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Date: October 21, 2010
Refer To: ENV-RCRA-10-203
LAUR: 10-07118

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 DEVELOPMENT WATER AND ASSOCIATED CONTACT WASTE FROM INTERMEDIATE WELL CdV-16-4ip

The Laboratory is requesting NMED Hazardous Waste Bureau use its authority under 20.4.1.200 NMAC §261.3(f) to determine that the development water and associated contact waste generated at intermediate well CdV-16-4ip, do not warrant management as F-listed hazardous waste, pursuant to the requirements of 20.4.1.200 NMAC §261.31 as long as contaminants are below the limits in the NMED-approved NOI Decision Tree for Land Application of *Drilling, Development, Rehabilitation and Sampling Purge Water Decision Tree – Revised* (March 2010).

Perched-intermediate pumping well CdV-16-4ip was installed as part of a hydrologic testing program to evaluate the properties of the deep-perched groundwater zone at Consolidated Unit 16-021(c)-99 (260 Outfall), located in Technical Area 16 (TA-16) in the southwest corner of Los Alamos National Laboratory. The well is located east of the main cluster of observation wells that include multiple well screens at R-25 and single well screens at R-25b, R-25c, and CdV-16-1(i). The "p" in the well name indicates this well is designed for pump testing. The tests will provide field-scale measurements of aquifer parameters for the deep-perched system that will be used to assess the potential for pumping and treatment of contaminated deep-perched groundwater associated with the 260 Outfall. Approximately 60,000 gallons of development water has been generated during drilling and installation of intermediate well CdV-16-4ip.

The development water has been characterized by direct sampling. Based on these analytical results, the development water from CdV-16-4ip is not a characteristic waste, but does contain low concentrations of toluene, tetrachloroethene and trichloroethene. Documentation regarding possible sources of these contaminants was reviewed to identify the source(s) of the potentially listed constituent.



Based on document review and interviews with workers, a variety of F-listed solvents (i.e., toluene) were discharged to the TA-16-260 outfall from cleaning operations at TA-16-260. The documentation did not identify F-listed sources other than spent solvents or any K-, P- or U-listed sources. Therefore, the only hazardous waste numbers that would be assigned to the development water, purge water, and pump test water would be F001, F002, and/or F005. Table 1 compares the detected toluene, tetrachloroethene and trichloroethene concentrations to groundwater standards in accordance with Section VIII.A.1 of the Compliance Order on Consent:

- If both a Water Quality Control Commission (WQCC) groundwater standard (20.6.2.3.3103 NMAC) and an EPA Safe Drinking Water Act Maximum Contaminant Levels (MCL) (40 Code of Federal Regulations [CFR] §141.61) have been established for an individual substance, then the lower of the two standards is used.
- If a WQCC standard and/or MCL are not available for a contaminant, EPA tap water standards are used (40 CFR §268.40).

The maximum contaminant concentration of each F-listed constituent is less than these limits and, therefore, meets the criteria for requesting a “contained in” determination. Future development water will be sampled when it is generated, compared to these limits and the contaminant concentrations provided in Table 1 to ensure that it also meets the criteria for a “contained in” determination. If the contained in is approved, LANL proposes to dispose of the development water and associated contact waste from CdV-16-4ip as non-hazardous, as long as these standards are met.

According to EPA documents and associated guidance, the authorized state may also make a determination on a case-specific basis as to how LDRs apply to the waste when a “contained-in” determination has been made. Because the maximum detected concentrations are below the LDR treatment standard, as shown in Table 1, LANL also requests a determination from NMED that LDRs do not apply to waste from CdV-16-4ip so that the contact waste may be disposed of as nonhazardous waste and the development water may be land applied in accordance with the NMED-approved *Los Alamos National Laboratory Drilling, Development, Rehabilitation and Sampling Purge Water Decision Tree – Revised* (March 2010).

If future development water analytical results indicate that the potential F-listed organic compounds identified in this letter are detected at concentrations above the screening standards identified in Table 1, the media will be managed as hazardous waste. Additionally, if more potential listed hazardous waste constituents (other than those identified in Table 1) are detected, an addendum to this “contained in” request will be submitted to the NMED for approval.

LANL believes that a “contained-in” determination for toluene, tetrachloroethene and trichloroethene is appropriate because it would be protective of human health and the environment, and would allow for more cost-effective disposition of the development water and associated contact waste generated at intermediate well CdV-16-4ip.

If you have questions, please contact Mark Haagenstad, of my staff, at (505) 665-2014 or Gene Turner at (505) 667-5794.

Sincerely,



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

ARG:JG/lm

Enclosure: a/s

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David McInroy, EP-CAP, (E-File)
Mike Alexander, EP-CAP, (E-File)
CAP Project File, M992
ENV-RCRA File, K490
IRM-RMMSO, A150

ENCLOSURE

Table 1. Comparison of Potential F-Listed Organic Constituents Detected in the CdV-16-4ip Development Water Samples to WQCC, MCLs, and Land Disposal Restriction Treatment Standards

Contaminant	Media	Date	Sample ID	Maximum Concentration (ug/L)¹	WQCC (ug/L) Standards²	MCLs (ug/L) Standards³	LDR Treatment Standard (ug/L)
Tetrachloroethene [F001, F002]	Dev Water - Lower Screen	9/17/10	WST16-10-26545	0.68J	20	5	56
	Dev Water -- Upper Screen	9/7/10	WSTCDV-10-25517	0.39 J			
Toluene [F005]	Dev Water - Lower Screen	9/17/10	WST16-10-26545	0.87J	750	1000	80
Trichloroethene [F001, F002]	Dev Water - Lower Screen	9/17/10	WST16-10-26545	0.58J	100	5	54
	Dev Water -- Upper Screen	9/7/10	WSTCDV-10-25517	0.29 J			

^{1.} Significant figures vary but are shown as they appear in the Water Quality Database

^{2.} Human Health Standards as listed in NMAC 20.6.2.3103 issued by NM WQCC.

^{3.} EPA National Primary Drinking Water Standards Maximum Contaminated Levels (MCLs) as found in 40 CFR 141.61.