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Title: Groundwater Discharge Plan (DP-1132) Quarterly Report, First Quarter 2011, TA-50 Radioactive Liquid Waste Treatment Facility

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Report
Environmental monitoring and surveillance
Reading Room
NMED



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Date: April 28, 2011
Refer To: ENV-RCRA-11-
LAUR: 11-

Mr. William C. Olson, Bureau Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2250
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Olson:

**SUBJECT: GROUNDWATER DISCHARGE PLAN (DP-1132) QUARTERLY REPORT,
FIRST QUARTER 2011, TA-50 RADIOACTIVE LIQUID WASTE
TREATMENT FACILITY**

This letter is intended to serve as Los Alamos National Laboratory's Groundwater Discharge Plan (DP-1132) quarterly report for the TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF) for the first quarter (January, February, and March) of 2010. Since the first quarter of 1999, Los Alamos National Laboratory (the Laboratory) has provided your agency with voluntary quarterly reports containing analytical results from effluent and groundwater monitoring.

Quarterly Monitoring Results, Mortandad Canyon Alluvial Groundwater Wells

Table 1.0 presents the analytical results from sampling conducted at two Mortandad Canyon alluvial wells, MCO-6 and MCO-7, during the first quarter of 2011. No samples were collected from alluvial wells MCO-3 and MCO-4B because the wells were dry. Samples were submitted to General Engineering Laboratories (GEL), Charleston, SC, for analysis. All of the analytical results were below the New Mexico Water Quality Control Commission (NMWQCC) 3103 standards for nitrate-nitrogen (NO₃-N), fluoride (F), and total dissolved solids (TDS).

Analytical results from the sampling of intermediate and regional aquifer wells in Mortandad Canyon can be accessed online at the Risk Analysis, Communication, Evaluation and Reduction (RACER) Web site (www.racernm.com).

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RLWTF Effluent Monitoring Results

Table 2.0 presents the analytical results from the weekly composite sampling of RLWTF effluent discharged through National Pollutant Discharge Elimination System (NPDES) Outfall 051 to Mortandad Canyon. The final weekly composite (FWC) samples are flow-proportioned composite samples prepared from each tank of effluent discharged to Mortandad Canyon during a 7-day period. Samples are submitted to GEL for analysis. In addition, the TA-50 RLWTF analytical laboratory analyzes duplicate FWC samples as part of the Laboratory's compliance monitoring program. No RLWTF effluent was discharged through NPDES Outfall 051 to Mortandad Canyon during January, February, and March 2011.

Table 3.0 presents the final monthly composite (FMC) sample results for NO₃-N, ClO₄, F, and TDS for the first quarter of 2011. As explained previously, no effluent was discharged during the quarter.

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

Sincerely,

Robert Beers
Water Quality & RCRA Group (ENV-RCRA)

BB/lm

Enclosures: a/s

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Table 1.0. Mortandad Canyon Alluvial Well Sampling, 1st Quarter, 2011.

Sampling Location	Sample Field Prep (F/U/F) ¹	Sample Date	Perchlorate (ug/L)	NO ₃ +NO ₂ -N (mg/L)	TKN ² (mg/L)	NH ₃ -N (mg/L)	TDS (mg/L)	F (mg/L)
MCO-4B								
The well was dry, no sample was collected.								
MCO-3								
The well was dry, no sample was collected.								
MCO-6	F	02/09/11	4.28	0.725	0.077J	<0.05	304	0.033
MCO-7	F	02/10/11	7.17	0.685	0.053J	<0.05	348	0.812
NM WQCC 3103 Ground Water Standards			NA²	10 mg/L³	NA²	NA²	1000 mg/L	1.6 mg/L

Notes:

¹All samples filtered with the exception of TKN.

²NA means that there is no NM WQCC 3103 standard for this analyte.

³The NM WQCC 3103 Ground Water Standard is for NO₃-N.

J- means that the reported value is expected to be more uncertain than usual with a potential negative bias.

J+ means that the reported value is expected to be more uncertain than usual with a potential positive bias.

J means the reported value is greater than the Method Detection Limit (MDL) but less than the Reporting Limit (RL).

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Table 2.0. RLWTF Final Weekly Composite (FWC) Effluent Sampling, 1st Quarter, 2011.

Monitoring Period	Sample Composite Date	Sample ID#	Analysis by RLWTF ¹			Analysis by General Engineering Laboratories, Inc.			
			NO ₃ -N (mg/L)	NO ₂ -N (mg/L)	NO ₃ +NO ₂ -N (mg/L)	Perchlorate (ug/L)	Fluoride (mg/L)	TDS (mg/L)	
January	1/3/11	No Discharges ²	-----	-----	-----	-----	-----	-----	
	1/10/11	No Discharges	-----	-----	-----	-----	-----	-----	
	1/17/11	No Discharges	-----	-----	-----	-----	-----	-----	
	1/24/11	No Discharges	-----	-----	-----	-----	-----	-----	
	1/31/11	No Discharges	-----	-----	-----	-----	-----	-----	
February	2/7/11	No Discharges	-----	-----	-----	-----	-----	-----	
	2/14/11	No Discharges	-----	-----	-----	-----	-----	-----	
	2/21/11	No Discharges	-----	-----	-----	-----	-----	-----	
	2/28/11	No Discharges	-----	-----	-----	-----	-----	-----	
March	3/7/11	No Discharges	-----	-----	-----	-----	-----	-----	
	3/14/11	No Discharges	-----	-----	-----	-----	-----	-----	
	3/21/11	No Discharges	-----	-----	-----	-----	-----	-----	
	3/28/11	No Discharges	-----	-----	-----	-----	-----	-----	
1st Quarter 2011 Averages ³			10 mg/L	NA ⁵	10 mg/L ⁴	NA ⁵	1.6 mg/L	1000 mg/L	
NMWQCC 3103 Groundwater Standards			10 mg/L	NA ⁵	10 mg/L ⁴	NA ⁵	1.6 mg/L	1000 mg/L	

Notes:

¹Analysis by the TA-50 Radioactive Liquid Waste Treatment Facility's analytical laboratory.

²No Discharge means that the RLWTF did not discharge any effluent during the 7-day period preceding the composite date.

³1st quarter 2011 averages include the results from Dec 2010, if applicable.

⁴The NM WQCC Regulation 3103 Ground Water Standard is for nitrate (NO₃-N).

⁵NA means that there is no NM WQCC 3103 standard for this analyte.

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Table 3.0. RLWTF Final Monthly Composite (FMC) Effluent Sampling, 1st Quarter, 2011.

Monitoring Period	RLWTF FMC Results ¹			
	NO ₃ -N (mg/L)	Perchlorate by IC ² (ug/L)	TDS (mg/L)	F (mg/L)
January 2011	---- No Discharges ----			
February 2011	---- No Discharges ----			
March 2011	---- No Discharges ----			
NMWOCC 3103 Groundwater Standards	10 mg/L	NA³	1000 mg/L	1.6 mg/L

Notes:

- ¹Analysis by the TA-50 Radioactive Liquid Waste Treatment Facility's analytical laboratory.
- ²IC means EPA Method 314.0, perchlorate analysis by Ion Chromatography.
- ³NA means that there is no NM WOCC 3103 standard for this analyte.

