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DEC 2004
NMED HAZARDOUS
Waste Bureau

Date: December 15, 2004
Refer To: ER2004-0700

Mr. John Young, Project Leader
Permits Management Program
NMED – Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building 1
Santa Fe, NM 87505-6303

SUBJECT: REQUEST FOR "NO LONGER CONTAINED IN" DETERMINATION FOR RETURNED SEDIMENT SAMPLES, MORTANDAD CANYON, AOC C-00-008

Dear Mr. Young:

The purpose of this letter is to request that the New Mexico Environment Department (NMED) Hazardous Waste Bureau use its discretionary authority to determine that returned sediment samples from Mortandad Canyon do not warrant management as F-listed hazardous waste, pursuant to the requirements of 20.4.1.200 NMAC §261.31.

The sediment samples were collected in 2004 as part of the Los Alamos National Laboratory's (LANL or the Laboratory) series of phased investigations of canyon reaches. Analytical results indicate that the returned sediment samples contain low levels of organic constituents that may have originated from processes for which F-listed hazardous wastes are identified. The total volume of returned sediment samples and investigation-derived waste that was in contact with the sediment is no more than two 55-gallon drums.

The returned sediment samples for which this "no longer contained in" determination is requested are from the same source area as sediments that were excavated and removed by the Laboratory from the Mortandad Canyon sediment traps during maintenance activities in 2000. The sediments removed from the traps in 2000 were initially considered F-listed hazardous waste due to historical solvent releases to the canyon and its tributaries. The Laboratory's request for a "no longer contained in" determination for these sediments was approved by NMED in a letter dated July 20, 2000 (NMED 2000, 67097). Most of the organic constituents in the returned sediment samples are the same as those detected in the sediment traps, and the maximum detected concentrations are comparable.

LANL proposes using U.S. Environmental Protection Agency (EPA) Region 6 Human Health Medium-Specific Screening Levels (MSSLs) and NMED Soil Screening Levels (SSLs) for comparison to maximum detected concentrations of organic constituents in the returned

sediment samples to determine whether the media must be managed as F-listed hazardous waste. A summary of the analytical results for all organic constituents in the sediment samples is provided in Attachment 1. The comparison to screening levels (Table 1) is limited to those detected organic constituents in Attachment 1 that are potentially F-listed hazardous wastes, based on historical knowledge of their uses. The MSSLs and SSLs presented are based on an industrial exposure scenario using direct exposure routes (inhalation, ingestion, and dermal contact). The maximum detected concentrations of all potential F-listed hazardous waste constituents in the sediment samples are below these industrial-based MSSLs and SSLs, as shown in Table 1.

Table 1
Comparison of Potential F-Listed Organic Constituents Detected in Sediment Samples to MSSLs, SSLs, and LDR Treatment Standards

Constituent	Maximum Concentration (mg/kg)	EPA Region 6 Human Health Industrial Outdoor MSSL (mg/kg)	NMED Industrial SSL (mg/kg)	LDR Treatment Standards (mg/kg)
Acetone*	0.47	100,000	100,000	160
Benzene	0.0008	1.6	73.6	10
Butanone[2-]	0.038	34,000	2,100	36
1,2-dichlorobenzene	0.0013	370	116	6
2-methyl-4-pentanone*	0.014	17,000	6,900	33
Methylene Chloride	0.034	22	440	30
Tetrachlorethene	0.024	1.7	24.6	6
Toluene	0.075	520	248	10
1,1,1-trichloroethane	0.0014	1,400	551	6
Trichloroethene	0.013	0.1	1.59	6
Trichlorofluoromethane	0.0004	1,400	959	30
Xylenes (total)*	0.0014	210	132	30

* = will not carry the F-listing if the waste does not exhibit ignitability at the point of generation.
MSSL = medium-specific screening level
SSL = soil screening level
LDR = Land Disposal Restrictions

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 "no longer contained in" determination has been made. Because the maximum detected concentrations of potential F-listed organic constituents are below their respective LDR treatment standards, as shown in the table above, LANL seeks NMED's concurrence that LDRs will not apply to the sediment sample waste. Because the returned sediment samples contain concentrations of several radionuclides above background values, LANL proposes to dispose of them in an on-site facility approved by DOE for disposal of low-level radioactive waste, contingent upon the "no longer contained in" determination.

LANL proposes that a "no longer contained in" determination for the organic constituents shown

in Table 1 will be protective of human health and the environment and will allow for cost-effective disposal of the returned sediment samples. If you have any questions, please contact Danny Katzman at (505) 667-6333 or Tom Whitacre at (505) 665-5042.

Sincerely,

David McInroy, Deputy Project Director
Remediation Services
Los Alamos National Laboratory

Sincerely,

Thomas Whitacre for

David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Operations

DM/DG/KV/jr

Attachment: Analytical Results for Organic Constituents, Mortandad Canyon Sediment Samples, 2004

Cy:(w/att.)
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Attachment 1 - Analytical Results for Organic Constituents, Mortandad Canyon Sediment, 2004

Analyte Name	Units	Number of samples	Number of detects	Frequency of detects	Percent detects	Minimun detect	Mean detect	Maximum detect
Acetone [a]	**mg/kg [b]**	**71**	**53**	**53/71**	**74.65**	**0.027**	**0.1463585**	**0.47**
Aldrin	mg/kg	58	0	0/58	0.00	NA	NA	NA
Aniline	mg/kg	38	0	0/38	0.00	NA	NA	NA
Anthracene	mg/kg	101	19	19/101	18.81	0.022	0.1375789	0.66
Aroclor-1016	mg/kg	58	0	0/58	0.00	NA	NA	NA
Aroclor-1221	mg/kg	58	0	0/58	0.00	NA	NA	NA
Aroclor-1232	mg/kg	58	0	0/58	0.00	NA	NA	NA
Aroclor-1242	mg/kg	58	0	0/58	0.00	NA	NA	NA
Aroclor-1248	mg/kg	58	0	0/58	0.00	NA	NA	NA
Aroclor-1254	mg/kg	58	7	7/58	12.07	0.069	0.189	0.57
Aroclor-1260	mg/kg	58	36	36/58	62.07	0.034	0.2291389	1.3
Azobenzene	mg/kg	38	0	0/38	0.00	NA	NA	NA
Benzene	**mg/kg**	**71**	**8**	**8/71**	**11.27**	**0.00037**	**0.00054125**	**0.0008**
Benzo(a)anthracene	mg/kg	100	51	51/100	51.00	0.012	0.2063922	2.3
Benzo(a)pyrene	mg/kg	101	54	54/101	53.47	0.019	0.2397407	2.7
Benzo(b)fluoranthene	mg/kg	101	32	32/101	31.68	0.043	0.304	2.4
Benzo(g,h,i)perylene	mg/kg	101	49	49/101	48.51	0.022	0.1667551	1.9
Benzo(k)fluoranthene	mg/kg	101	42	42/101	41.58	0.012	0.1940238	1.9
Benzoic Acid	mg/kg	38	0	0/38	0.00	NA	NA	NA
Benzyl Alcohol	mg/kg	38	0	0/38	0.00	NA	NA	NA
BHC[alpha-]	mg/kg	58	10	10/58	17.24	0.0026	0.01559	0.049
BHC[beta-]	mg/kg	58	5	5/58	8.62	0.003	0.00474	0.0076
BHC[delta-]	mg/kg	58	1	1/58	1.72	0.0034	0.0034	0.0034
BHC[gamma-]	mg/kg	58	10	10/58	17.24	0.0019	0.00658	0.017
Bis(2-chloroethoxy)methane	mg/kg	38	0	0/38	0.00	NA	NA	NA
Bis(2-chloroethyl)ether	mg/kg	38	0	0/38	0.00	NA	NA	NA
Bis(2-ethylhexyl)phthalate	mg/kg	38	9	9/38	23.68	0.072	0.1774444	0.55
Bromobenzene	mg/kg	71	0	0/71	0.00	NA	NA	NA
Bromochloromethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Bromodichloromethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Bromoform	mg/kg	71	0	0/71	0.00	NA	NA	NA
Bromomethane	mg/kg	71	1	1/71	1.41	0.002	0.002	0.002
Bromophenyl-phenylether[4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Butanone[2-]	**mg/kg**	**71**	**38**	**38/71**	**53.52**	**0.005**	**0.01784737**	**0.038**
Butylbenzene[n-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Butylbenzene[sec-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Butylbenzene[tert-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Butylbenzylphthalate	mg/kg	38	0	0/38	0.00	NA	NA	NA
Carbon Disulfide	**mg/kg**	**71**	**0**	**0/71**	**0.00**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**mg/kg**	**71**	**0**	**0/71**	**0.00**	**NA**	**NA**	**NA**
Chlordane[alpha-]	mg/kg	58	1	1/58	1.72	0.002	0.002	0.002
Chlordane[gamma-]	mg/kg	58	1	1/58	1.72	0.0024	0.0024	0.0024
Chloro-3-methylphenol[4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Chloroaniline[4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Chlorobenzene	**mg/kg**	**71**	**0**	**0/71**	**0.00**	**NA**	**NA**	**NA**
Chlorodibromomethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Chloroethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Chloroform	mg/kg	71	0	0/71	0.00	NA	NA	NA
Chloromethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Chloronaphthalene[2-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Chlorophenol[2-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Chlorophenyl-phenyl[4-] Ether	mg/kg	38	0	0/38	0.00	NA	NA	NA
Chlorotoluene[2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Chlorotoluene[4-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Chrysene	mg/kg	101	60	60/101	59.41	0.021	0.2620167	2.9
DDD[4,4'-]	mg/kg	58	6	6/58	10.34	0.0024	0.00368333	0.0067
DDE[4,4'-]	mg/kg	58	3	3/58	5.17	0.0022	0.0027	0.0036
DDT[4,4'-]	mg/kg	58	8	8/58	13.79	0.0026	0.010275	0.019
Dibenz(a,h)anthracene	mg/kg	101	10	10/101	9.90	0.085	0.1792	0.56
Dibenzofuran	mg/kg	38	1	1/38	2.63	0.14	0.14	0.14
Dibromo-3-Chloropropane[1,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dibromoethane[1,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dibromomethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichlorobenzene[1,2-]	**mg/kg**	**109**	**1**	**1/109**	**0.92**	**0.0013**	**0.0013**	**0.0013**
Dichlorobenzene[1,3-]	mg/kg	109	0	0/109	0.00	NA	NA	NA

Attachment 1 - Analytical Results for Organic Constituents, Mortandad Canyon Sediment, 2004

Analyte Name	Units	Number of samples	Number of detects	Frequency of detects	Percent detects	Minimun detect	Mean detect	Maximum detect
Dichlorobenzene[1,4-]	mg/kg	109	0	0/109	0.00	NA	NA	NA
Dichlorobenzidine[3,3'-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dichlorodifluoromethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloroethane[1,1-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloroethane[1,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloroethene[1,1-]	mg/kg	71	4	4/71	5.63	0.00077	0.0012425	0.0016
Dichloroethene[cis/trans-1,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichlorophenol[2,4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dichloropropane[1,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloropropane[1,3-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloropropane[2,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloropropene[1,1-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloropropene[cis-1,3-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dichloropropene[trans-1,3-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Dieldrin	mg/kg	58	1	1/58	1.72	0.0033	0.0033	0.0033
Diethylphthalate	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dimethyl Phthalate	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dimethylphenol[2,4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Di-n-butylphthalate	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dinitro-2-methylphenol[4,6-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dinitrophenol[2,4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dinitrotoluene[2,4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Dinitrotoluene[2,6-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Di-n-octylphthalate	mg/kg	38	0	0/38	0.00	NA	NA	NA
Endosulfan I	mg/kg	58	0	0/58	0.00	NA	NA	NA
Endosulfan II	mg/kg	58	0	0/58	0.00	NA	NA	NA
Endosulfan Sulfate	mg/kg	58	0	0/58	0.00	NA	NA	NA
Endrin	mg/kg	58	0	0/58	0.00	NA	NA	NA
Endrin Aldehyde	mg/kg	58	2	2/58	3.45	0.002	0.0026	0.0032
Endrin Ketone	mg/kg	58	0	0/58	0.00	NA	NA	NA
Ethylbenzene	**mg/kg**	**71**	**0**	**0/71**	**0.00**	**NA**	**NA**	**NA**
Fluoranthene	mg/kg	101	62	62/101	61.39	0.045	0.5125645	5.7
Fluorene	mg/kg	101	14	14/101	13.86	0.019	0.09485714	0.32
Heptachlor	mg/kg	58	0	0/58	0.00	NA	NA	NA
Heptachlor Epoxide	mg/kg	58	0	0/58	0.00	NA	NA	NA
Hexachlorobenzene	mg/kg	38	0	0/38	0.00	NA	NA	NA
Hexachlorobutadiene	mg/kg	38	0	0/38	0.00	NA	NA	NA
Hexachlorocyclopentadiene	mg/kg	38	0	0/38	0.00	NA	NA	NA
Hexachloroethane	mg/kg	38	0	0/38	0.00	NA	NA	NA
Hexanone[2-]	mg/kg	71	1	1/71	1.41	0.0033	0.0033	0.0033
Indeno(1,2,3-cd)pyrene	mg/kg	101	53	53/101	52.48	0.014	0.1706792	2
Iodomethane	mg/kg	71	0	0/71	0.00	NA	NA	NA
Isophorone	mg/kg	38	0	0/38	0.00	NA	NA	NA
Isopropylbenzene	mg/kg	71	4	4/71	5.63	0.00074	0.0066975	0.024
Isopropyltoluene[4-]	mg/kg	71	24	24/71	33.80	0.00099	0.03151208	0.57
Methoxychlor[4,4'-]	mg/kg	58	10	10/58	17.24	0.02	0.0902	0.23
Methyl-2-pentanone[4-]	**mg/kg**	**71**	**2**	**2/71**	**2.82**	**0.0043**	**0.00915**	**0.014**
Methylene Chloride	**mg/kg**	**71**	**11**	**11/71**	**15.49**	**0.0027**	**0.01115455**	**0.034**
Methylnaphthalene[2-]	mg/kg	38	1	1/38	2.63	0.13	0.13	0.13
Methylphenol[2-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Methylphenol[4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Naphthalene	mg/kg	101	5	5/101	4.95	0.13	0.598	1.2
Nitroaniline[2-]	mg/kg	38	1	1/38	2.63	0.25	0.25	0.25
Nitroaniline[3-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Nitroaniline[4-]	mg/kg	38	3	3/38	7.89	0.079	0.153	0.24
Nitrobenzene	**mg/kg**	**38**	**0**	**0/38**	**0.00**	**NA**	**NA**	**NA**
Nitrophenol[2-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Nitrophenol[4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Nitrosodimethylamine[N-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Nitroso-di-n-propylamine[N-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Nitrosodiphenylamine[N-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Oxybis(1-chloropropane)[2,2'-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Pentachlorophenol	mg/kg	38	0	0/38	0.00	NA	NA	NA
Phenanthrene	mg/kg	101	58	58/101	57.43	0.017	0.2712931	3.6
Phenol	mg/kg	38	0	0/38	0.00	NA	NA	NA

Attachment 1 - Analytical Results for Organic Constituents, Mortandad Canyon Sediment, 2004

Analyte Name	Units	Number of samples	Number of detects	Frequency of detects	Percent detects	Minimun detect	Mean detect	Maximum detect
Propylbenzene[1-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Pyrene	mg/kg	101	65	65/101	64.36	0.018	0.3829231	5.3
Styrene	mg/kg	71	0	0/71	0.00	NA	NA	NA
Tetrachloroethane[1,1,1,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Tetrachloroethane[1,1,2,2-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Tetrachloroethene	**mg/kg**	**71**	**17**	**17/71**	**23.94**	**0.00034**	**0.00287471**	**0.024**
Toluene	**mg/kg**	**71**	**16**	**16/71**	**22.54**	**0.00088**	**0.01200188**	**0.075**
Toxaphene (Technical Grade)	mg/kg	58	0	0/58	0.00	NA	NA	NA
Trichloro-1,2,2-trifluoroethane[1,1,2-]	**mg/kg**	**71**	**0**	**0/71**	**0.00**	**NA**	**NA**	**NA**
Trichlorobenzene[1,2,4-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Trichloroethane[1,1,1-]	**mg/kg**	**71**	**5**	**5/71**	**7.04**	**0.00072**	**0.001078**	**0.0014**
Trichloroethane[1,1,2-]	**mg/kg**	**71**	**0**	**0/71**	**0.00**	**NA**	**NA**	**NA**
Trichloroethene	**mg/kg**	**71**	**17**	**17/71**	**23.94**	**0.00015**	**0.00261588**	**0.013**
Trichlorofluoromethane	**mg/kg**	**71**	**1**	**1/71**	**1.41**	**0.00037**	**0.00037**	**0.00037**
Trichlorophenol[2,4,5-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Trichlorophenol[2,4,6-]	mg/kg	38	0	0/38	0.00	NA	NA	NA
Trichloropropane[1,2,3-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Trimethylbenzene[1,2,4-]	mg/kg	71	4	4/71	5.63	0.00074	0.000845	0.001
Trimethylbenzene[1,3,5-]	mg/kg	71	0	0/71	0.00	NA	NA	NA
Vinyl Chloride	mg/kg	71	0	0/71	0.00	NA	NA	NA
Xylene (Total)	**mg/kg**	**71**	**1**	**1/71**	**1.41**	**0.0014**	**0.0014**	**0.0014**

Footnotes:

a - Bold indicates an analyte that is a potential F-listed hazardous waste constituent, pursuant to 20.4.1.200 NMAC, Sect. 261.31.

b - mg/kg - milligrams per kilogram soil