



TA 10
LIBRARY COPY



*Environmental Protection Division
Water Quality & RCRA (ENV-RCRA)*
P.O. Box 1663, Mail Stop K490
Los Alamos, New Mexico 87545
(505) 667-0666/FAX: (505) 667-5224

Date: November 14, 2007
Refer To: ENV-RCRA-07-263

Mr. James Bearzi
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Dear Mr. Bearzi:

SUBJECT: REQUEST FOR "CONTAINED" IN DETERMINATION FOR DRILL CUTTINGS, SOIL, AND ASSOCIATED CONTACT WASTE FROM THE CENTRAL AREA OF CONSOLIDATED UNIT 10-002(a)-99, BAYO CANYON AGGREGATE AREA INVESTIGATION

The purpose of this letter is to request that the New Mexico Environment Department (NMED) Hazardous Waste Bureau use its authority under 20.4.1.200 NMAC 261.3(f) to determine that environmental media and associated contact waste at the Los Alamos National Laboratory (LANL) former Technical Area (TA)-10, Bayo Canyon aggregate area do not warrant management as F-listed hazardous waste, pursuant to the requirements of 20.4.1.200 NMAC 261.31. The waste was generated as part of the investigation of the Central Area of Consolidated Unit 10-002(a)-99 and consists of drill cuttings resulting from subsurface investigation and associated soil and contact waste.

The drill cutting, soil, and contact waste (less than 10 cubic yards) are containerized in two DOT-approved roll-off bins and one 55-gallon drum and is being managed as hazardous waste in a less-than-90-day accumulation area at former TA-10 pending this "contained in" determination. Waste characterization information comes from samples that were collected directly from the roll-off bin containing drill cuttings as well as borehole characterization data. These are used to characterize both the drill cuttings and contact waste. Based on analytical results for the borehole samples, the waste is not characteristic, but it contains low concentrations of potentially listed contaminants.

Documentation regarding possible sources of the contamination was reviewed to identify the source of the potentially listed contaminants. Based on the document review, carbon tetrachloride was the only potential F-listed contaminant identified as having been used as a solvent in historical processes conducted in the Central Area of Consolidated Unit 10-002(a)-99. The documentation did not identify disposal or spills of U- or P-listed materials or any K-listed processes; therefore these waste numbers were not assigned.



Table 1 compares the one detected concentration of carbon tetrachloride with NMED Soil Screening Levels (SSLs) and U.S. Environmental Protection Agency (EPA) Region 6 Human Health Medium-Specific Screening Levels (MSSLs) to determine whether the detected concentrations present a health-based concern for an industrial receptor. There is no evidence that the other organic contaminants were used as solvents at the site, but they are included in the table because the LDR treatment standards for F001-F005 waste category include all of these contaminants. Industrial screening levels were selected because the anticipated final disposition of the drill cuttings and contact waste is at an authorized low-level radioactive waste disposal facility. The organic contaminants are below the industrial SSLs and MSSLs, as shown in Table 1. A summary of the validated organic data used to make this waste determination is shown in Table 2.

According to EPA documents and associated guidance, the authorized state may also make a determination on a case-specific basis as to how the Land Disposal Restrictions (LDRs) apply to the waste when a "contained in" determination has been made. Because the maximum detected concentrations of carbon tetrachloride from the investigation of the Central Area of Consolidated Unit 10-002(a)-99 is below the LDR treatment standards, as shown in Table 1, LANL also requests a determination from NMED that LDRs will not apply to the drill cuttings and associated soil and contact waste, and that they may be disposed of as nonhazardous, low-level waste.

LANL believes that a "contained in" determination for the organic constituents shown in Table 1 is appropriate because it would be protective of human health and the environment, and would allow for cost-effective removal of the investigation-derived waste from former TA-10, Bayo Canyon Aggregate Area investigation activities.

If you have any questions, please contact me at (505) 667-0666 or Gene Turner at (505) 667-5794.

Sincerely,



Anthony R. Grieggs
Group Leader
Water Quality & RCRA (ENV-RCRA) Group

Cy: John Young, NMED/HWB, Santa Fe, NM
David Cobrain, NMED/HWB, Santa Fe, NM
Gene Turner, LASO/EO, A316
Cheryl Rodriguez, LASO/EO, A316
Michael B. Mallory, PADOPS, A102
Richard S. Watkins, ADESHQ, K491
Tori George, ENV-DO, J978
John Tymkowych, ENV-RCRA, K490
Ann Sherrard, ENV-RCRA, K490

Mr. James Bearzi
ENV-RCRA-07-263

- 3 -

November 14, 2007

Cy (continued):

Becky Coel-Roback, EP-CAP, M992

David McInroy, EP-CAP, M992

Gordon Dover, EP-CAP, M992

EP-CAP Project File, M992

ENV-RCRA, File, K490

IRM-RMMSO, A150

Table 1
 Comparison of Potential F-Listed Organic Constituents Detected in TA-10 Central Area Soil Samples
 to Soil Screening Levels and Land Disposal Restriction Treatment Standards

Constituent	Sample No. RE10-07	Matrix	Maximum Concentration (mg/kg)	NMED Industrial SSL (mg/kg)¹	EPA Region 6 Industrial/Outdoor Worker MSSL (mg/kg)²	LDR Treatment Standard (mg/kg)³
Carbon Tetrachloride	-5512	Solid	0.153	8.64	5.8	6.0
Acetone	-5512	Solid	0.375	100000	6040000	160
Toluene	-5512	Solid	0.0352	2500	5200	10
Tetrachloroethene		Solid	0.00072	3160	1.7	6.0
Chloroform	-5512	Solid	0.0236	9.59	0.58	6.0
Trichloroethane(1,1,1-)	-5512	Solid	0.0673	56300	14000	6.0
Dichloroethane(1,1-)	-5512	Solid	0.000375	142000	23000	6.0
Trichloro-1,2,2-trifluoroethane(1,1,2-)	-5512	Solid	0.222	328000	56000	30
Butanone(2-)	-5512	Solid	0.00293	4870000	340000	36
Trichloroethene	-5512	Solid	0.000427	1.56	0.01	6.0

mg/kg = milligrams per kilogram

EPA = Environmental Protection Agency

MSSL = Medium Specific Screening Level

NMED = New Mexico Environment Department§

LDR = Land Disposal Restrictions

SSL= Soil Screening Level

1 – From “Technical Background Document for Development of Soil Screening Level” Revision 4.0 June 2006, New Mexico Environment Department

2 – From “EPA Region 6 Human Health Medium-Specific Screening Levels”, February 2007, US Environmental Protection Agency

3 – LDR Treatment Standards for Hazardous Wastes, Nonwastewaters, as provided in 40 CFR 268.40 and adopted by 20.4.1.800 NMAC

Table 2
All Organic Constituents Detected in TA-10 Bayo Canyon Central Area Samples

Sample Number	Location ID	Depth	Unit	Analyte name	Result	Unit
RE10-07-5496	10-601161	43-45	feet	Acetone	11	ug/kg
RE10-07-5998	10-601259	51-53	feet	Bromobenzene	0.46	ug/kg
RE10-07-5512	10-601164	14-16	feet	Toluene	6.73	ug/kg
RE10-07-5512	10-601164	14-16	feet	Toluene	35.2	ug/kg
RE10-07-5512	10-601164	14-16	feet	Tetrachloroethene	0.722	ug/kg
RE10-07-5512	10-601164	14-16	feet	Carbon Tetrachloride	153	ug/kg
RE10-07-5512	10-601164	14-16	feet	Acetone	25.7	ug/kg
RE10-07-5512	10-601164	14-16	feet	Acetone	375	ug/kg
RE10-07-5512	10-601164	14-16	feet	Chloroform	23.6	ug/kg
RE10-07-5512	10-601164	14-16	feet	Trichloroethane[1,1,1-]	67.3	ug/kg
RE10-07-5512	10-601164	14-16	feet	Dichloroethane[1,1-]	0.375	ug/kg
RE10-07-5512	10-601164	14-16	feet	Trichloro-1,2,2-trifluoroethane[1,1,2-]	222	ug/kg
RE10-07-5512	10-601164	14-16	feet	Butanone[2-]	2.93	ug/kg
RE10-07-5512	10-601164	14-16	feet	Trichloroethene	0.427	ug/kg
RE10-07-5512	10-601164	14-16	feet	Trimethylbenzene[1,2,4-]	0.395	ug/kg
RE10-07-5918	10-601243	48-56	feet	Butanone[2-]	8.4	ug/kg

ug/kg = micrograms per kilogram