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Date: April 30, 2003
Refer to: RRES-WQH: 03-092

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

SUBJECT: TA-50 RADIOACTIVE LIQUID WASTE TREATMENT FACILITY, GROUND WATER DISCHARGE PLAN (DP-1132) QUARTERLY REPORT, FIRST QUARTER 2003

(Mortandad Canyon)

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 TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF) for the first quarter of 2003. 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.

Mortandad Canyon Alluvial Ground Water Monitoring Results

Table 1.0 presents the analytical results from sampling conducted at three Mortandad Canyon alluvial monitoring wells during the 1st quarter of 2003. 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-nitrogen (NO₃-N), fluoride (F), and total dissolved solids (TDS).

Mortandad Canyon alluvial monitoring well MCO-4B did not have sufficient water for sampling during the 1st quarter. The prolonged drought conditions have resulted in declining water levels in many of the Laboratory's shallow alluvial monitoring wells. We will continue to measure the water level in MCO-4B each quarter and will sample the well whenever sufficient water is present.



James
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RLWTF Effluent Monitoring Results

Table 2.0 presents the analytical results from weekly monitoring of the RLWTF's effluent. The weekly samples are flow-proportioned composite samples prepared from each tank of effluent generated by the RLWTF during a 7-day period. Samples are submitted to General Engineering Laboratories (GEL), Charleston, SC, for analysis. All sample results from the 1st quarter were below NM WQCC Regulation 3103 standards for NO₃-N, F, and TDS with the exception of a single excursion for fluoride in January of 2.07 mg/L. As presented in Table 2.0, the 1st quarter average for fluoride in the RLWTF's effluent was 0.73 mg/L.

In response to the elevated fluoride result, on February 26, 2003, the RLWTF instituted the following administrative procedure as a corrective action: Each batch of RLWTF effluent will be screened for fluoride prior to discharge. Effluent batches that exceed the NM WQCC Regulation 3103 Ground Water Standard for fluoride of 1.6 mg/L will receive additional treatment.

Please contact me at (505) 667-7969 if you would like additional information regarding this quarterly report.

Sincerely,



Bob Beers
Water Quality & Hydrology Group

BB/tml

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*Radioactive Liquid Waste Treatment Facility
Ground Water Discharge Plan (DP-1132) Quarterly Report
1st Quarter, 2003*

Table 1.0. Mortandad Canyon Alluvial Monitoring Wells Analytical Results, 1st Quarter, 2003.

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	3/27/2003	2.56J	2.35	0.47	<0.050	386	0.67
MCO-4B	3/27/2003	NS ¹	NS ¹	NS ¹	NS ¹	NS ¹	NS ¹
MCO-6	3/27/2003	43.2	2.66	0.32	<0.050	321	1.12
MCO-6 duplicate sample	3/27/2003	44.9	2.72	0.39	<0.050	340	1.13
MCO-7	3/27/2003	91.5	8.25	0.37	<0.050	320	1.29
NM WQCC 3103. Ground Water Standards (mg/L)			10.0 102.0 Jahn 5/12/03			1000	1.6

Notes:

¹NS means that there was not sufficient water available for sampling.

²The NMWQCC Regulation 3103. Ground Water Standard is for NO₃-N.

J indicates an estimated value. The result was less than the reporting limit, but greater than the detection limit.

All analyses by General Engineering Laboratories, Charleston, SC.

All samples filtered unless otherwise noted.

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Table 2.0. RLWTF Weekly Effluent Monitoring Analytical Results, 1st Quarter, 2003.

Monitoring Period	Composite Date	RLWTF Weekly Effluent Monitoring Analytical Results (mg/L)		
		NO3+NO2-N	Fluoride	TDS
DECEMBER, 2002	12/20/2002	2.20	NA ³	NA ³
JANUARY, 2003	1/7/2003	2.18	2.07	907
	1/14/2003	1.49	1.13	796
	1/22/2003	0.23	0.39	284
	1/28/2003	0.24	0.30	242
FEBRUARY, 2003	2/4/2003	1.09	0.66	489
	2/11/2003	1.35	0.57	547
	2/19/2003	0.82	0.30	273
	2/25/2003	1.90	0.52	299
MARCH, 2003	3/4/2003	5.60	0.61	395
	3/4/2003-dupe ²	6.00	0.56	391
	3/11/2003	5.60	0.75	382
	3/18/2003	2.80	0.84	446
	3/25/2003	results pending ¹	results pending ¹	results pending ¹
1st Quarter 2003 Averages (mg/L)		2.44	0.73	454
<i>NM WQCC 3103. Ground Water Standards (mg/L)</i>		<i>10.0⁴</i>	<i>1.6</i>	<i>1000</i>

Notes:

¹Results for these analyses are pending validation.

²A duplicate sample result.

³No analysis performed due to a sample preservation error.