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Date: October 27, 2010  
Refer To: ENV-RCRA-10-208  
LAUR: 10-07242

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 PURGE WATER, PUMP TEST 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 future purge water, pump test 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 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).

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 (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. The following bullets identify the approximate volumes of future purge water and pump test water that are either in storage or expected to be generated:

- 300,000 to 450,000 gallons of pump test water
- 5 – 10 gallons purge water per sampling event (Quarterly Sampling)

There is analytical data available for development water from CdV-16-4ip and several groundwater (purge) samples collected from CdV-16-4ip and the adjacent observations wells



R-25, R25b, and CdV-16-1i. Based on these analytical results, the purge and pump test water from CdV-16-4ip are not expected to be characteristic wastes, but will likely contain low concentrations of butanone[2-], carbon disulfide, 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 codes that would be assigned to the purge and pump test water would be F001, F002, and/or F005. Tables 1 and 2 compare the detected butanone[2-], carbon disulfide, toluene, tetrachloroethene, and trichloroethene concentrations to groundwater standards in accordance with Section VIII.A.1 of the Compliance Order on Consent:

- If both a WQCC groundwater standard (20.6.2.3.3103 NMAC) and an EPA Safe Drinking Water Act MCL (40 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 purge and pump test 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 purge water, pump test water, and associated contact waste from CdV-16-4ip as non-hazardous, as long as these standards are met.

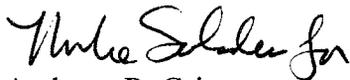
According to EPA documents and associated guidance, the authorized state may also make a determination on a case-specific basis as to how LDRs apply to the waste when a "contained-in" determination has been made. Because the maximum detected concentrations in Table 1 are below the LDR treatment standard, 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 purge and pump test water may be land applied in accordance with either the NMED-approved *Los Alamos National Laboratory Drilling, Development, Rehabilitation and Sampling Purge Water Decision Tree – Revised* (March 2010) or a job specific, NMED approved, Notice of Intent to Discharge/Temporary Permission to Discharge.

If future purge and/or pump test 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 butanone[2-], carbon disulfide, 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, purge water, pump test water, and associated contact waste generated at intermediate well CdV-16-4ip.

Please contact Mark Haagenstad at (505) 665-2014 of the Water Quality and RCRA Group (ENV-RCRA) if you have questions.

Sincerely,



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

ARG:JG/lm

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CAP Project File, M992  
ENV-RCRA, File, K490  
IRM-RMMSO, A150

**Table 1.** Comparison of Potential F-Listed Organic Constituents Detected in Samples from CdV-16-4ip, R-25, R-25b, and CdV-16-1i to WQCC, MCLs, and Land Disposal Restriction Treatment Standards

Contaminant	Location	Media	Date	Sample ID	Maximum Concentration (ug/L) <sup>1</sup>	WQCC (ug/L) Standards <sup>2</sup>	MCLs (ug/L) Standards <sup>3</sup>	LDR Treatment Standard (ug/L)
Butanone[2-] [F005]	R-25, MP3B	GW/Purge	10/21/08	CAWA-09-188	14.5	No Standard	No Standard	280
	CdV-16-1i	GW/Purge	6/1/05	GU00505GC16i01	11.6			
Carbon Disulfide [F005]	R-25, MP3B	GW/Purge	10/21/08	CAWA-09-188	107	No Standard	No Standard	3800
Tetrachloroethene [F001, F002]	CdV-16-4ip, Port 1	GW/Purge	8/31/10	CAWA-10-26042	1.41	20	5	56
	CdV-16-4ip, Port 2	GW/Purge	9/18/10	CAWA-10-26044	1.11			
	CdV-16-4ip, Port 2	Dev Water	9/17/10	WST16-10-26545	0.68J			
	CdV-16-4ip, Port 1	Dev Water	9/7/10	WSTCDV-10-25517	0.39 J			
	R-25, MP1A	GW/Purge	10/22/08	CAWA-08-16016	1.62			
	R-25, MP2A	GW/Purge	4/6/10	CAWA-10-15241	0.61			
	R-25, MP4A	GW/Purge	10/20/08	CAWA-08-16050	0.732			
	R-25, MP5A	GW/Purge	2/5/02	GW25-02-0003	0.38			
	R-25b	GW/Purge	4/21/10	CAWA-10-15174	0.4 J			
	CdV-16-1i	GW/Purge	4/16/10	CAWA-10-15148	1.41 NQ			
Toluene [F005]	CdV-16-4ip, Port 2	GW/Purge	9/18/10	CAWA-10-26044	1.79	750	1000	80
	CdV-16-4ip, Port 1	GW/Purge	8/31/10	CAWA-10-26041	1.07			
	CdV-16-4ip, Port 2	Dev Water	9/17/10	WST16-10-26545	0.87J			
	R-25, MP3A	GW/Purge	10/21/08	CAWA-09-188	41.9			
	R-25, MP5A	GW/Purge	4/7/09	CAWA-09-5669	0.283			
	R-25b	GW/Purge	6/8/09	CAPA-09-9633	10.1 NQ			
	CdV-16-1i	GW/Purge	10/20/08	CAWA-08-16020	21.1 NQ			
Trichloroethene [F001, F002]	CdV-16-4ip, Port 2	Dev Water	9/17/10	WST16-10-26545	0.58J	100	5	54
	CdV-16-4ip, Port 1	Dev Water	9/7/10	WSTCDV-10-25517	0.33 J			
	CdV-16-4ip, Port 1	GW/Purge	8/31/10	CAWA-10-26042	0.97 J			
	CdV-16-4ip, Port 2	GW/Purge	9/18/10	CAWA-10-26044	0.76 J			
	R-25, MP1A	GW/Purge	9/1/04	GU0408G25R190	1.8			
	R-25, MP2A	GW/Purge	11/15/00	GWCV-00-0005	1.2J			
	R-25, MP4A	GW/Purge	2/6/02	GW25-02-0005	0.9J			

<sup>1</sup> Significant figures vary but are shown as they appear in the Water Quality Database

<sup>2</sup> Human Health Standards as listed in NMAC 20.6.2.3103 issued by NM WQCC.

<sup>3</sup> EPA National Primary Drinking Water Standards Maximum Contaminated Levels (MCLs) as found in 40 CFR 141.61.