

TA16



*Environmental Protection Division
Water Quality & RCRA Group (ENV-RCRA)*
P.O. Box 1663, Mail Stop K490
Los Alamos, New Mexico 87545
(505) 667-0666/FAX: (505) 667-5224

Date: March 4, 2009
Refer To: ENV-RCRA-09-042

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 DRILLING FLUID FROM REGIONAL WELLS R-25B AND R-25C

The purpose of this letter is to request that the New Mexico Environment Department (NMED) Hazardous Waste Bureau use its authority to determine that the drilling fluid collected from regional wells R-25b and R-25c do not warrant management as F-listed hazardous waste, pursuant to the requirements in 20.4.1.200 NMAC §261.31. The Los Alamos National Laboratory (LANL) proposes to disposition the drilling fluid from wells R-25b and R-25c in accordance with the NMED-approved *NOI Decision Tree for Land Application of Drilling, Development, Rehabilitation, and Sampling Purge Water* (November 2006).

Regional wells R-25b and R-25c are located at TA-16 on the mesa top, on the south side of Cañon de Valle, adjacent to regional well R-25. The approximate volume of drilling fluid is 23,500 gallons and is currently stored in lined pits. Based on analytical results, the drilling fluid is not a characteristic waste, but does contain low concentrations of toluene and 2-butanone. The toluene and 2-butanone detections were in the drilling fluid generated from the shallow portion (less than 710 ft.) of each well, which is segregated from the fluids generated from the deeper portion (greater than 710 ft.) of each well.

Documentation regarding possible sources of the contamination was reviewed to identify the source of the F-listed contaminants in the drilling fluid. Based on the document review, F-listed spent solvents (e.g., acetone, toluene, 2-butanone, methylene chloride, etc.) were historically discharged at 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 drilling fluid 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)

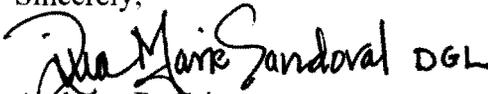
This comparison is shown in Table 1. The maximum contaminant concentrations of the F-listed constituents are less than these limits and, therefore, the drilling fluid meets the criteria for requesting a “contained-in” determination in accordance with the NOI Decision Tree. If the “contained-in” is approved, LANL proposes to manage the drilling fluid 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 the “contained-in” is not granted, the drilling fluid will be managed as a hazardous waste.

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 are below their respective LDR treatment standards in 40 CFR §264.40, management and disposal of the drilling fluid as nonhazardous is appropriate.

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 drilling fluid generated from regional wells R-25b and R-25c.

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

Sincerely,


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

ARG:JB/lm

Cy: Kathryn Roberts, NMED/HWB, Santa Fe, NM
David Cobrain, NMED/HWB, Santa Fe, NM

Gene Turner, LASO/EO, A316
Cheryl Rodriguez, LASO/EO, A316
Michael B. Mallory PADOPS, w/o enc., A102
Richard S. Watkins, ADESHQ, w/o enc., K491
Tori George, ENV-DO, J978
Paul Huber, LWSP, M992
Matt Riggs, LWSP, M992
Mike Alexander, LWSP, M992
Mark Everett, WES-RS, M992
Bob King, WES-EDA, M992
Jocelyn Buckley, ENV-RCRA, K490
Ann Sherrard, ENV-RCRA, K490
John Tymkowych, ENV-RCRA, K490
Bob Beers, ENV-RCRA, R490
EP-CAP Project File, M992
ENV-DO, File J978
ENV-RCRA, File, w/enc., K490
IRM-RMMSO, A150

Table 1. Comparison of Potential F-Listed Organic Constituents in R-25b and R-25c 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	Liquid	0.408	750	1000	2,281	10000
2-Butanone	R-25b	Liquid	5.10	Not regulated	Not regulated	Not regulated	280
Toluene	R-25c	Liquid	0.527	750	1000	2,281	10000
2-Butanone	R-25c	Liquid	44.0	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)