



TA-16

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*Environmental Protection Division  
Water Quality & RCRA Group (ENV-RCRA)*  
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Date: March 9, 2009  
Refer To: ENV-RCRA-09-045

Mr. James Bearzi  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Drive East, Building 1  
Santa Fe, NM 87505-6303

Dear Mr. Bearzi:

**SUBJECT: REQUEST FOR "CONTAINED-IN" DETERMINATION FOR  
DEVELOPMENT WATER GENERATED FROM REDEVELOPMENT OF  
REGIONAL WELL R-25B**

The Los Alamos National Laboratory (LANL) requested a "contained-in" approval for development water generated during initial R-25b well development in a letter dated January 6, 2009, from Anthony R. Grieggs, LANL, to James Bearzi, New Mexico Environment Department (NMED). NMED approved the "contained-in" determination in a letter dated January 26, 2009, from James Bearzi, NMED, to David Gregory, Los Alamos Site Office of the Department of Energy, and David McInroy, LANL. During the initial development of R-25b, the turbidity of the groundwater remained high and continued to remain high after a considerable amount of development. Therefore, the decision was made to surge and continue development of well R-25b. The purpose of this letter is to request that the New Mexico Environment Department (NMED) Hazardous Waste Bureau use its authority to determine that development water generated from redevelopment activities at R-25b does not warrant management as F-listed hazardous waste, pursuant to the requirements in 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* (November 2006).

Regional well R-25b is located at TA-16 on the mesa top, on the south side of Cañon de Valle, adjacent to regional well R-25. This letter reviews the data already presented in the January 6, 2009 letter for R-25b development water, and also includes the data associated with R-25b drilling fluids, for which a "contained-in" request is currently under review by NMED. Regional well R-25c was dry; therefore, no analytical data for development water from this particular well is provided in this request. Based upon the analytical data obtained for R-25b for which a "contained-in" was previously granted from NMED and the analytical data for R-25b drilling fluids (See Table 1), development water generated from the redevelopment of R-25b is not



anticipated to be a characteristic waste but may contain low concentrations of F-listed solvents (i.e., toluene and 2-butanone).

Documentation regarding possible sources of F-listed contamination at well R-25b has been reviewed. Based upon the document review, F-listed spent solvents (e.g., acetone, toluene, 2-butanone, etc.) were historically discharged from TA-16 facilities in the vicinity of the drill site. The documentation did not identify disposal or spills of P-or U-listed wastes or any K-listed processes; therefore, only F-listed contaminants are covered under this contained-in request.

LANL compared the maximum detected concentrations of the F-listed contaminants from the initial development water and drilling fluids from well R-25b to:

- Human health standards for groundwater listed in 20.6.2.3103 NMAC, issued by the New Mexico Water Quality Control Commission (WQCC)
- Environmental Protection Agency (EPA) Safe Drinking Water Act Maximum Contaminant Levels (MCLs) (40 CFR §141.61)
- EPA Region 6 Tap Water Human Health Medium-Specific Screen Levels and
- Land Disposal Restriction (LDR) Treatment Standards (40 CFR §268.40)

This comparison is shown in Table 1. The maximum contaminant concentrations of the F-listed constituents were less than these limits and, therefore, the initial development water and drilling fluids from well R-25b met the criteria for requesting a “contained-in” determination in accordance with the NOI Decision Tree. LANL expects the level of contamination from well R-25b redevelopment water to be similar. If the F-listed contaminants identified in Table 1 are detected in the R-25b redevelopment water at concentrations below the screening levels, LANL is requesting to manage the redevelopment water as non-hazardous waste in accordance with the NMED-approved *NOI Decision Tree for Land Application of Drilling, Development, Rehabilitation, and Sampling Purge Water* (November 2006). If analysis of the redevelopment water shows that F-listed contaminants are detected at concentrations above the appropriate screening standards identified in Table 1, the redevelopment water will be managed as a hazardous waste. Additionally if F-listed contaminants not identified in Table 1 are detected from sampling the redevelopment water, an addendum to this contained-in request will be submitted to NMED for approval.

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 the F-listed contaminants shown in Table 1, for the initial development water and drilling fluids, were below their respective LDR treatment standards in 40 CFR §268.40 and were managed as nonhazardous, any redevelopment water from well R-25b will also be managed as nonhazardous if LDR treatment standards are met.

LANL believes that a “contained-in” determination for the organic constituents shown in Table 1 is appropriate. Management as non-hazardous waste in accordance with the NMED-approved *NOI Decision Tree for Land Application of Drilling, Development, Rehabilitation, and Sampling*

*Purge Water* (November 2006) would be protective of human health and the environment and would allow for a more cost-effective disposition of the development water generated from redevelopment activities at regional well R-25b.

**Table 1.** Comparison of Potential F-Listed Organic Constituent in the R-25b Initial Development Water and Drilling Fluids.

Contaminant	Location ID	Matrix	Maximum Concentration (ug/l)	NMWQCC Standards (ug/l)	EPA SDWA MCLs (ug/l)	Tap Water HHMSSLs (ug/l)	LDR Treatment Standard (ug/l)
Toluene	R-25b	Development Water	0.301	750	1000	2,281	10000
2-butanone	R-25b	Drilling Fluids (<710 ft)	5.10	Not regulated	Not regulated	Not regulated	280

ug/l = micrograms per liter

NMWQCC = New Mexico Water Quality Control Commission

EPA = Environmental Protection Agency

SDWA = Safe Drinking Water Act

MCLs = Maximum Contaminant Levels

HHMSSLs = Human Health Medium-Specific Screen Levels

LDR = Land Disposal Restrictions (LDR Treatment Standards for Hazardous Wastes, Wastewater, as provided in 40 CFR §268.40 and incorporated by 20.4.800 NMAC)

If you have any questions, please contact Anthony R. Grieggs at (505) 667-0666 or Gene Turner at 667-5794.

Sincerely,



DGL

for Anthony R. Grieggs  
Group Leader  
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EP-CAP Project File, M992

ENV-DO, file, w/o enc., J978

ENV-RCRA, File, w/enc., K490

IRM-RMMSO, w/enc., A150