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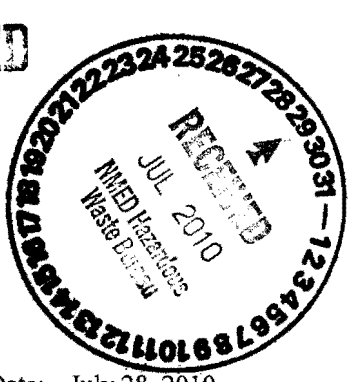

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NATIONAL LABORATORY
EST.1943

Environmental Protection Division
Water Quality & RCRA Group (ENV-RCRA)
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(505) 667-7969/FAX: (505) 665-9344

Date: July 28, 2010
Refer To: ENV-RCRA-10-141
LAUR: 10-04863

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 QUARTERLY REPORT, SECOND QUARTER 2010, TA-50 RADIOACTIVE LIQUID WASTE TREATMENT FACILITY (DP-1132)

This letter is intended to serve as Los Alamos National Laboratory's quarterly Groundwater Discharge Plan (DP-1132) Report for the TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF) for the second quarter (April, May, and June) of 2010. Since the first quarter of 1999, Los Alamos National Laboratory (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 four Mortandad Canyon alluvial wells, MCO-3, MCO-4B, MCO-6, and MCO-7, during the second quarter of 2010. Samples are submitted to General Engineering Laboratories (GEL), Charleston, SC, for analysis. All of the analytical results were below the New Mexico Water Quality Control Commission (NM WQCC) 3103 standards for nitrate-nitrogen (NO_3-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 the RLWTF's effluent for the second quarter of 2010. The final weekly composite (FWC) 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 GEL for analysis. In addition, the TA-50 RLWTF analytical laboratory analyzes duplicate FWC samples as part of the Laboratory's compliance monitoring program.

All of the FWC results presented in Table 2.0 are below the NM WQCC 3103 standards for NO_3-N, F, and TDS. The combined nitrate-nitrogen (NO_3-N) and nitrite-nitrogen (NO_2-N) concentration in three FWC samples—6/1/10, 6/7/10, and 6/28/10—was greater than 10 mg/L. The NM WQCC 3103 standard of 10 mg/L is for NO_3-N only. Separate NO_3-N and NO_2-N analyses are not performed by GEL due to the short analytical hold-time (48 hrs). However, the TA-50 RLWTF analytical laboratory performs individual NO_3-N and NO_2-N analyses on duplicate FWC samples. Duplicate sample results from the TA-50 RLWTF analytical laboratory show that all NO_3-N concentrations were below the NM WQCC 3103 standard of 10 mg/L.

Table 3.0 presents the final monthly composite (FMC) sample results for NO_3-N, ClO_4, F, and TDS for the second quarter of 2010. The FMC samples are flow-proportioned composite samples prepared from each tank of effluent generated by the RLWTF during the month. Analysis is by the TA-50 RLWTF analytical laboratory. All of the analytical results presented in Table 3.0 were below the NMWQCC 3103 standards for NO_3-N, F, and TDS.

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

Cy: Glenn Saums, NMED/SWQB, Santa Fe, NM
James Bearzi, NMED/HWB, Santa Fe, NM
Steve Yanicak, LASO-GOV, M894
Hai Shen, LASO-EO, A316
Gene Turner, LASO-EO, A316
Michael Mallory, PADOPS, A102
J. Chris Cantwell, ADESHQ, K491

Cy (continued):
Randy Johnson, ENV-ES, E500
Mike Saladen, ENV-RCRA, K490
Robert C. Mason, TA55-DO, E583
Hugh McGovern, TA-55 RLW, E518
Pete Worland, TA-55-RLW, E518
Chris Del Signore, TA-55-RLW, E518
Steve Hanson, TA-55-RLW, E518
ENV-RCRA File, K490
IRM-RMMSO, A150

Table 1.0. Mortandad Canyon Alluvial Well Sampling, 2nd Quarter, 2010.

Sampling Location	Sample Type Field Prep (F/UF)[1]	Sample Date	Perchlorate (ug/L)	NO_3 - NO_3-N (mg/L)	TKN[2] (mg/L)	NH_3-N (mg/L)	TDS (mg/L)	Tr (mg/L)
MCO-3	F	05/14/10	1.11	1.1	0.249	<0.050	330	0.29
MCO-4B	F	05/14/10	7.07	0.88	0.093J	0.028J	373	0.58
MCO-6	F	05/11/10	4.61	1.3J	<0.140	<0.082	275	0.87
MCO-7	F	05/11/10	7.54	1.4J	<0.087	<0.047	289	1.0
NM WQCC 3103 Ground Water Standards			*NA*[2]	*10 mg/L*[3]	*NA*[2]	*NA*[2]	*1000 mg/L*	*1.6 mg/L*

Notes:

[1]All samples filtered with the exception of TKN.

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

[3]The NM WQCC 3103 Ground Water Standard is for NO_3-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).

Table 2.0. RLWTF Final Weekly Composite (FWC) Effluent Sampling, 2nd Quarter, 2010.

			Analysis by RLWTF[1]		Analysis by General Engineering Laboratories, Inc.			
Monitoring Period	**Sample Composite Date**	**Sample ID#**	**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)**
April	4/5/10	No Discharge[2]						
	4/12/10	50FWC-10-9947	5.0	0.45	4.99J	0.893	0.08J	137
	4/19/10	50FWC-10-9948	5.4	0.32	6.23J	0.611	0.14	239
	4/26/10	No Discharge						
May	5/3/10	50FWC-10-9949	7.6	0.30	8.23J	1.16	0.18	213
	5/10/10	50FWC-10-9950	5.9	0.36	6.45	1.96	0.22	270
	5/17/10	No Discharge						
	5/24/10	No Discharge						
June	6/1/10	50FWC-10-9951	9.3	1.9	11.3J+	1.36	0.31	382
	6/7/10	50FWC-10-9952	7.3	3.7	10.1	0.15J	0.34	339
	6/14/10	No Discharge						
	6/21/10	No Discharge						
	6/28/10	50FWC-10-9953	9.1	1.0	10.6J+	<0.2	0.21	326HJ-
2nd Quarter 2010 Averages[3]			**7.4**	**1.1**	**8.3**	**0.9**	**0.21**	**272**
NM WQCC 3103 Ground Water Standards			*10 mg/L*	*NA[5]*	*10 mg/L[4]*	*NA[5]*	*1.6 mg/L*	*1000 mg/L*

Notes:

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

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

[3]2nd quarter 2010 averages include the results from March 2010, if applicable.

[4]The NM WQCC Regulation 3103 Ground Water Standard is for nitrate (NO_3-N).

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

[6]Pending means that the analytical results were pending at the time this report was prepared.

H means that the analytical hold time was exceeded.

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

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.

Table 3.0. RLWTF Final Monthly Composite (FMC) Effluent Sampling, 2nd Quarter, 2010.

	RLWTF FMC Results[1]			
Monitoring Period	NO_3-N (mg/L)	Perchlorate by IC[2] (ug/L)	TDS (mg/L)	F (mg/L)
April	5.1	<1	180	0.08
May	6.7	1.9	307	0.24
June	8.8	<1	259	0.12
NM WQCC 3103 Ground Water Standards	*10 mg/L*	*NA*[3]	*1000 mg/L*	*1.6 mg/L*

Notes:

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

[2]IC means EPA Method 314.0, perchlorate analysis by Ion Chromatography.

[3]NA means that there is no NM WQCC 3103 standard for this analyte.