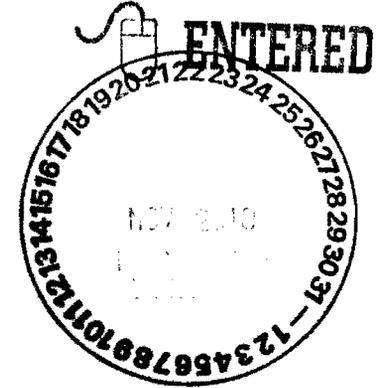


TA16



*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: October 27, 2010
Refer To: ENV-RCRA-10-209
LAUR: 10-07243

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 AND ASSOCIATED CONTACT WASTE FROM REGIONAL WELL R-25

The Laboratory is requesting NMED Hazardous Waste Bureau use its authority under 20.4.1.200 NMAC §261.3(f) to determine that the purge water and associated contact waste generated at regional well R-25, 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).

Well R-25 is a characterization well, located on the mesa top above Cañon de Valle in the southwestern portion of Los Alamos National Laboratory (LANL, or the Laboratory) at Technical Area 16. Well R-25 is primarily designed to provide water-quality, geochemical, hydrologic, and geologic information that would contribute to the understanding of the hydrogeologic setting beneath the Laboratory. The R-25 borehole was drilled to a depth of 1942 ft and was constructed with nine screened intervals. Quarterly sampling of well R-25 is performed by purging the well prior to collecting a sample to ensure that the water sampled is representative of the groundwater. This activity generates approximately two (2) to five (5) gallons of purge water each time sampling is performed. The purge water is containerized and stored onsite pending characterization results.

There is analytical data available for the purge water from R-25. Based on these analytical results, the purge water is not characteristic waste, but does contain low concentrations of butanone[2-], carbon disulfide, toluene, tetrachloroethene, and trichloroethene. Documentation regarding possible sources of the contamination 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 (including: butanone[2-], carbon disulfide, toluene, tetrachloroethene, and trichloroethene) 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 water would be F001, F002, and F005. Table 1 compares 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 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, the purge water meets the criteria for requesting a "contained in" determination. If the contained in is approved, LANL proposes to dispose of the purge water and associated contact waste as non-hazardous, as long as these standards are met.

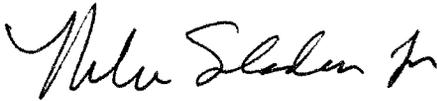
According to EPA documents and associated guidance, the authorized state may also make a determination on a case-specific basis as to how LDRs apply to the waste when a "contained-in" determination has been made. Because the maximum detected concentrations of butanone[2-], carbon disulfide, toluene, tetrachloroethene, and trichloroethene in the purge water from well R-25 is 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 R-25 so that the contact waste may be disposed of as nonhazardous waste and the purge 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 purge 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. Additional, 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 the 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 purge water and associated contact waste generated at regional well R-25.

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

Cy:

~~David Cobrain, NMED/HWB, Santa Fe, NM~~
Michael Dale, NMED/HWB, Santa Fe, NM
Gene Turner, LASO-EO, A316
Cheryl Rodriguez, LASO-EO, A316
Michael B. Mallory, PADOPS, w/o enc., A102
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Alan Church, ENV-RCRA, (E-File)
Jennifer Griffin, ENV-RCRA, (E-File)
Jocelyn Buckley, ENV-RCRA, (E-File)
David McInroy, EP-CAP, (E-File)
Mike Alexander, EP-CAP, (E-File)
CAP Project File, M992
ENV-RCRA File, K490
IRM-RMMSO, A150

Table 1. Comparison of Potential F-Listed Organic Constituents Detected in the R-25 Purge Water to WQCC, MCLs, and Land Disposal Restriction Treatment Standards

Contaminant	R-25 Screen ID	Date	Sample ID	Maximum Concentration ¹	Potential Hazardous Waste Codes	WQCC (ug/L) Standards ²	MCLs (ug/L) Standards ³	LDR Treatment Standard (ug/L)
Butanone[2-]	MP3B	10/21/08	CAWA-09-188	14.5	F005	No Standard	No Standard	280
Carbon Disulfide	MP3B	10/21/08	CAWA-09-188	107	F005	No Standard	No Standard	3800
Tetrachloroethene	MP1A	10/22/08	CAWA-08-16016	1.62	F001 F002	20	5	56
	MP2A	4/6/10	CAWA-10-15241	0.61				
	MP4A	10/20/08	CAWA-08-16050	0.732				
	MP5A	2/5/02	GW25-02-0003	0.38				
Toluene	MP3A	10/21/08	CAWA-09-188	41.9	F005	750	1000	80
	MP5A	4/7/09	CAWA-09-5669	0.283				
Trichloroethene	MP1A	9/1/04	GU0408G25R190	1.2	F001 F002	100	5	54
	MP2A	11/15/00	GWCV-00-0005	0.792				
	MP4A	2/6/02	GW25-02-005	0.64				

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.