108853

Ammendment #1
Waste Characterization Strategy Form

MDA-B Site Preparation Asphalt Removal, Grading, Site Preparation, Installation of Piers and Electrical Infrastructure	Records Use Only

Reason for Change: This amendment to EP2010-0045, WCSF – MDA-B Site Preparation is to correct Waste Stream #1. The volume for this waste stream was underestimated and the approved strategy for sampling and managing the waste stream has significantly changed.

Waste Description: The EP2010-0045 WCSF specifies how wastes generated by site preparation activities at MDA-B will be characterized and managed. The waste generating activity associated with the change is:

- Removal of the asphalt cover from the long western leg and central portion of MDA-B (Areas 4 – 9, ~1500-ft long by 120-ft wide).

This activity is expected to generate potentially contaminated asphalt. This asphalt was identified as Waste Stream #1 in the original WCSF. The following provides the revised description of this waste stream.

The waste streams described in this WCSF will be managed in accordance with SOP-5238, Characterization and Management of Environmental Program Waste.

Waste # 1: Asphalt - This waste stream consists of asphalt mixed with small amounts of vegetation that has been removed from the surface of MDA-B. It is estimated that approximately 7,000 yd^3 of asphalt will be generated from this activity. The debris asphalt will contain less than 1% associated soil and vegetation.

Anticipated Regulatory Status: Industrial, Low-Level Waste (LLW), Reuse

Characterization, Management, and Disposal: The following provides the revised characterization, management, and disposal requirements for Waste Stream #1:

Characterization Approach: Thirty six chip seal (asphalt cover) pucks were collected from the top of the soil cores collected during the 2009 Direct Push Sampling effort. The pucks were crumbled and combined and three sets of full-suite samples were taken. The samples were analyzed for volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); radionuclides, total metals, and toxicity characteristic metals. The asphalt waste characterization for the non-radiological constituents will be based upon the analytical results from the chip seal samples, which indicate that the material is not RCRA-regulated.

Additional characterization data for the radiological constituents in the material will be based upon the analytical results obtained from direct sampling of the asphalt prior to disposal as waste. Each sample must be representative of the stockpile location and/or waste container and may consist of a composite. The asphalt will be sampled using the sample instruction attached to this WCSF.

RECEIVED
MAR 10 2010
By AM

Ammendment #1 (continued)
Waste Characterization Strategy Form

Samples will be analyzed for tritium, isotopic uranium, isotopic plutonium, total uranium, strontium-90, americium-241, and gamma spectroscopy to support the Waste Acceptance Criteria (WAC) for potential off-site Industrial and LLW waste disposal facilities.

Storage and Disposal: The asphalt will be stockpiled (either within the AOC or at another location within TA-21) sampled, and managed in a designated, secure non-hazardous waste area pending analysis. This will include implementing measures to ensure the asphalt or other material is not dispersed off-site by wind, storm water run-off, vehicle or pedestrian traffic. If the asphalt is removed from the AOC and stockpiled at another location within TA21, the stockpile must be located such that will not create a potential release site and/or contaminate a clean area. The asphalt must be stockpiled within a defined area surrounded by a continuous line barrier/berm to prevent the runoff of precipitation from the material and the co-mingling of radiological contamination with storm water or entry into a watercourse. The stockpile cannot be located in a watercourse, TSDF, or storm water drainage area.

The analytical results from the sampling will be used to provide a final waste determination and/or reuse/disposal path. If the analytical results identify that the material is LLW, it will be packaged and placed into a storage area appropriate for the waste classification. The disposal path options for this waste stream are off-site Industrial, LLW, or reuse as base course.

Signatures	Date
ADEP Project Leader: Mitch Goldberg	3/9/10
Preparer: Jennifer Griffin	3/9/10
Waste Management Coordinator: Jeff Lee	3/9/10
ENV-RCRA Representative: Jennifer Griffin (with Kate Lynnes review)	3/9/10
WES-Waste Acceptance Representative: Andy Elicio	03/09/10
Waste Certification Program Representative: Michelle Coriz	3/9/10
	Los Alamos National Laboratory **ENV-ERSS**

CHARACTERIZATION TABLE (PAGE 1 OF 1)

Waste Description	Waste # 1 Debris Asphalt		
Volume	7,000 CY		
Packaging	Stockpile, Approved Container		
Regulatory classification:			
Radioactive	X		
Reusable material			
MSW			
Hazardous			
Mixed (hazardous and radioactive)			
Toxic Substances Control Act (TSCA)			
New Mexico Special Waste			
Industrial	X		
Characterization Method			
Acceptable knowledge (AK): Existing Data/Documentation	X [Non-Radiological Constituents]		
AK: Site Characterization			
Direct Sampling of Containerized Waste	X		
Analytical Testing			
Volatile Organic Compounds (EPA 8260-B)			
Semivolatile Organic Compounds (EPA 8270-C)			
Organic Pesticides (EPA-8081-A)			
Organic Herbicides (EPA 8151-A)			
PCBs (EPA 8082)			
Total Metals (EPA 6010-B/7471-A)			
Total Cyanide (EPA 9012-A)			
High Explosives Constituents (EPA 8330/8321-A)			
Asbestos			
Total petroleum hydrocarbon (TPH)-GRO (EPA 8015-M)			
TPH-DRO (EPA 8015-M)			
Toxicity characteristic leaching procedure (TCLP) Metals (EPA 1311/6010-B)			
TCLP Organics (EPA 1311/8260-B & 1311/8270-C)			
TCLP Pest. & Herb. (EPA 1311/8081-A/1311/8151-A)			
Gross Alpha (alpha counting) (EPA 900)			
Gross Beta (beta counting) (EPA 900)			
Tritium (liquid scintillation) (EPA 906.0)	X		
Gamma spectroscopy (EPA 901.1)	X		
Isotopic plutonium (chem. separation/alpha spec.) (HASL-300)	X		
Isotopic uranium (chem. separation/alpha spec.) (HASL-300)	X		
Total uranium (6020 inductively coupled plasma mass spectroscopy [ICPMS])	X		
Strontium-90 (EPA 905)	X		
Americium-241 (chem. separation/alpha spec.) (HASL-300)	X		
Waste Profile Form #	TBD		

Attachment A
MDA-B Asphalt Sampling Instruction

FACILITY:	TA-21, Material Disposal Area B (MDA-B), Unit 21-015
ACTIVITY:	Asphalt Characterization for Disposal and/or Reuse

DESCRIPTION: The MDA-B consists of approximately 6 acres of non-industrialized land at TA-21 located on DP Mesa. MDA-B is undergoing site remediation in accordance with the Order on Consent. This site remediation includes the removal of all waste materials from the disposal cells and verification that the remaining soil and overburden meet residential clean-up standards. The MDA-B Project is currently preparing the site for remediation by removing the asphalt cover, grading the site, and installing enclosures over the waste disposal cells. These activities have resulted in the generation of 5000 – 6000 yd3 of asphalt potentially contaminated with RCRA and radiological constituents. The asphalt is currently being managed in the following three configurations:

- Asphalt removed from the edges of MDA-B (not over the disposal cells) is stockpiled on top of the Area 8 asphalt pad and is approximately 105-ft long, 40-ft wide, and 20-ft tall.
- Asphalt removed from the area over the disposal cells is stockpiled on Area 8 asphalt pad and is approximately 100-ft long, 40-ft wide, and 10-ft high.
- The Area 8 asphalt pad which is approximately 220-ft long, 40-ft wide, and 0.5 ft thick.

There are three options that are being considered by the project for this asphalt:

- Disposal as LLW
- Disposal as Industrial
- Re-use at TA-21 to create waste storage area surfaces, parking lots, and graded access roads.

OBJECTIVE: The purpose of this SAP is to ensure that representative samples are collected from the asphalt to support disposal and /or reuse of the material at TA-21.

PROCEDURES: The sampling effort will require the use of one or more of the following EP procedures:

- SOP-06.11, *Spade and Scoop Method for Collection of Soil Samples.*
- SOP-5194, *Chip Sampling of Porous Surfaces.*
- SOP-5056, *Sample Containers and Preservation*
- SOP-5057, *Handling, Packaging, and Transporting Field Samples*
- SOP-5058, *Sample Control and Field Documentation*
- SOP-5059, *Field Quality Control Samples*
- SOP-5061, *Field Decontamination of Equipment*

EQUIPMENT: The sampling equipment will include the following items:

- Trowels
- Shovels
- Hammer & Chisel
- Dry Decontamination Materials
- Stakes & Flags (to Mark Sample Locations)
- Sample Containers
- Sample Labels
- Tamper Seals
- Logbook
- Pen , Permanent Marker
- Chain-of-Custody Form/Request of Analysis Form

FREQUENCY/QUANTITY OF SAMPLES:

The number of samples to be collected from the asphalt was determined using the analytical data from the DPT Chip Seal samples collected in 2009 and the methods described in SW-846, Chapter 9 (September 1986). Table 1 provides the results from the three DPT Chip Seal samples suites (33 samples composited) collected at MDA-B:

Table 1 – Chip Seal Sample Data – MDA-B Asphalt

Constituent	SAL (pCi/g)	No. 4-10-462	No. 04-10-463	No. 04-10-464
Am-241	30	NA	NA	NA
Cs-137	5.6	-	-	-
Eu-152	2.9	-	-	0.3917
Pu-238	37	1.308	0.2571	-
Pu-239/240	33	159.984	36.919	9.8392
St-90	5.7	-	-	-
Th-228	5	NA	NA	NA
Th-230	5	NA	NA	NA
Tritium	750	6.0291	10.6685	17.5286
U-234	170	-	-	-
U-235/236	17	-	-	-
U-238	86	-	-	-
Constituent	**SSL (mg/kg)**	**No. 4-10-462**	**No. 04-10-463**	**No. 04-10-464**
Benzo(g,h,i)perylene	1720	0.43	-	-
Benzoic Acid	-	2	2.1	2
Methylene Chloride	199	0.018	0.008	-
T[2,4,5-]	6110	0.012	0.022	-
Toluene	5570	0.01	0.0036	0.0012
Selenium	391	-	-	1.6
Zinc	23,500	143	-	-
Calcium	-	10,500	-	-

This data is currently driving the waste determination for the material to LLW due to the detected concentrations of Pu-239/240. A minimum of 18 additional samples must be collected to determine if the material can be disposed of as industrial waste. It is recommended that 25 samples be collected to provide sufficient data for a waste determination. The TA-21 Facility Operations Director (FOD) has also requested that reuse of the asphalt as base course be considered both at MDA-B and within TA-21. If the asphalt is going to be reused, it is recommended that at least 7 of the samples also include analysis for total metals. This will provide additional confirmation data that the asphalt is not RCRA regulated and will not become a potential source of contamination if used as base course outside the MDA-B AOC boundary.

Table 2 identifies the sample types, and frequency for the 3 asphalt stockpiles at MDA-B.

Table 2
Sample Types and Frequency for Asphalt Stockpiles at MDA-B

Constituent	No. of Samples	
	Radiological (Tritium, Isotopic Uranium, Isotopic Plutonium, Total Uranium, Strontium-90, Americium-241, and Gamma Spectroscopy)	Total Metals
Pile 1	13	3
Pile 2	10	3
Area 8 Pad	2	1
Total	25	7

QUALITY CONTROL SAMPLES:

Collect quality control samples in accordance with SOP-5059, *Field Quality Control Samples*. It is anticipated that three duplicates for radiological analysis will need to be collected 1 from each pile/area. One of the duplicates should also include total metals analysis.

METHOD: Representative samples will be collected from the asphalt as follows:

1. Divide each asphalt stockpile into sections based upon the number of samples to be collected (e.g., Pile 1 = 13 Sections). Use stakes and flags to mark and number the sections.

2. Use heavy equipment to cut into the pile and collect material from the top, middle, and bottom of the cut. The material can be collected using SOP-06.11, *Spade and Scoop Method for Collection of Soil Samples* or equivalent document. The material from each section may be composited.

   NOTE: The asphalt has not been ground up and may be initially collected in large pieces.

3. Perform size reduction on the material, using SOP-5194, *Chip Sampling of Porous Surfaces* so that the sample material is approximately 1 – 3 inches in diameter.

4. Place the material into the appropriate sample containers as specified by SOP-5056, *Sample Containers and Preservation* and provided by the analytical laboratory.

5. Complete the appropriate sample documentation and label the containers in accordance with SOP-5058, *Sample Control and Field Documentation.*

6. Decontaminate sampling equipment between samples in accordance with SOP-5061, *Field Decontamination of Equipment.*

7. Package and transport the samples to the SMO in accordance with SOP-5057, *Handling, Packaging, and Transporting Field Samples.*

8. Have and RCT screen the samples and transportation containers for radiological contamination so that they can released for transport to SMO.

SAMPLE DOCUMENTATION: Sample documentation must be completed in accordance with SOP-5058, *Sample Control and Field Documentation.* This includes the following:

- Sample Labels
- Sample Collection Log
- Sample Field Chain-of-Custody
- Radiological Screening Data Release Form
- Sample Custody Seal
- Daily Activity Log
- Field Logbook