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James

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Date: April 24, 2002  
Refer to: RRES-WQH: 02-159

Mr. Curt Frischkorn  
Ground Water Quality Bureau  
New Mexico Environment Department  
P.O. Box 26110  
Santa Fe, New Mexico 87502

**SUBJECT: GROUND WATER DISCHARGE PLAN (DP-1132), QUARTERLY REPORT,  
FIRST QUARTER 2002**

Dear Mr. Frischkorn:

This letter and the enclosed attachments are intended to serve as Los Alamos National Laboratory's quarterly Ground Water Discharge Plan (DP-1132) report for the Radioactive Liquid Waste Treatment Facility (RLWTF) at TA-50 for the period January 1 through March 31, 2002. Since the first quarter of 1999, Los Alamos National Laboratory has provided your agency with voluntary quarterly reports containing analytical results from effluent and ground water monitoring.

Attachment 1.0, Table 1.0, presents the analytical results from sampling conducted at the Laboratory's Mortandad Canyon alluvial monitoring wells. All of the analytical results from MCO-3, MCO-6, and MCO-7 were below New Mexico Water Quality Control Commission (NM WQCC) Regulation 3103 standards for nitrate/nitrite (NO3/NO2-N), fluoride (F), and total dissolved solids (TDS). No samples were collected from alluvial well MCO-4B; there was not sufficient water in MCO-4B to prepare a sample (i.e., the well was dry). During March 2002, the Laboratory installed new bladder pumps in alluvial monitoring wells MCO-3, MCO-4B, MCO-6, and MCO-7. Problems were encountered during pump installation at MCO-6 that delayed sampling until the first week of April 2002.

In January 2002, you asked the Laboratory to add perchlorate (ClO4) monitoring to the quarterly sampling conducted at Mortandad Canyon alluvial wells MCO-3, MCO-4B, MCO-6, and MCO-7 (letter, Curt Frischkorn, NMED, to Bob Beers, LANL, January 16, 2002). Samples were collected per your request with the exception of MCO-4B (dry well). Perchlorate (ClO4) concentrations at MCO-3, MCO-6, and MCO-7 were 78.4 ppb, 83.2 ppb, and 128 ppb, respectively. These results have also been summarized in Attachment 1.0, Table 1.0.



Attachment 2.0, Table 2.0, presents the analytical results from weekly monitoring of the RLWTF's effluent holding tank. The weekly samples are flow-proportioned composite samples prepared from each batch of effluent generated by the RLWTF during a 7-day period. All sample results shown for the first quarter were below NM WQCC Regulation 3103 standards for nitrate/nitrite (NO<sub>3</sub>/NO<sub>2</sub>-N), fluoride (F), and total dissolved solids (TDS). The quarterly average for nitrate/nitrite in the RLWTF's effluent was 1.32 mg/L.

In addition to weekly composite sampling, the RLWTF also conducts operational screening for nitrates (NO<sub>3</sub>-N) in each batch of effluent. All samples were analyzed by ion chromatography (IC). Operational screening of effluent samples collected during April, May, and June 2002, produced the following maximum, minimum, and average results for nitrate (NO<sub>3</sub>-N), respectively: 1.9 mg/L, 0.08 mg/L, and 0.16 mg/L.

Please contact me at 667-7969 if you would like additional information regarding this quarterly report.

Sincerely,



Bob Beers  
Water Quality & Hydrology Group

BB/am

Attachments: a/s

Cy: J. Bearzi, NMED-HRMB, Santa Fe, New Mexico, w/att.  
J. Davis, NMED-SWQB, Santa Fe, New Mexico, w/att.  
J. Parker, NMED DOE/OB, Santa Fe, New Mexico, w/att.  
R. Ford-Schmid, NMED DOE/OB, Santa Fe, New Mexico, w/att.  
J. Vozella, DOE/OLASO, w/att., MS A316  
G. Turner, DOE/OLASO, w/att., MS A316  
B. Stine, ADO, w/att., MS A104  
T. Stanford, FWO-DO, w/att., MS K492  
D. Mclain, FWO-WFM, w/att., MS J593  
R. Alexander, FWO-WFM, w/att., MS E518  
D. Moss, FWO-WFM, w/att., MS E518  
P. Worland, FWO-WFM, w/att., MS E518  
B. Ramsey, RRES-DO, w/att., MS J591  
K. Hargis, RRES-DO, w/att., MS J591  
D. Stavert, RRES-EP, w/att., MS J978  
S. Rae, RRES-WQH, w/att., MS K497  
D. Rogers, RRES-WQH, w/att., MS K497  
M. Saladen, RRES-WQH, w/att., MS K497  
RRES-WQH File, w/att., MS K497  
IM-5, w/att., MS A150

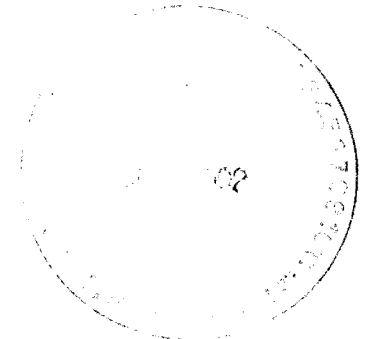


Table 1.0. Mortandad Canyon Alluvial Monitoring Wells Analytical Results, 2nd Quarter, 2002.

Sampling Location	Sample Date	Perchlorate (ug/L)	NO3/NO2-N (mg/L)	TKN (mg/L)	NH3-N (mg/L)	TDS (mg/L)	F (mg/L)
MCO-3	5/1/02	36.9	4.75	<0.06	<0.0235	331	0.71
MCO-5 <sup>1</sup>	5/30/02	99.8 <sup>2</sup>	3.69	NA	NA	356	0.934
MCO-6	5/29/02	96.2	3.72	0.330	<0.024	356	1.09
MCO-7	6/6/02	137	5.90	0.450	<0.024	333	1.28
<i>NM WQCC 3103. Ground Water Standards (mg/L)</i>			<i>10.0</i>			<i>1000</i>	<i>1.6</i>

**Notes:**

<sup>1</sup>MCO-5 was substituted for MCO-4B during this quarter because MCO-4B has not had sufficient water for sampling since May 2001.

<sup>2</sup>Unfiltered sample.

NA means that result is available for this analyte.

All analyses by General Engineering Laboratories, Charleston, SC.

All samples filtered unless otherwise noted.

Table 2.0. RLWTF Weekly Effluent Monitoring Analytical Results, 2nd Quarter, 2002.

Monitoring Period	Sample Date	RLWTF Weekly Effluent Monitoring Analytical Results (mg/L)		
		NO3/NO2 (as-N)	Fluoride	TDS
<u>MARCH</u>	3/26/02	4.47	0.41	292
<u>APRIL</u>	4/2/02	4.15	0.43	293
	4/9/02	0.32	0.09	49
	4/17/02	0.41	0.45	42
	4/22/02	2.93	0.36	185
<u>MAY</u>	5/1/02	0.93	0.09	77
	5/7/02	0.22	0.10	86
	5/15/02	0.04	0.09	52
	5/22/02	<0.01	0.11	118
	5/29/02	0.96	0.18	153
<u>JUNE</u>	6/4/02	<0.01	0.49	298
	6/10/02	0.03	0.26	138
	6/10/02-dupe <sup>2</sup>	0.02	0.26	144
	6/17/02	results pending	results pending	results pending
	6/24/02	results pending	results pending	results pending
<b>2nd Quarter Averages (mg/L)</b>		<b>1.32</b>	<b>0.26</b>	<b>148</b>
NM WQCC 3103. Ground Water Standards (mg/L)		10.0	1.6	1000

**Notes:**

<sup>1</sup>Results for these analyses are pending.