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Waste Characterization Strategy Form

Amendment #2, Regional Well, MDA C, R-60	Records Use Only
<p>Reason for Change: This WCSF Amendment provides a revision to EP2010-0270 (Original WCSF for R-60) and EP2010-0391 (Amendment #1 HE Contaminated Decontamination Water) that will allow for the use of AK to characterize spills of petroleum based liquids on clean fill/soil.</p>	
<p>Waste Description:</p> <p>Waste #7: Petroleum Contaminated Soils (PCS) – This waste stream is comprised of soils contaminated due to the accidental release of commercial products such as hydraulic fluid, motor oil, unleaded gasoline, or diesel fuel (e.g., from the rupture of hydraulic or fuel hoses, or spills during maintenance, etc.). It may also include adsorbent padding, paper towels, spill pillows or other adsorbent material used to contain the released material and added to the containerized PCS waste for storage or disposal. It is estimated that <1 cubic yards of this waste stream will be produced per well.</p>	
<p>Characterization, Management, and Disposal:</p> <p>Anticipated Regulatory Status: New Mexico Special Waste (NMSW), Hazardous, LLW, MLLW, Industrial</p> <p>Characterization and Sampling Approach: PCS may be characterized based upon the AK of the product spilled and the media with which it came into contact and/or using the analytical results obtained from direct sampling. AK may only be used if the product spilled is known (an MSDS specifying composition is available) and the spill is on clean fill (non-hazardous/non-radioactive). Direct sampling may be performed in place (same day as the spill/containerization) or from the containerized waste within 10 days of generation. Samples will be collected in one of the following two ways:</p> <ul style="list-style-type: none"> • For spills containerized in large containers (i.e., 55-gallon drums) and/or deep spills being sampled in place, the samples will be collected in accordance with LANL SOP-06-10, <i>Hand Auger and Thin-Wall Tube Sampler</i>. • For spills containerized in small containers and/or shallow spills being sampled in place, the samples will be collected in accordance with SOP-06-09, <i>Spade and Scoop Method for Collection of Soil Samples</i>. <p>If the PCS is sampled the analysis of the samples will be dependent on where the spill occurred:</p> <ul style="list-style-type: none"> • If the spill occurred on clean soil, samples will be analyzed for VOCs, total petroleum hydrocarbons (TPH), gasoline-range and diesel-range (DRO/GRO), and total metals, at a minimum. These analytical suites are required to determine whether the waste is NMSW. Other constituents must be analyzed as needed to meet the receiving disposal facilities WAC. • If the spill occurs on soils with known hazardous contaminants or soils with no available information, samples will be analyzed, at a minimum, for VOCs, SVOCs, total metals, and TCLP metals, if necessary, as well as analytes needed to meet the WAC of the anticipated receiving treatment or disposal facility. If radioactive or explosives operations occurred in the vicinity, samples may also need to be analyzed for explosives, gross alpha, gross beta, and isotopic radionuclides, as appropriate. 	

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All samples will be submitted with a 21-day turnaround time for analysis so that a waste determination can be made within 45 days of generation. The "initial" date or date of generation for NMSW is the date the container is completely full or the date in which no additional NMSW will be added to the container. The "final" date (or the date starting the 90 day NMSW clock) is the date that the validated analytical data is received by the WMC and/or a waste determination has been made using AK.

Sampling personnel must record sampling information in accordance with EP-ERSS-SOP-5058 and EP-ERSS-SOP-5181. The field notebook or sample collection sheet must be used to document sample collection activities (e.g., equipment and sampling methods used, number and location of samples, etc.). Sampling personnel must also record field conditions, problems encountered, local sources of contamination (e.g., operating generators or vehicles), the personnel involved, equipment and supplies used, waste generated, and field observations.

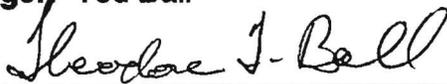
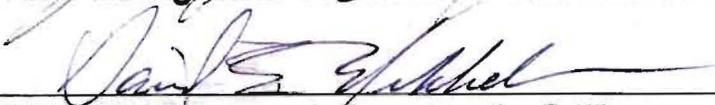
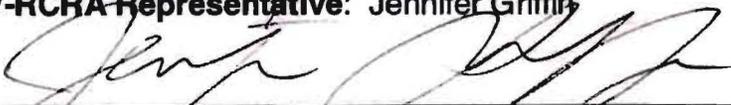
Storage and Disposal Method: PCS will be containerized at the point of generation on the same day that the spill occurred. If the AK for the site indicates that the soil will not be contaminated with radioactive or hazardous materials, the PCS will be managed as NMSW pending review of AK and/or analytical results to determine final waste characterization. If AK for the site indicates that the soil could be contaminated with radioactive or hazardous materials the PCS will be stored in a clearly marked and appropriately constructed waste accumulation area appropriate to the anticipated waste type.. Waste accumulation areas postings, regulated storage duration, and inspection requirements will be based on the waste classification. The following provides the management and disposal pathways for PCS that has a final waste determination:

1. PCS that is not contaminated with radioactive or hazardous materials will be managed as NMSW if one or more of the following conditions are met:
 - If the sum of benzene, toluene, ethylbenzene, and xylene isomer concentrations are greater than 50 mg/kg.
 - If benzene individually is equal to or greater than 10 mg/kg (Note: If benzene concentrations are equal to or greater than 0.5 mg/liter, based upon TCLP, it is a hazardous waste, not a NMSW).
If TPH (DRO+GRO) concentration is greater than 100 mg/kg..PCS that is characterized as NMSW will remain in the registered NMSW area until it is shipped for disposal to an authorized off-site facility.

2. PCS that is not contaminated with radioactive or hazardous materials will be managed as industrial waste if the contaminant levels are less than the NMSW and/or PCB regulatory levels. PCS that is characterized as industrial waste will be removed from the registered NMSW area and stored as industrial waste until it is shipped for disposal to an authorized off-site facility.

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3. PCS that is characterized as LLW will be moved to a radioactive waste staging or storage area until it can be shipped for disposal to an authorized off-site facility.
4. PCS characterized as hazardous or MLLW will be managed in an appropriate hazardous waste storage area until it can be shipped for disposal to an authorized off-site facility. If the waste volume exceeds 55-gallons it will be managed in a <90 Day storage area with a start date equal to the earliest date of generation by container.
5. PCS characterized as regulated PCB wastewill be managed in a registered PCB area, hazardous waste accumulation area, or radioactive waste staging or storage area, as appropriate to the final waste classification.

Signatures	Date
Project Manager: Ted Ball 	2/28/11
Preparer: Jennifer Griffin 	2/14/11
Waste Management Coordinator: Dave Mikkelson 	2/16/11
ENV-RCRA Representative: Jennifer Griffin 	2/14/11
Waste Acceptance Representative: Andy Elicio 	02/28/2011
Waste Certification Program Representative: Michelle Coriz 	2/28/11

Waste Characterization Strategy Form

CHARACTERIZATION TABLE (PAGE 1 OF 1)

Waste Description	Waste #7 Petroleum Contaminated Soils (PCS)	
Estimated Volume	1-yd ³	
Packaging	Drums	
Regulatory classification:		
Radioactive Waste	X	
Reusable Material		
Municipal Solid Waste (MSW)		
Waste destined for LANL's SWWS or RLWTF ¹		
Hazardous Waste	X	
Mixed (hazardous and radioactive) Waste	X	
Toxic Substances Control Act (TSCA)		
New Mexico Special Waste	X	
Industrial Waste	X	
Characterization Method		
Acceptable knowledge (AK): Existing Data/Documentation	X	
AK: Site Characterization	X	
Direct Sampling of Waste	X	
Analytical Testing		
Volatile Organic Compounds (EPA 8260-B)	X	
Semivolatile Organic Compounds (EPA 8270-C)	X (As needed)	
Organic Pesticides (EPA 8081-A)		
Organic Herbicides (EPA 8151-A)		
PCBs (EPA 8082)		
Total Metals (EPA 6010-B/7471-A)	X	
Total Cyanide (EPA 9012-A) ²		
Nitrates/Nitrites (EPA 300.09)		
Dioxins/Furans (EPA 1613B)		
Oil/Grease (EPA 1665)		
Fluoride, Chlorine, Sulfate (EPA 300)		
TTO (EPA 8260-B and EPA 8270-C) ³		
Total Suspended & Dissolved Solids (TSS) and Total Dissolved Solids (TDS) (EPA 160.1 and 160.2)		
Chemical Oxygen Demand (COD) (EPA 410.4)		
pH (EPA 904c)		
Microtox or Biological Oxygen Demand (BOD) ⁴		
Perchlorates (EPA 6850)		
High Explosives Constituents (EPA 8330/8321-A)		
Asbestos		
BTEX (EPA-8021b)		
Total petroleum hydrocarbon (TPH)-GRO (EPA 8015-M) TPH-DRO (EPA 8015-M)	X	
Toxicity characteristic leaching procedure (TCLP) Metals (EPA 1311/6010-B)	X (As needed)	
TCLP Organics (EPA 1311/8260-B & 1311/8270-C)	X (As needed)	
TCLP Pest. & Herb. (EPA 1311/8081-A/1311/8151-A)		
Radium 226 & 228 (EPA 9320)	X (As needed)	
Gross Alpha (alpha counting) (EPA 900)	X (As needed)	
Gross Beta (beta counting) (EPA 900)	X (As needed)	
Tritium (liquid scintillation) (EPA 906.0)	X (As needed)	
Gamma spectroscopy (EPA 901.1)	X (As needed)	
Isotopic plutonium (Chem. Separation/alpha spec.) (HASL-300)	X (As needed)	
Isotopic uranium (Chem. Separation/alpha spec.) (HASL-300)	X (As needed)	
Total uranium (EPA 6020)	X (As needed)	
Strontium-90 (EPA 905)	X (As needed)	
Americium-241 (Chem. Separation/alpha spec.) (HASL-300)	X (As needed)	
Isotopic Thorium	X (As needed)	
Waste Profile Form #	TBD	

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- 1 In addition to other analytes needed to characterize the waste (e.g., VOC, SVOC, total metals), analyze for TSS, TDS, Oil and Grease, gross alpha, gross beta, tritium, and pH for liquids destined for the LANL sanitary waste water system (SWWS). For wastes destined for the RLWTF additional constituents include TTO, TSS, COD, pH, total nitrates/nitrites, and gross alpha, gross beta (not including tritium), and gross gamma or the sum of individual alpha-, beta-, and gamma-emitting nuclides.
- 2 Filtered metals and filtered Cyanide are required for land application, with the exception of Mercury (Hg).
- 3 TTO is the total of volatile organic and semi-volatile organic compound contaminants. Request methods EPA 8260-B (VOCs) and EPA 8270-C (SVOCs).
- 4 If Microtox analysis is not available, request BOD.

NOTE 1: If data is insufficient to make a definitive regulatory classification at the time of WCSF completion, more than one box on the characterization table may be checked, along with an explanation in the text section. The final regulatory classification will be reflected on the WPF. Ensure that the table identifies the suite of analyses required based on site knowledge, information needed by the anticipated receiving facility, or for land application, if applicable.

NOTE 2: Section 1.2 of the TCLP method 1311 states "if a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run." The methodology for using total waste analyses determination for the 40 TC constituents is as follows:

Liquids – Waste containing less than 0.5% filterable solids do not require extraction and therefore by filtering the waste and measuring the total constituent levels of the filtrate and comparing those levels to regulatory levels is appropriate.

Solids – constituent concentrations from the extraction fluid of wastes that are 100% physical solids are divided by 20 (reflecting the 20 to 1 ration of TCLP extraction) and then compared to the regulatory levels. If the theoretical levels do not equal or exceed the regulatory levels, the TCLP need not be run. If the levels do equal or exceed the regulatory levels, the generator may either declare the waste hazardous or run TCLP analyses.

