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Date: August 3, 2006
 Refer to: EP2006-0700

Mr. James Bearzi
 NMED-Hazardous Waste Bureau
 2905 Rodeo Park Drive East, Building 1
 Santa Fe, NM 87505-6303

SUBJECT: REQUEST FOR "CONTAINED IN" DETERMINATION FOR THE PURGED ALLUVIAL GROUNDWATER COLLECTED DURING THE QUARTERLY SAMPLING OF MONITORING WELLS ASSOCIATED WITH CONSOLIDATED UNIT 16-021(c)-99 INVESTIGATION WITHIN TECHNICAL AREA 16

Dear Mr. Bearzi:

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 the purged alluvial groundwater collected during quarterly sampling of monitoring wells as part of the Los Alamos National Laboratory's (LANL's) corrective measures study (CMS) investigation of Consolidated Unit 16-021(c)-99 and of the 16-340 Complex does not warrant management as F-listed hazardous waste, pursuant to the requirements of the New Mexico Administrative Code (NMAC), Title 20, Chapter 4, Part 1 (20.4.1.200 NMAC), §261.31.

Activities in the vicinity of Consolidated Unit 16-021(c)-99 and the 16-340 Complex include the quarterly sampling of 11 shallow alluvial wells: 5 located in Cañon de Valle, 3 in Fishladder Canyon, and 3 in Martin Spring Canyon. The maximum amount of purge water produced during each quarterly sampling event is approximately 4 gallons per well. Water containing potentially F-listed hazardous waste from historical spent solvent sources is currently stored in satellite accumulation areas (SAA) located at each well.

LANL compared detected concentrations of organic compounds in groundwater samples collected from the Technical Area (TA) 16 alluvial monitoring wells with applicable human health groundwater standards to determine if there are health-based concerns. These organic compound analytical results are provided in Attachment 1. The water quality standards are (1) human health standards for groundwater listed in 20.6.2.3103 NMAC, issued by the New Mexico Water Quality Control Commission (WQCC); and (2) the U.S. Environmental Protection Agency (EPA) National Primary Drinking Water Standards maximum contaminant levels (MCLs) (40 CFR 141.61). These water quality standards are provided in Table 1 (columns 8 and 9 respectively) along with the detected concentrations of five potentially F-listed organic compounds (toluene, tetrachloroethene, acetone,



methylene chloride, and trichloroethene) from groundwater samples. The groundwater sample results provided in the table are from the purge water currently stored in the SAA at TA-16. (The samples were collected from the same volume of water that was drawn from the wells; the purge water is now stored as waste.)

Table 1: Detected Concentrations of Potential F-Listed Organic Compounds from Groundwater Samples Collected from Alluvial Monitoring Wells at TA-16^a

Location Name	Location Synonym	Sample Id	Start Date	Analyte	Result (µg/L)	Lab Qual Code ^b	Human Health (µg/L) ^c	EPA MCLs (µg/L) ^d	LDR Treatment Standard (µg/L) ^e
Canon de Valle Monitoring Wells									
CDV-16-02655	16-02655	GU0510CDV5501	11/17/2005	Toluene	0.459	J	750	1000	80
CDV-16-02655	16-02655	GU0510CDV5501	11/17/2005	Tetrachloroethene	0.489	J	na	5	56
CDV-16-02656	16-02656	GU0602CDV5601-FTB	3/31/2006	Acetone ^f	3.720	J	na	na	280
CDV-16-02656	16-02656	GU0602CDV5601	3/31/2006	Toluene	0.412	J	750	1000	80
CDV-16-02656	16-02656	GU0602CDV5690-FD	3/31/2006	Toluene	0.489	J	750	1000	80
CDV-16-02659	16-02659	GU0510CDV5901	11/17/2005	Toluene	0.298	J	750	1000	80
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	Acetone ^f	4.940	J	na	na	280
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	Toluene	0.454	J	750	1000	80
Martin Spring Canyon Monitoring Wells									
MSC-16-06294	16-06294	GU0507MSC9401	8/30/2005	Toluene	0.420	J	750	1000	80
MSC-16-06294	16-06294	GU0507MSC9401	8/30/2005	Methylene Chloride	3.700	BJ	100	5	89
MSC-16-06295	16-06295	GU0507MSC9501	8/30/2005	Toluene	0.480	J	750	1000	80
MSC-16-06295	16-06295	GU0507MSC9501	8/30/2005	Methylene Chloride	3.900	BJ	100	5	89
MSC-16-06295	16-06295	GU0507MSC9501-FTB	8/30/2005	Methylene Chloride	5.400		100	5	89
MSC-16-06295	16-06295	GU0602MSC9501	3/30/2006	Acetone ^f	5.94		na	na	280
MSC-16-06295	16-06295	GU0602MSC9501	3/30/2006	Toluene	0.492	J	750	1000	80
MSC-16-06295	16-06295	GU0602MSC9501-FTB	3/30/2006	Acetone ^f	3.060	J	na	na	280
Fish Ladder Canyon Monitoring Wells									
FLC-16-1	16-25280	GU06020FLC101	2/16/2006	Trichloroethene	3.990		na	5	54
FLC-16-1	16-25280	GU06020FLC101	2/16/2006	Toluene	0.462	J	750	1000	80
FLC-16-2	16-25279	RE16-06-64300	11/17/2005	Toluene	1.510		750	1000	80
FLC-16-3	16-25278	RE16-06-64302	11/17/2005	Toluene	0.451	J	750	1000	80

^aThe results presented in Table 1 represent data from purge water that is currently stored in SAAs at TA-16.

^bJ = an estimated value. The "J" flag is used if the compound is present but the result is less than the sample estimated quantitation limit and greater than the instrument detection limit. B = then analyte was found in the associated method blank as well as the sample.

^cHuman Health Standards as listed in Title 20 (Environmental Protection), Chapter 6 (Water Quality), Part 2 (Ground and Surface Water Protection [NMAC 20.6.2.3103] issued by the NM WQCC.

^dEPA National Primary Drinking Water Standards Maximum Contaminant Levels (MCLs) [40 CFR 141.61].

^eLand Disposal Restrictions (LDR) Treatment Standards for Hazardous Waste, Wastewaters (40 CFR 268.40).

^fThere is no Human Health Standard or EPA MCL for Acetone. The EPA Region 6 Tap Water Standard is 5500 µg/L [EPA, updated December 2005].

Note: FTB = Field Trip Blank; FD = Field Duplicate

The detected concentrations of three of the five potential F-listed organic compounds (toluene, tetrachloroethene, and trichloroethene) are below all the applicable standards. Toluene is present at very low concentrations in all of the monitoring wells and detections range between 0.298 µg/L and 1.51 µg/L. The detected concentrations of toluene are approximately 1000 times below the WQCC human health standards and EPA MCLs. Tetrachloroethene was detected in one sample in the Cañon de Valle monitoring well at a very low concentration of 0.489 µg/L, approximately 10 times below the EPA MCL.

Trichloroethene was detected in one sample in the Fish Ladder Canyon monitoring well at a concentration of 3.99 µg/L, just below the EPA MCL. There is no New Mexico WQCC human health standard or an EPA MCL for acetone. The EPA Region 6 risk-based human health screening tap water standard for acetone is 5500 µg/L (EPA, dated December 2005). All detected concentrations of acetone are approximately 1000 times below this standard. Methylene chloride is well below the WQCC human health standard for the groundwater samples; however, it slightly exceeds the EPA MCL in one sample—the field trip blank (FTB). The presence of acetone and methylene chloride in the samples, including the FTBs, is probably the result of contamination from analytical laboratory processes.

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 the five listed hazardous waste constituents are below their respective LDR wastewater treatment standard, as provided in Table 1; column 10, LANL also requests a determination from NMED that LDRs will not apply to this environmental media, and that it may be treated and disposed as a nonhazardous wastewater.

The very low concentrations of potential F-listed organic compounds in the groundwater data suggest that purge water from TA-16 alluvial monitoring wells does not require hazardous waste management as described in the Resource Conservation and Recovery Act (RCRA) “contained-in” policy. The RCRA contained-in policy (EPA530-F-98-026) states that environmental media is considered to no longer “contain” hazardous waste: (1) when it no longer exhibits a characteristic of hazardous waste and (2) when concentrations of hazardous constituents from listed hazardous waste are below health-based levels. The results presented in Table 1 indicate that the F-listed organic compounds detected in TA-16 alluvial monitoring wells and subsequently the purge water stored in the TA-16 SAA are below health-based standards. These analytical data satisfy the requirements necessary to support a “ contained in” determination by NMED.

LANL requests that NMED include these organic compounds in the “ contained in” determination and allow the purge water currently stored at TA-16 to be disposed of at the high explosives wastewater treatment plant (HEWWTP) located on-site. The HEWWTP is equipped with granular activated carbon filters that remove low concentrations of organic chemicals from purge water.

If during future sampling events the data indicate that the potential F-listed organic compounds identified in this letter are detected in TA-16 purge water at concentrations above the appropriate screening standards identified in Table 1, the media will be managed as hazardous waste. Additionally, if more potential listed hazardous waste constituents (i.e., other than those identified in Table 1) are detected in samples from future quarterly sampling events, an addendum to this “ contained in” request will be submitted to NMED for approval.

LANL believes that a "contained in" determination for the organic constituents shown in Table 1 is appropriate. Disposal of purge water with very low concentrations of these organic compounds at the TA-16 HEWWTP is sufficient to protect human health and the environment. Additionally, it would allow for cost-effective treatment and management of the purge water generated from quarterly sampling of monitoring wells within Cañon de Valle, Fishladder Canyon, and Martin Spring Canyon in TA-16.

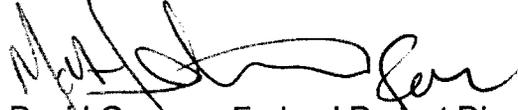
If you have any questions, please contact John McCann at (505) 665-1091 or Lance Woodworth at (505) 665-5820.

Sincerely,



Andrew Phelps, Associate Director
Environmental Programs
Los Alamos National Security, LLC

Sincerely,



David Gregory, Federal Project Director
Department of Energy
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AP/DG/JM/jr

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RPF, MS M707
IRM-RMMSO, MS A150

Attachment 1
Detected Concentrations of Organic Compounds from Groundwater Samples Collected from Alluvial
Monitoring Wells at TA-16^a

Location Name	Location Synonym	Sample Id	Start Date	Analyte	Result (µg/L)	Lab Qual Code ^b
Canon de Valle Monitoring Wells						
CDV-16-02655	16-02655	GU0510CDV5501	11/17/2005	Toluene	0.46	J
CDV-16-02655	16-02655	GU0510CDV5501	11/17/2005	Tetrachloroethene	0.49	J
CDV-16-02656	16-02656	GU0602CDV5690-FD	3/31/2006	RDX	0.32	J
CDV-16-02656	16-02656	GU0602CDV5601	3/31/2006	RDX	0.31	J
CDV-16-02656	16-02656	GU0602CDV5601	3/31/2006	HMX	0.48	
CDV-16-02656	16-02656	GU0602CDV5690-FD	3/31/2006	HMX	0.45	
CDV-16-02656	16-02656	GU0602CDV5601-FTB	3/31/2006	Acetone	3.72	J
CDV-16-02656	16-02656	GU0602CDV5601	3/31/2006	Toluene	0.41	J
CDV-16-02656	16-02656	GU0602CDV5601	3/31/2006	Acetone	5.70	
CDV-16-02656	16-02656	GU0602CDV5690-FD	3/31/2006	Toluene	0.49	J
CDV-16-02656	16-02656	GU0602CDV5690-FD	3/31/2006	Acetone	7.83	
CDV-16-02659	16-02659	GU0510CDV5901	11/17/2005	Amino-4,6-dinitrotoluene[2-]	2.55	
CDV-16-02659	16-02659	GU0510CDV5901	11/17/2005	RDX	15.80	
CDV-16-02659	16-02659	GU0510CDV5901	11/17/2005	Amino-2,6-dinitrotoluene[4-]	2.16	
CDV-16-02659	16-02659	GU0510CDV5901	11/17/2005	HMX	22.60	
CDV-16-02659	16-02659	GU0510CDV5901	11/17/2005	Toluene	0.30	J
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	Amino-2,6-dinitrotoluene[4-]	2.57	
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	Amino-4,6-dinitrotoluene[2-]	2.41	
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	HMX	11.30	
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	RDX	9.29	
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	Acetone	4.94	J
CDV-16-02659	16-02659	GU0602CDV5901	4/3/2006	Toluene	0.45	J
Martin Spring Canyon Monitoring Wells						
MSC-16-06294	16-06294	GU0510MSC9401	11/15/2005	HMX	0.13	J
MSC-16-06294	16-06294	GU0507MSC9401	8/30/2005	Toluene	0.42	J
MSC-16-06294	16-06294	GU0507MSC9401	8/30/2005	Methylene Chloride	3.70	BJ
MSC-16-06295	16-06295	GU0507MSC9501	8/30/2005	HMX	2.65	
MSC-16-06295	16-06295	GU0507MSC9501	8/30/2005	Toluene	0.48	J
MSC-16-06295	16-06295	GU0507MSC9501	8/30/2005	Methylene Chloride	3.90	BJ
MSC-16-06295	16-06295	GU0507MSC9501-FTB	8/30/2005	Methylene Chloride	5.40	
MSC-16-06295	16-06295	GU0510MSC9501	11/15/2005	HMX	0.78	
MSC-16-06295	16-06295	GU0510MSC9501	11/15/2005	RDX	0.22	J
MSC-16-06295	16-06295	GU0602MSC9501	3/30/2006	HMX	0.24	J
MSC-16-06295	16-06295	GU0602MSC9501	3/30/2006	Acetone	5.94	
MSC-16-06295	16-06295	GU0602MSC9501	3/30/2006	Toluene	0.49	J
MSC-16-06295	16-06295	GU0602MSC9501-FTB	3/30/2006	Acetone	3.06	J
Fish Ladder Canyon Monitoring Wells						
FLC-16-1	16-25280	GU06020FLC101	2/16/2006	Trichloroethene	3.99	
FLC-16-1	16-25280	GU06020FLC101	2/16/2006	Toluene	0.46	J
FLC-16-1	16-25280	GU06020FLC101	2/16/2006	Dichloroethene[cis-1,2-]	26.70	
FLC-16-1	16-25280	GU06020FLC101	2/16/2006	Tetrachloroethene	6.09	
FLC-16-1	16-25280	GU06020FLC101-FTB	2/16/2006	Carbon Disulfide	3.17	J
FLC-16-2	16-25279	RE16-06-64302	11/17/2005	Toluene	1.51	
FLC-16-2	16-25279	RE16-06-64302	11/17/2005	HMX	7.00	
FLC-16-3	16-25278	RE16-06-64300	11/17/2005	Toluene	0.45	J
FLC-16-3	16-25278	RE16-06-64300	11/17/2005	HMX	4.03	

^aThe results presented in Attachment 1 represent data from purge water that is currently stored in SAAs at TA-16.

^bLaboratory Qualifier Codes are presented in Table 1.

Note: FTB = Field Trip Blank; FD = Field Duplicate