

TA-50



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Date: October 29, 2003
Refer to: RRES-WQH: 03-278

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, THIRD QUARTER 2003

Dear Mr. Frischkorn:

This letter is 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 third 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 four Mortandad Canyon alluvial monitoring wells during the 3rd quarter of 2003. All of the analytical results from MCO-3, MCO-4B, 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).

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 3rd quarter were below NM WQCC Regulation 3103 standards for NO₃-N, F, and TDS.



Additionally, starting this quarter, the Laboratory will begin reporting the analytical results from monthly composite sampling of RLWTF's effluent for NO₃-N and perchlorate. The monthly samples are flow-proportioned composite samples prepared from each tank of effluent generated by the RLWTF during the month. Sample analysis is performed by an internal analytical laboratory located at the TA-50 RLWTF. Perchlorate analysis is by EPA Method 314, Ion Chromatography. Table 3.0 presents the final monthly composite sample results for the 3rd quarter of 2003.

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/lm

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Table 1.0. Mortandad Canyon Alluvial Monitoring Wells Analytical Results, 3rd Quarter, 2003.

Sampling Location	Sample Date	Perchlorate ³ (ug/L)	NO ₃ /NO ₂ -N (mg/L)	TKN (mg/L)	NH ₃ -N (mg/L)	TDS (mg/L)	F (mg/L)
MCO-3	8/11/2003	2.35J	2.81	0.34	<0.024	310	0.621
MCO-4B	8/13/2003	10.4	2.4	0.30	<0.024	400	0.865
MCO-6	8/14/2003	15.8	2.78	0.24	<0.024	415	0.940
MCO-7	8/14/2003	60.4	3.50	0.23	<0.024	342	1.21
<i>NM WQCC 3103. Ground Water Standards (mg/L)</i>			<i>10²</i>			<i>1000</i>	<i>1.6</i>

Notes:

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

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

³Nonfiltered sample.

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, 3rd Quarter, 2003.

Monitoring Period	Composite Date	RLWTF Weekly Effluent Monitoring Analytical Results (mg/L)		
		NO3+NO2-N	Fluoride	TDS
<u>JUNE, 2002</u>	6/24/2003	<0.01	<0.06	109
	6/30/2003	<0.01	0.10	134
<u>JULY, 2003</u>	7/7/2003	<0.01	0.13	124
	7/15/2003	0.02J	0.15	121
	7/18/2003	0.04J	0.16	143
	7/29/2003	<0.01	0.15	183
	<u>AUGUST, 2003</u>	8/5/2003	0.07	0.16
	8/13/2003	0.05	0.07J	75
	8/19/2003	0.18	0.12	105
	8/26/2003	0.58	0.12	81
<u>SEPTEMBER, 2003</u>	9/3/2003	0.39	0.16	150
	9/9/2003	0.36	0.10	126
	9/15/2003	0.67	0.16	129
	9/23/2003	0.70	0.16	61
3rd Quarter 2003 Averages (mg/L)		0.22	0.13	120
<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.

⁴The NMWQCC Regulation 3103. Ground Water Standard is for NO3-N

All analyses by the General Engineering Laboratories, Charleston, South Carolina.

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Table 3.0. RLWTF Monthly Effluent Monitoring Analytical Results, 3rd Quarter, 2003.

Monitoring Period	Final Monthly Composite (FMC) Analytical Results	
	NO ₃ -N (mg/L)	Perchlorate (ug/L)
<u>JULY, 2003</u>	0 (+/-0.01)	0 (+/- 1)
<u>AUGUST, 2003</u>	0.08 (+/-0.01)	0 (+/- 1)
<u>SEPTEMBER, 2003</u>	0.2 (+/-0.02)	0 (+/- 1)
<i>NM WQCC 3103. Ground Water Standards</i>	<i>10.0</i>	<i>NA</i>

Notes:

All analyses by the Laboratory's TA-50 RLWTF analytical laboratory.