream Technical Area 16	Building Outside	Room NA
Waste Accumulation (check only one) <input type="checkbox"/> Satellite Accumulation Area Site No: _____ <input checked="" type="checkbox"/> Less-than-90-days Storage Area Site No: <u>5291</u> <input type="checkbox"/> TSDF Site No: _____ <input type="checkbox"/> Universal Waste Storage Area Site No: _____ <input type="checkbox"/> Used Oil for Recycle Site No: _____ ER Use Only <input type="checkbox"/> ER Site SWMU/AOC No. <u>16-026(z)</u>			<input type="checkbox"/> PCBs Storage Area Site No: _____ <input type="checkbox"/> NM Special Waste Site No: _____ <input type="checkbox"/> Rad Staging Area Site No: _____ <input type="checkbox"/> Rad Storage Area Site No: _____ <input type="checkbox"/> None of the Above	
Method of Characterization (check as many as apply) <input checked="" type="checkbox"/> Chemical Physical Analysis <input checked="" type="checkbox"/> Attached Sample No: <u>WST16-10-9911</u> <input type="checkbox"/> Radiological Analysis <input type="checkbox"/> Attached Sample No: _____ <input type="checkbox"/> PCB Analysis <input type="checkbox"/> Attached Sample No: _____ <input checked="" type="checkbox"/> Acceptable Knowledge Documentation <input checked="" type="checkbox"/> Attached Documentation No: <u>See Section 5</u> <input type="checkbox"/> MSDS <input type="checkbox"/> Attached				

Section 1 – Waste Prevention/Minimization (answer all questions)

Can hazard segregation, elimination, or material substitution be used?	<input type="checkbox"/> Yes (provide comments)	<input checked="" type="checkbox"/> No
Can any of the materials in the waste stream be recycled or reused?	<input type="checkbox"/> Yes (provide comments)	<input checked="" type="checkbox"/> No
Has waste minimization been incorporated into procedures or other process controls?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No (provide comments)
Can this waste be generated outside a RCA?	<input type="checkbox"/> Yes (provide comments)	<input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Comments:		

Section 2 – Chemical and Physical Information

Waste Type (check only one) <input type="checkbox"/> Unused/Unspent Chemical (complete all sections as appropriate) <input checked="" type="checkbox"/> Process Waste/Spent Chemical/Other (complete all sections) Radiological Information Was Waste generated in a RCA? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Non-radioactive <input type="checkbox"/> Radioactive – Low Level <input type="checkbox"/> Radioactive – Transuranic Waste Destination (check only one) <input type="checkbox"/> SWWS (complete Attachment 1) <input type="checkbox"/> RLWTF (complete Attachment 2) <input type="checkbox"/> RLWTP (complete Attachment 3) <input type="checkbox"/> TA-16/HE (complete Attachment 4) <input type="checkbox"/> NTS (complete Attachment 5) Classification Information <input checked="" type="checkbox"/> Unclassified <input type="checkbox"/> Classified/Sensitive	Waste Category (check all that apply) <input checked="" type="checkbox"/> Inorganic <input checked="" type="checkbox"/> Organic <input type="checkbox"/> Solvent* <input type="checkbox"/> Degreaser* <input type="checkbox"/> Dioxin <input type="checkbox"/> Electroplating <input type="checkbox"/> Treated Hazardous Waste or Residue <input type="checkbox"/> No-Longer Contained-In <input type="checkbox"/> Explosive Process <input type="checkbox"/> Infectious/Medical <input type="checkbox"/> Biological <input type="checkbox"/> Beryllium <input type="checkbox"/> Empty Container (see instructions) <input type="checkbox"/> Battery (see instructions) Asbestos <input type="checkbox"/> Friable <input type="checkbox"/> non-friable PCB Source Concentration <input checked="" type="checkbox"/> PCB < 50 ppm <input type="checkbox"/> PCB ≥ 50 - < 500 ppm <input type="checkbox"/> PCB ≥ 500 ppm <input type="checkbox"/> Hazardous Waste Contaminated Soil <input type="checkbox"/> Untreated Hazardous Debris <input type="checkbox"/> Commercial Solid Waste <input type="checkbox"/> Other (describe below) * See instructions	Waste Source (check only one) Waste Source A <input type="checkbox"/> Decon <input type="checkbox"/> Materials Processing Production <input type="checkbox"/> Research/Development/Testing <input type="checkbox"/> Scheduled Maintenance <input type="checkbox"/> Housekeeping - Routine <input type="checkbox"/> Spill Cleanup - Routine <input type="checkbox"/> Sampling – Routine Monitoring <input type="checkbox"/> Other (describe below) Waste Source B <input type="checkbox"/> Abatement <input type="checkbox"/> Construction/Upgrades <input type="checkbox"/> Demolition <input type="checkbox"/> Decon/Decom <input checked="" type="checkbox"/> Investigative Derived <input type="checkbox"/> Orphan/Legacy <input type="checkbox"/> Remediation/Restoration <input type="checkbox"/> Repacking (secondary) <input type="checkbox"/> Unscheduled Maintenance <input type="checkbox"/> Housekeeping (non-routine) <input type="checkbox"/> Spill Cleanup (non-routine) <input type="checkbox"/> Non-Petroleum Tanks <input type="checkbox"/> Petroleum Tanks <input type="checkbox"/> Other (describe below)	Waste Matrix (check only one) Gas <input type="checkbox"/> ≤1.5 Atmospheres Pressure <input type="checkbox"/> >1.5 Atmospheres Pressure <input type="checkbox"/> Liquefied Compressed Gas Liquid <input type="checkbox"/> Aqueous <input type="checkbox"/> Non-Aqueous <input type="checkbox"/> Suspended Solids/Aqueous <input type="checkbox"/> Suspended Solids/Non-Aqueous Solid <input type="checkbox"/> Powder/Ash/Dust <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Absorbed/Solidified Liquid <input type="checkbox"/> Debris Matrix Type (check only one) <input checked="" type="checkbox"/> Homogeneous <input type="checkbox"/> Heterogeneous (describe below) Estimated Annual Volume (m³): 0.208
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Section 3 – Process and Waste Description

Process Description:
 TA-16, SWMUs 13-001 and 13-002. Cuttings were generated while performing borehole drilling. Waste was generated and managed according to WCSF Investigative Work Plan for S-Site Aggregate Area EP2009-0474

Waste Description:
 Qbt4 Drill Cuttings.

Section 4 – Characteristics

Ignitability (check only one) (°F) (°C) <input type="checkbox"/> < 73 < 22.8 <input type="checkbox"/> 73 – 99 22.8 - 37.2 <input type="checkbox"/> 100 – 139 37.8 - 59.4 <input type="checkbox"/> 140 – 200 60.0 - 93.3 <input type="checkbox"/> > 200 > 93.3 <input type="checkbox"/> EPA Ignitable – Non-liquid <input type="checkbox"/> DOT Flammable Gas <input type="checkbox"/> DOT Oxidizer <input checked="" type="checkbox"/> Not Ignitable		Corrosivity (check only one) (pH) <input type="checkbox"/> ≤ 2.0 <input type="checkbox"/> 2.1 – 4.0 <input type="checkbox"/> 4.1 – 6.0 <input type="checkbox"/> 6.1 – 9.0 <input type="checkbox"/> 9.1 - 12.4 <input type="checkbox"/> ≥ 12.5 <input type="checkbox"/> Liquid corrosive to steel <input checked="" type="checkbox"/> Non-aqueous		Reactivity (check as many as apply) <input type="checkbox"/> RCRA Unstable <input type="checkbox"/> Water Reactive <input type="checkbox"/> Cyanide Bearing <input type="checkbox"/> Sulfide Bearing <input type="checkbox"/> Pyrophoric <input type="checkbox"/> Shock Sensitive <input type="checkbox"/> Explosive - DOT Div.: _____ <input checked="" type="checkbox"/> Non-reactive		Boiling Point (check only one) (°F) (°C) <input type="checkbox"/> ≤ 95 ≤ 35 <input type="checkbox"/> > 95 > 35 <input checked="" type="checkbox"/> Not applicable	
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Identify for all contaminants listed.	Characterization Method				Concentration of Contaminants			Regulatory Limit
	AK	TCLP	Total	None or Non-detect	Contaminant present at			
					Minimum	Maximum		
Toxicity Characteristic Metals					(10,000 ppm = 1%)			
Arsenic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	5.0 ppm	
Barium	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	to 1.33	ppm	100.0 ppm
Cadmium	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	1.0 ppm	
Chromium (Total)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	5.0 ppm	
Lead	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0	to 0.335	ppm	5.0 ppm
Mercury	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.2 ppm	
Selenium	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	1.0 ppm	
Silver	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	5.0 ppm	
Toxicity Characteristic Organics								
Benzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.5 ppm	
Carbon Tetrachloride	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.5 ppm	
Chlorobenzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	100.0 ppm	
Chloroform	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	6.0 ppm	
o - cresol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	200.0 ppm	
m - cresol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	200.0 ppm	
p - cresol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	200.0 ppm	
Cresol - mixed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	200.0 ppm	
1,4-Dichlorobenzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	7.5 ppm	
1,2-Dichloroethane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.5 ppm	
1,1-Dichloroethylene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.7 ppm	
2,4-Dinitrotoluene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.13 ppm	
Hexachlorobenzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.13 ppm	
Hexachlorobutadiene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.5 ppm	
Hexachloroethane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	3.0 ppm	
Methyl ethyl ketone	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	200.0 ppm	
Nitrobenzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	2.0 ppm	
Pentachlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	100.0 ppm	
Pyridine	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	5.0 ppm	
Tetrachloroethylene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.7 ppm	
Trichloroethylene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.5 ppm	
2,4,5-Trichlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	400.0 ppm	
2,4,6-Trichlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	2.0 ppm	
Vinyl chloride	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.2 ppm	
Herbicides and Pesticides								
Chlordane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.03 ppm	
2,4-D	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	10.0 ppm	
Endrin	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.02 ppm	
Heptachlor (& its epoxide)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.008 ppm	
Lindane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.4 ppm	
Methoxychlor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	10.0 ppm	
Toxaphene	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	0.5 ppm	
2,4,5-TP (Silvex)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	to	ppm	1.0 ppm	

Additional Constituents - Chemicals

Sampling event ID 2549
 SWMU ev2549
 Stockpile Number ev2549

associated Excel file: 9911 AWD 6-23.xlsm
 evaluation date: 6/24/2010

Analyte	CAS/ Symbol	concentra tion	Unit	Results (ppm)	MIN (ppm)	MAX (ppm)	MIN. %	MAX. %	comments
Acetone	67-64-1	54.2	ug/kg	0.054	0	0.054	0	5.4E-06	
Aluminum	Al	8860000	ug/kg	8860.000	0	8860.000	0	0.886	
Aroclor-1260	11096-82-5	1.7	ug/kg	1.7E-03	0	1.7E-03	0	1.7E-07	
Calcium	Ca	37200000	ug/kg	37200.000	0	37200.000	0	3.720	
Cobalt	Co	3480	ug/kg	3.480	0	3.480	0	3.5E-04	
Copper	Cu	13500	ug/kg	13.500	0	13.500	0	1.4E-03	
Iron	Fe	9760000	ug/kg	9760.000	0	9760.000	0	0.976	
Isopropyltoluene[4-]	99-87-6	0.399	ug/kg	4.0E-04	0	4.0E-04	0	4.0E-08	
Magnesium	Mg	2040000	ug/kg	2040.000	0	2040.000	0	0.204	
Manganese	Mn	336000	ug/kg	336.000	0	336.000	0	0.034	
Nickel	Ni	4.85	mg/kg	4.850	0	4.850	0	4.9E-04	
Potassium	K	1270000	ug/kg	1270.000	0	1270.000	0	0.127	
Sodium	Na	422000	ug/kg	422.000	0	422.000	0	0.042	
Uranium	U	1.18	mg/kg	1.180	0	1.180	0	1.2E-04	
Vanadium	V	20000	ug/kg	20.000	0	20.000	0	2.0E-03	
Zinc	Zn	106000	ug/kg	106.000	0	106.000	0	0.011	
TOTAL							0	6.004	% (all analytes from all pages were added for this total)

NOTE 1: This table contains all detected, non D-coded analytes

NOTE 2: Highlighted analytes are potentially F-coded

Solid Waste Evaluation Summary

RCRA	<p>41 analytes pass 39 analytes pass as undetected 0 analytes fail</p>
Detects	<p>PCBs: between 0 and 50 ppm 0.0017 5 analytes with potential F-code 5 analytes with potential K-code 2 analytes with potential U-code 0 analytes with potential P-code</p> <p>Non-wastewater LDR: 9 pass 1 FAIL Hazardous soil LDR: 10 pass 0 FAIL</p> <p>Industrial/ Occupational Soil (mg/kg) : 18 pass 0 FAIL Construction Worker Soil (mg/kg) : 18 pass 0 FAIL Recreational Soil (mg/kg) : 14 pass 1 FAIL soil background: 18 pass 0 FAIL</p> <p>Canyon Sediment background: 16 pass 3 FAIL Qbt 2,3,4 background: 13 pass 6 FAIL Qbt 1v background: 8 pass 11 FAIL Qbt 1g, Qct,Qbo background: 7 pass 12 FAIL 5 pass 14 FAIL</p>
RAD	<p>total dose: 0.3718 mRem/year</p> <p>Not TRU analysed for H-3 analysed for Pu-239 34 isotopes, 12 were detected 21 undetected</p> <p>Residen-tial SAL: 2 pass 0 FAIL Indust-rial SAL: 2 pass 0 FAIL Constr. Worker SAL: 4 pass 0 FAIL Recrea-tional SAL: 4 pass 0 FAIL Soil: 9 pass 0 FAIL Canyon Sedi-ment: 9 pass 0 FAIL QBT2,3,4: 9 pass 0 FAIL Qbt 1v: 9 pass 0 FAIL Qbt 1g, Qct, Qbo: 9 pass 0 FAIL</p>

Remark: The Evaluator may overwrite any result of automatic evaluation, but a short written explanation must be added

Sample ID	associated blanks	associated duplicate
WST16-10-9911		

Imported data files
ev2549.txt

Detected Chemicals Form

Analyte	CAS/ Symbol	concentration	unit of measure	Non- wastewater LDR	Hazardous Soil LDR	Potential Haz F-codes	Potential Haz K-codes	Potential Haz U-codes	Potential Haz P-codes	comments
Acetone	67-64-1	0.0542	mg/kg	pass	pass			F003,U002 codes not applicable		
Aluminum	Al	8860	mg/kg	pass						
Aroclor-1260	11096-82-5	0.0017	mg/kg							
Arsenic	As	2.98	mg/kg	pass	pass	F032,F034,F035,	K031,K060,K161,K171,K172,K176,K			
Barium	Ba	129	mg/kg	pass	pass		084,K101,K102,			
Cadmium	Cd	0.221	mg/kg	pass	pass	F006,	K061,K069,K100,K064,			
Calcium	Ca	37200	mg/kg	pass	pass					
Chromium	Cr	9.1	mg/kg	pass	pass	F032,F034,F035,F037,F038,	K090,			
Cobalt	Co	3.48	mg/kg							
Copper	Cu	13.5	mg/kg							
Iron	Fe	9760	mg/kg							
Isopropyltoluene[4]	99-87-6	0.0004	mg/kg							
Lead	Pb	21.8	mg/kg	pass	pass	F035,F037,F038,	K002,K003,K005,K048,K049,K051,K			
Magnesium	Mg	2040	mg/kg				062,K064,K086,K100,K176,K046,K0			
Manganese	Mn	336	mg/kg				52,K061,K069,			
Mercury	Hg	0.0289	mg/kg	pass	pass					
Nickel	Ni	4.85	mg/kg	pass	pass	F006,	K175,K071,K106,	U151,		
Potassium	K	1270	mg/kg							
Sodium	Na	422	mg/kg							
Uranium	U	1.18	mg/kg							
Vanadium	V	20	mg/kg	pass	pass					
Zinc	Zn	106	mg/kg	FAIL	pass					

RCRA Characteristics Form

Analyte	CAS/ Symbol	Potential Haz Code	Reg. limit	concentration	unit of measure	Qualifier	Pass/Fail	comments
Arsenic	As		5000	19.1	ug/L	U	pass	
Barium	Ba	D005	100000	1330	ug/L	NQ	pass	
Cadmium	Cd		1000	10	ug/L	U	pass	
Chromium	Cr		5000	109	ug/L	U	pass	
Lead	Pb	D008	5000	335	ug/L	NQ	pass	
Mercury	Hg		200	2	ug/L	U	pass	
Selenium	Se		1000	50	ug/L	U	pass	
Silver	Ag		5000	10	ug/L	U	pass	
Endrin	72-20-8		20	0.4	ug/L	U	pass	
BHC[gamma-]	58-89-9		400	0.2	ug/L	U	pass	
Methoxychlor[4,4'-]	72-43-5		10000	2	ug/L	U	pass	
Toxaphene (Technical Grade)	8001-35-2		500	5	ug/L	U	pass	
D[2,4-]	94-75-7		10000	50	ug/L	U	pass	
TP[2,4,5-]	93-72-1		1000	50	ug/L	U	pass	
Benzene	71-43-2		500	10	ug/L	U	pass	
Carbon Tetrachloride	56-23-5		500	10	ug/L	U	pass	
Chlordane(alpha/gamma)	57-74-9		30	2.5	ug/L	U	pass	
Chlordane[gamma-]	5103-74-2	D020		NA	ug/L		NA	
Chlordane[alpha-]	5103-71-9	D020		NA	ug/L		NA	
Chlorobenzene	108-90-7		100000	10	ug/L	U	pass	
Chloroform	67-66-3		6000	10	ug/L	U	pass	
Methylphenol[2-]	95-48-7		200000	50	ug/L	U	pass	
Methylphenol[3-]	108-39-4		200000	50	ug/L	U	pass	
Methylphenol[4-]	106-44-5		200000	50	ug/L	U	pass	
Methylphenol[3-,4-]	65794-96-9		200000	50	ug/L	U	pass	
Methylphenol(total)	8027-16-5		200000	100	ug/L	UU	pass	
Dichlorobenzene[1,4-]	106-46-7		7500	50	ug/L	U	pass	
Dichloroethane[1,2-]	107-06-2		500	10	ug/L	U	pass	
Dichloroethene[1,1-]	75-35-4		700	10	ug/L	U	pass	
Dinitrotoluene[2,4-]	121-14-2		130	50	ug/L	U	pass	
Heptachlor	76-44-8		8	0.2	ug/L	U	pass	
Hexachlorobenzene	118-74-1		130	50	ug/L	U	pass	
Hexachlorobutadiene	87-68-3		500	50	ug/L	U	pass	
Hexachloroethane	67-72-1		3000	50	ug/L	U	pass	
Butanone[2-]	78-93-3		200000	50	ug/L	U	pass	
Nitrobenzene	98-95-3		2000	50	ug/L	U	pass	
Pentachlorophenol	87-86-5		100000	50	ug/L	U	pass	
Pyridine	110-86-1		5000	50	ug/L	UJ	pass	
Tetrachloroethene	127-18-4		700	10	ug/L	U	pass	
Trichloroethene	79-01-6		500	10	ug/L	U	pass	
Trichlorophenol[2,4,5-]	95-95-4		400000	50	ug/L	U	pass	
Trichlorophenol[2,4,6-]	88-06-2		2000	50	ug/L	U	pass	
Vinyl Chloride	75-01-4		200	10	ug/L	U	pass	

NOTE 1: If multiple results exist for given analyte, first, the highest detected result is chosen. If there are no detected results, the lowest undetected result is chosen.

NOTE 2: Often chlordane is analyzed as alpha and gamma isomers. If no total chlordane result exist, total concentration will be calculated from individual isomer results.

NOTE 3: Most frequently 2-Methylphenol is analyzed separately and 3- and 4-methylphenols are reported together.

Often, raw data contain only two results - for 2- methylphenol and 4-methylphenol. In such case 4-methyl is in fact a result

for two isomers together: 3-methyl + 4-methylphenol. The macro evaluates present data and calculates concentrations for 3-, 4-, and total.

methylphenols. Results reported separately for 3- and 4- methylphenols with calc. remark are, in fact, partial total, 3- + 4-methylphenol together.

NOTE 4: Undetected results pass automatically, without comparing to standard. Detected results pass only if reported concentration is lower than legal standard.

NOTE 5: CAS number is highlighted in pink if there is a large discrepancy between sample and duplicate.

Detected Chemicals: SSL and Background check

Analyte	CAS/Symbol	concentration	unit of measure	Residential Soil (mg/kg)	Industrial/Occupational Soil (mg/kg)	Construction Worker Soil (mg/kg)	Recreational Soil (mg/kg)	soil background	Canyon Sediment background	Qbt 2,-3,4 background	Qbt 1v background	Qbt 1g, Qct,Qbo background
Acetone	67-64-1	0.0542	mg/kg	pass	pass	pass	pass	NA	NA	NA	NA	NA
Aluminum	Al	8860	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	FAIL
Aroclor-1260	11096-82-5	0.0017	mg/kg	pass	pass	pass	pass	NA	NA	NA	NA	NA
Arsenic	As	2.98	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	FAIL
Barium	Ba	129	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	FAIL
Cadmium	Cd	0.221	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	FAIL
Calcium	Ca	37200	mg/kg	NA	NA	NA	NA	FAIL	pass	pass	pass	pass
Chromium	Cr	9.1	mg/kg	pass	pass	NA	pass	pass	pass	FAIL	FAIL	FAIL
Cobalt	Co	3.48	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	FAIL
Copper	Cu	13.5	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	pass
Iron	Fe	9760	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	FAIL
Isopropyltoluene[4-]	99-87-6	0.000399	mg/kg	pass	pass	pass	pass	NA	NA	pass	pass	FAIL
Lead	Pb	21.8	mg/kg	pass	pass	pass	pass	pass	pass	FAIL	FAIL	FAIL
Magnesium	Mg	2040	mg/kg	NA	NA	NA	NA	FAIL	pass	FAIL	FAIL	FAIL
Manganese	Mn	336	mg/kg	pass	pass	FAIL	pass	pass	pass	pass	pass	FAIL
Mercury	Hg	0.0289	mg/kg	pass	pass	NA	pass	pass	pass	pass	pass	pass
Nickel	Ni	4.85	mg/kg	pass	pass	pass	pass	pass	pass	pass	pass	pass
Potassium	K	1270	mg/kg	NA	NA	NA	NA	pass	pass	pass	FAIL	FAIL
Sodium	Na	422	mg/kg	NA	NA	NA	NA	pass	pass	pass	pass	pass
Uranium	U	1.18	mg/kg	pass	pass	NA	pass	pass	pass	pass	pass	pass
Vanadium	V	20	mg/kg	pass	pass	pass	pass	pass	pass	pass	pass	pass
Zinc	Zn	106	mg/kg	pass	pass	pass	pass	pass	pass	pass	pass	pass
				pass	pass	pass	pass	FAIL	FAIL	FAIL	FAIL	FAIL

SWMU ev2549

Radioisotopes Form associated Excel file: 9911 AWD 6-23.xlsm

Stockpile Number ev2549

evaluation date: 6/24/2010

Analyte	CAS/ Symbol	concentration	unit of measure	Qualifier	comments
Bismuth-214	Bi-214	0.801	pCi/g	NQ	
Gross alpha	GROSSA	19.3	pCi/g	NQ	
Gross beta	GROSSB	28	pCi/g	NQ	
Lead-212	Pb-212	1.33	pCi/g	NQ	
Lead-214	Pb-214	1.2	pCi/g	NQ	
Potassium-40	K-40	30.8	pCi/g	NQ	
Radium 226/228	calc.	2.111	pCi/g		
Radium-226	Ra-226	0.801	pCi/g	NQ	
Radium-228	Ra-228	1.31	pCi/g	NQ	
Thallium-208	Tl-208	0.389	pCi/g	NQ	
Uranium-234	U-234	0.776	pCi/g	NQ	
Uranium-238	U-238	0.851	pCi/g	NQ	
Americium-241	Am-241	0.00473	pCi/g	U	
Cerium-139	Ce-139	-0.0411	pCi/g	U	
Cesium-137	Cs-137	0.0099	pCi/g	U	
Cobalt-60	Co-60	0.0245	pCi/g	U	
Europium-152	Eu-152	-0.0506	pCi/g	U	
Lanthanum-140	La-140	-0.0424	pCi/g	U	
Mercury-203	Hg-203	0.0223	pCi/g	U	
Plutonium-238	Pu-238	0.00307	pCi/g	U	
Plutonium-239/240	Pu-239/240	0.00201	pCi/g	U	
Radium-223	Ra-223	-0.215	pCi/g	U	
Ruthenium-106	Ru-106	0.0303	pCi/g	U	
Sodium-22	Na-22	-0.0661	pCi/g	U	
Strontium-90	Sr-90	0.146	pCi/g	U	
Thorium-227	Th-227	0.3	pCi/g	U	
Thorium-231	Th-231	-0.215	pCi/g	U	
Thorium-234	Th-234	1.34	pCi/g	U	
Tin-113	Sn-113	-0.0155	pCi/g	U	
Tritium	H-3	0.0114941	pCi/g	U	
Uranium-235	U-235	-0.114	pCi/g	U	
Uranium-235/236	U-235/236	0.0247	pCi/g	U	
Yttrium-88	Y-88	-0.0538	pCi/g	U	
calculated Gross AB	GrossABc	47.299999			

Due Diligence Review for Wastes from Consolidated Units 13-001 and 13-002 April 2010

Drill cuttings and associated contact waste (investigation-derived waste, or IDW) generated during the investigation of consolidated units 13-001 and 13-002 will be characterized using analytical data from the drill cuttings samples (see automated waste determinations 2549.9911-2549.9916 and 2540.12217). The maximum concentrations of potentially listed contaminants detected in the drill cuttings are shown in Table 1. The drill cuttings consisted primarily of Qbt 2,3,4 tuff. Other potentially listed inorganics (nickel and mercury) were detected at levels below Qbt 2,3,4 background values and are not included in this due diligence. Acetone and xylene were also detected but are present in quantities too low to cause the IDW to be ignitable; therefore, the IDW is not listed for acetone or xylene.

Solid waste management units (SWMUs) 13-001 and 13-002 are part of consolidated unit 13-001-99. The SWMUs are associated with firing activities at former TA-13. TA-13, originally called P-Site, is located at the eastern end of the current TA-16 explosives manufacturing area. TA-13 was built in 1944 to support the high explosives (HE) project of the Manhattan Project. It was principally designed as a firing site for counter x-ray diagnostics of HE lens configurations. Assemblies contained HE lenses, uranium, and other metals. The counter x-ray program was suspended in 1945. TA-13 was converted to initiator testing in mid-1945. Initiator assemblies consisted of HE, beryllium, polonium, and other metals. A memo suggests that, in 1948, the site was to be upgraded for renewed HE firing. Buildings in the western half of former TA-13 were demolished in the early 1950s to make way for the construction of Building 16-340, the Explosives Synthesis Building and its associated structures. More recent use of TA-13 buildings was for experimental and high-speed machining tests for the S-Site weapons groups.

A due diligence document review to identify the sources of contamination was conducted based on the guidance provided by the Environmental Protection Agency's (EPA's) Management of Remediation Waste under RCRA (EPA 530-F-98-026), Determination of When Contamination is caused by Listed Hazardous Waste, which states:

Where a facility owner/operator makes a good faith effort to determine if a material is a listed hazardous waste but cannot make such a determination because documentation regarding a source of contamination, contaminant, or waste is unavailable or inconclusive, EPA has stated that one may assume the source, contaminant or waste is not listed hazardous waste and, therefore, provided the material in question does not exhibit a characteristic of hazardous waste, RCRA requirements do not apply.

Following is a summary of the good faith effort LANL undertook to determine whether the detected organic compounds were from listed sources.

Documents identified in the PRS Database with relevant process information or data (see Table 2) were reviewed to determine whether the contaminants originated from listed sources. Data for TA-16-340, a known source of spent solvent discharge, were also reviewed because it is adjacent to P-site.

Based on the documentation review, the conclusions regarding the sources of the contamination are:

- The waste would U-listed only if the source of the contamination was land application (e.g., spills or disposal) of unused/unspent commercial chemical products listed in 40

CFR §261.33. No documentation identified the land application of unused/unspent commercial chemical products; therefore, U-listings would not be applied to the IDW.

- The waste would be F-listed for toluene if the source of the contamination was land application of spent solvents. While toluene was not identified as being discharged at P-site, it was discharged at TA-16-340. However, other potentially listed solvents detected at TA-16-340 also included chloroform, carbon tetrachloride, tetrachloroethene, 1,1,1-trichloroethane and other organics. Because the other solvents detected at TA-16-340 were not detected at P-site, TA-16-340 is not likely the source of the toluene. A local, non-listed source (asphalt) is present at P-site and would be a more likely source of the toluene (and associated polycyclic aromatic hydrocarbons). Because there is no conclusive evidence that the toluene originated from a spent solvent source, the IDW would not be F-listed for toluene.
- The waste would also be F-listed if the source of the contamination was specific wastes from wood preserving, petroleum refining, and/or manufacturing of chlorinated aliphatic hydrocarbons. The documentation did not identify these sources, nor would they be typical of weapons-related operations occurring at P-Site. Therefore, the IDW are not F-listed.
- The waste would be K-listed only if the sources of the contamination were specific processes in wood preserving, pesticide production, coking, ink formulation, iron and steel production, secondary lead production, high explosives wastewater treatment (occurs at TA-16 but not near P-site), pesticide production, inorganic and organic chemical production, veterinary pharmaceuticals production, and/or petroleum refining. The documentation did not identify these processes, nor would they be typical of weapons-related operations occurring at P-Site. Therefore, the IDW are not K-listed.

Based on this good faith effort, listed sources of the contaminants detected at SWMU 16-003(d) were not identified. Therefore, the drill cuttings and associated contact waste need not be managed as listed waste.

References

Ryti, R.T., P.A. Longmire, D.E. Broxton, S.L. Reneau, and E.V. McDonald. "Inorganic and Radionuclide Background Data for Soils, Canyon Sediments, and Bandelier Tuff at Los Alamos National Laboratory." September 22, 1998

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Table 1. Potentially Listed Contaminants

Analyte	Concentration Mg/kg	Potential F- listings	Potential K-listings	Potential U- listings
Arsenic	2.98	F032,F034,F035	K031,K060,K161,K171, K172,K176,K084,K101, K10	
Benzo(a)anthracene	0.0128	F032,F034	K001,K035,K141,K142, K143,K144,K145,K147, K148,K170	U018
Benzo(b)fluoranthene	0.0137		K001,K035,K141,K142, K143,K144,K147,K148, K170	
Bis(2-ethylhexyl)phthalate	0.0982			U028
Chromium	10.8	F032,F034,F035, F037, F038		
Di-n-butylphthalate	0.137			U069
Lead	21.8	F035,F037,F038	K002,K003,K005,K048, K049,K051,K062,K086, K100,K176,K046,K052, K061,K069	
Fluoranthene	0.0224		K001,K035	U120
Toluene	0.0195	F005,F024,F025	K015,K036,K037,K149, K151	U220

¹Anaytes are included only if they exceed the background values for Qbt 2,3,4 (Ryti, et. al., 1998)

Table 2. Documents Reviewed

Date	Title	Document Type	ERId No.
April 20, 1990 – December 31, 1990	Liquid Release Notifications	Spill Log	NA
9/30/2008	Submittal of the Phase 2 Investigation Report for the TA-16-340 Complex, SWMUs 13-003(a)-99, 16-003(n)-99, 16-003(o), 16-026(j2), and 16-029(f) at TA-16	Investigation Report	105683
9/30/2007	Historical Investigation Report (HIR) for S-Site Aggregate Area	HIR	097685
9/30/2007	Investigation Work Plan for S-Site Aggregate Area	Investigation Work Plan	097687
9/29/2006	Canon de Valle Aggregate Area Investigation Work Plan and Historical Investigation Report [HIR]	HIR	091697
1/1/2006	Investigation Report for the TA-16-340 Complex [Consolidated Units 13-003(a)-99 and 16-003(n)-99 and SWMUs 16-003(o), 16-026(j2), and 16-029(f)]	Investigation Report	091450
9/30/1997	RFI Report for TAs -11, -13, -16: PRSs 11-012(a,b), 13-003(a), 16-006(c,d), 16-010(a), 16-021(a), 16-026(c,d,v), 16-028(a), 16-030(g)	RFI Report	062539

7/1/1993	RFI Work Plan for Operable Unit 1082	RFI Work Plan	020948
November 1990	LANL SWMU Report, Volume II, TA-10-TA-25	SWMU Report	007513