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Environmental Protection Division
Water Quality & RCRA Group (ENV-RCRA)
P.O. Box 1663, Mail Stop K490
Los Alamos, New Mexico 87545
(505) 667-7969/FAX: (505) 665-9344

Date: October 30, 2008
Refer To: ENV-RCRA-08-217
LA-UR: 08-06657

Mr. William C. Olson, Bureau Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2261
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Mr. Olson:

SUBJECT: GROUND WATER DISCHARGE PLAN QUARTERLY REPORT, THIRD QUARTER 2008, SANITARY WASTEWATER SYSTEMS PLANT (DP-857)

This letter and attachments are Los Alamos National Laboratory's quarterly report for the TA-46 Sanitary Wastewater Systems (SWWS) Plant Ground Water Discharge Plan (DP-857) for the third quarter (July, August, and September) of 2008.

Table 1.0 presents water quality data from sampling at the TA-46 SWWS Plant reuse wet well, Cañada del Buey Observation Well (CDBO)-6, and NPDES Outfalls 001 and 03A027 for the third quarter of 2008. All sample results in Table 1.0 are less than the NM WQCC Regulation 3103 standards for ground water. Attachment 1.0 presents copies of the analytical reports prepared by General Engineering Laboratories, Inc. for the third quarter of 2008.

Table 2.0 presents the water level in CDBO-6 for the third quarter of 2008.

Table 3.0 presents discharge volumes from the SWWS Plant's force main to TA-3, the Power Plant's NPDES Outfall 001, and the Strategic Computing Complex's (SCC) NPDES Outfall 03A027. In addition, Table 3.0 includes the volume of reuse water used by the SCC cooling towers; during the third quarter of 2008, the SCC cooling towers did not use any SWWS Plant reuse water or treated water from the Sanitary Effluent Reclamation Facility (SERF).

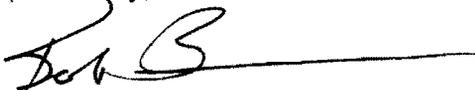
Table 4.0 and Attachment 2.0 present the results from monthly inspections of the four leak collection standpipes at the SERF evaporation basins located on Sigma Mesa. The leak collection standpipes were dry or contained de minimis amounts of water during July and August inspections. No inspection of the SERF basins was conducted in September 2008 due to a change in ownership of the facility. Inspections will resume in October 2008.



On March 31, 2008, your agency was notified of a leak (personal communication, Robert Beers, LANL, and Robert George, NMED-GWQB) in the primary liner of the west SERF basin. A patch installed in 2007 apparently broke loose exposing an old puncture. A corrective action plan was submitted on April 24, 2008 (ENV-RCRA-08-076) committing the Laboratory to install both a temporary patch and a final, permanent patch. The temporary patch has been installed, but the final patch is still pending. In addition, the Laboratory is monitoring the water level in the west SERF basin to ensure that it remains below the elevation of the punctures.

Please call me at (505) 667-7969 if you have any questions regarding this report.

Sincerely,



Bob Beers
Water Quality & RCRA Group

BB/lm

Enclosures: a/s

Cy: Glenn Saums, NMED/SWQB, Santa Fe, NM, w/enc.
James Bearzi, NMED HWB, Santa Fe, NM, w/enc.
Steve Yanicak, LASO-GOV, w/enc., J993
Hai Shen, LASO-EO, w/o enc., A316
Gene Turner, LASO-EO, w/o enc., A316
Michael B. Mallory, PADOPS, w/o enc., A102
Richard S. Watkins, ADESHQ, w/o enc., K491
Mike Saladen, ENV-RCRA, w/o enc., K490
Pete Worland, EWMO-RLW, w/o enc., E518
Peter Rice, EWMO-RLW, w/o enc., E518
Steven Hanson, EWMO-RLW, w/o enc., E518
Craig Douglass, RLW, w/o enc., E518
Mell Smithour, SSS-UD-J01, w/enc., K718
Charles Barnett, SSS-UD-M02, w/enc., A199
ENV-DO, File, w/o enc., J978
ENV-RCRA File, w/enc., K490
IRM-RMMSO, w/enc., A150

SWWS Plant Ground Water Discharge Plan (DP-857)
3rd Quarter, 2008

Table 1.0 Water Quality Data: SWWS Plant Reuse Water, NPDES Outfalls 001 and 03A027, and CDBO-6. 3rd Quarter, 2008.

Sampling Location	Filter Type	Sample Date	Sample ID No.	TDS (mg/L)	Chloride (mg/L)	NO ₃ -N/NO ₂ -N (mg/L)	TKN (mg/L)	NH ₃ -N (mg/L)
SWWS Plant								
SWWS Plant Reuse Wet Well ¹	UF	8/12/2008	GU080800OSRW01	378	66.4	1.73	0.40	0.08
Sandia Canyon								
NPDES Outfall 001	UF	8/12/2008	GU080801A001	365	65.6	2.18	0.56	0.09
NPDES Outfall 03A027	UF	8/12/2008	GU080803A027	545	18.6	1.27	<0.03	0.06J
Canada del Buey								
CDBO-6	F	8/18/2008	CAMO-08-14437	167	21.1	<0.05		<0.05
CDBO-6	UF	8/18/2008	CAMO-08-14436				<0.10	
NM WQCC Regulation 3103 Ground Water Standards (mg/L)				1000	250	10 ³	NA	NA

Notes:

¹Water in the reuse wet well is representative of water in the reuse pond.

²UF means a non-filtered sample, F means a filtered sample.

³The NMWQCC Regulation 3103 Ground Water Standard is for NO₃-N.

J means the reported result was greater than the Method Detection Limit but less than the Reporting Limit.

All analytical results by General Engineering Laboratories, Inc., Charleston, SC.

NA means that there is no NM WQCC Regulation 3103 ground water standard for this analyte.

**SWWS Plant Ground Water Discharge Plan (DP-857) Report
3rd Quarter, 2008**

Table 2.0. Water Level in Cañada del Buey Observation Well (CDBO)-6, 3rd Quarter 2008.

Location	Date	Water Level (ft)
CDB0-6	8/18/08	34.00

Notes:

† Measured in feet from the top of the well casing to the surface of the water.

Table 3.0. Discharge Volumes from the SWWS Plant, NPDES Outfalls 001 and 03A027, and Reuse Water to the SCC Cooling Towers, 3rd Quarter 2008 (millions of gallons).

Month	SWWS Plant to TA-3	NPDES Outfall 001	Reuse Water to SCC Cooling Towers ³	NPDES Outfall 03A027
July	8.884	10.215	0	1.031
August	10.034	12.073	0	1.198
September	7.856	8.919	0	1.271

Notes:

¹In the 3rd quarter of 2008, all SWWS Plant effluent was pumped via a force main to TA-3 for reuse or discharge.

²Power plant wastewater and all SWWS Plant reuse water not used by the SCC cooling towers are discharged at NPDES Outfall 001.

³The SCC cooling towers can use potable or SWWS Plant reuse water. Table 3.0 contains the estimated volume of SWWS Plant reuse water that the SCC cooling towers used during the 3rd quarter of 2008.

⁴The SCC cooling towers discharge to NPDES Outfall 03A027 at Sandia Canyon.

Table 4.0. Inspection Results, SERF Evaporation Basins, Leak Collection Standpipes.

Inspection Date	Inspection Results
7/25/08	All standpipes are dry or contain a de minimis quantity of water
8/21/08	All standpipes are dry or contain a de minimis quantity of water
NA	No inspection was conducted in September 2008

Analytical Reports

by

General Engineering Laboratories, Inc

Sample Dates:

8/12/2008

8/18/2008

Locations:

SWWS Plant Reuse Wet Well

NPDES Outfall 001

NPDES Outfall 03A027

CDBO-6

Analytes

Cl, NO₃+NO₂, TDS, TKN, NH₃

SWWS POINT KEUSE WELL

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Los Alamos National Laboratories
 Address : PO Box 1663
 TA-03, SM271, Drop Pt. 02U, Rm111
 Los Alamos, New Mexico 87545
 Contact: Ms. Joylene Valdez
 Project: ENV-WQH WQCC Regs

Report Date: September 3, 2008

Client Sample ID: GU080800OSRW01 Project: ESHL00805
 Sample ID: 213691001 Client ID: LANL008
 Matrix: Waste Water
 Collect Date: 12-AUG-08 10:20
 Receive Date: 13-AUG-08
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography Federal											
<i>EPA 300.0 Chloride in Liquid "As Received"</i>											
Chloride		66.4	0.660	2.00	mg/L	10	VXP1	08/18/08	1623	784254	1
Nutrient Analysis											
<i>EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"</i>											
Nitrogen, Nitrate/Nitrite		1.73	0.050	0.250	mg/L	5	AXH3	08/25/08	1555	784517	2
Nutrient Analysis Federal											
<i>Nitrogen as Ammonia "As Received"</i>											
Nitrogen, Ammonia		0.084	0.030	0.050	mg/L	1	AXH3	08/18/08	1209	784529	3
<i>Nitrogen, Total Kjeldahl (TKN) "As Received"</i>											
Nitrogen, Total Kjeldahl		0.397	0.029	0.100	mg/L	1	AXH3	08/19/08	1231	784525	4
Solids Analysis Federal											
<i>EPA 160.1 Solids, Dissolved-F "As Received"</i>											
Total Dissolved Solids		378	2.38	10.0	mg/L		NXM	08/14/08	1036	784218	5

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	SXK1	08/15/08	2022	784528
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	SXK1	08/15/08	2025	784524

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 353.2	
3	EPA 350.1	
4	EPA 351.2	
5	EPA 160.1	

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 TA-03, SM271, Drop Pt. 02U, Rm111
 Los Alamos, New Mexico 87545
 Contact: Ms. Joylene Valdez
 Project: ENV-WQH WQCC Regs

Report Date: September 3, 2008

Client Sample ID: GU080801A00102 Project: ESHL00805
 Sample ID: 213691003 Client ID: LANL008
 Matrix: Waste Water
 Collect Date: 12-AUG-08 10:52
 Receive Date: 13-AUG-08
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Ion Chromatography Federal										
<i>EPA 300.0 Chloride in Liquid "As Received"</i>										
Chloride		65.6	0.660	2.00	mg/L	10	VXP1 08/18/08	1712	784254	1
Nutrient Analysis										
<i>EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"</i>										
Nitrogen, Nitrate/Nitrite		2.18	0.050	0.250	mg/L	5	AXH3 08/25/08	1605	784517	2
Nutrient Analysis Federal										
<i>Nitrogen as Ammonia "As Received"</i>										
Nitrogen, Ammonia		0.088	0.030	0.050	mg/L	1	AXH3 08/18/08	1220	784529	3
<i>Nitrogen, Total Kjeldahl (TKN) "As Received"</i>										
Nitrogen, Total Kjeldahl		0.563	0.029	0.100	mg/L	1	AXH3 08/19/08	1239	784525	4
Solids Analysis Federal										
<i>EPA 160.1 Solids, Dissolved-F "As Received"</i>										
Total Dissolved Solids		365	2.38	10.0	mg/L		NXM 08/14/08	1036	784218	5

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	SXX1	08/15/08	2022	784528
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	SXX1	08/15/08	2025	784524

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 353.2	
3	EPA 350.1	
4	EPA 351.2	
5	EPA 160.1	

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Certificate of Analysis

Company : Los Alamos National Laboratories
 Address : PO Box 1663
 TA-03, SM271, Drop Pt. 02U, Rm111
 Los Alamos, New Mexico 87545
 Contact: Ms. Joylene Valdez
 Project: ENV-WQH WQCC Regs

Report Date: September 3, 2008

Client Sample ID: GU080803A02701 Project: ESHL00805
 Sample ID: 213691002 Client ID: LANL008
 Matrix: Waste Water
 Collect Date: 12-AUG-08 10:52
 Receive Date: 13-AUG-08
 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography Federal											
<i>EPA 300.0 Chloride in Liquid "As Received"</i>											
Chloride		18.6	0.066	0.200	mg/L	1	VXP1	08/16/08	2324	784254	1
Nutrient Analysis											
<i>EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"</i>											
Nitrogen, Nitrate/Nitrite		1.27	0.050	0.250	mg/L	5	AXH3	08/25/08	1559	784517	2
Nutrient Analysis Federal											
<i>Nitrogen as Ammonia "As Received"</i>											
Nitrogen, Ammonia		0.064	0.030	0.050	mg/L	1	AXH3	08/18/08	1216	784529	3
<i>Nitrogen, Total Kjeldahl (TKN) "As Received"</i>											
Nitrogen, Total Kjeldahl	U	ND	0.029	0.100	mg/L	1	AXH3	08/19/08	1238	784525	4
Solids Analysis Federal											
<i>EPA 160.1 Solids, Dissolved-F "As Received"</i>											
Total Dissolved Solids		545	2.38	10.0	mg/L		NXM	08/14/08	1036	784218	5

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	SXK1	08/15/08	2022	784528
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	SXK1	08/15/08	2025	784524

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 300.0	
2	EPA 353.2	
3	EPA 350.1	
4	EPA 351.2	
5	EPA 160.1	

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*CDBO-6
-Filtered-*

Certificate of Analysis

Company : Los Alamos National Laboratories
 Address : PO Box 1663
 TA-03, SM271, Drop Pt. 02U, Rm111
 Los Alamos, New Mexico 87545
 Contact: Ms. Joylene Valdez
 Project: **ENV-WQH Water Samples**

Report Date: September 15, 2008

Client Sample ID:	CAMO-08-14437	Project:	ESHL00813
Sample ID:	214136002	Client ID:	LANL008
Matrix:	Ground Water		
Collect Date:	18-AUG-08 12:00		
Receive Date:	20-AUG-08		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Conductivity Analysis Federal											
<i>EPA120.1 Specific Conductivity "As Received"</i>											
Conductivity		219	1.00	1.00	umhos/cm	1	RXG2	08/26/08	1430	788453	1
Electrode Analysis Federal											
<i>EPA 150.1 pH Federal "As Received"</i>											
pH at Temp 15.9C	H	7.10	0.010	0.100	SU	1	RXG2	08/21/08	1410	786850	2
Ion Chromatography Federal											
<i>EPA 300.0 Anions Liquid 28 day "As Received"</i>											
Bromide	U	ND	0.067	0.200	mg/L	1	VXP1	09/07/08	0006	790792	3
Fluoride		0.218	0.033	0.100	mg/L	1					
Sulfate		10.2	0.100	0.400	mg/L	1					
Chloride		21.1	0.132	0.400	mg/L	2	VXP1	09/08/08	1526	790792	4
Nutrient Analysis											
<i>EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"</i>											
Nitrogen, Nitrate/Nitrite	U	ND	0.010	0.050	mg/L	1	AXH3	08/25/08	1740	787003	5
Nutrient Analysis Federal											
<i>EPA 350.1 Nitrogen, Ammonia L "As Received"</i>											
Nitrogen, Ammonia	U	ND	0.030	0.050	mg/L	1	AXH3	08/25/08	1255	787420	6
<i>EPA 365.4 Phosphorus, Total in "As Received"</i>											
Phosphorus, Total as P		0.054	0.024	0.050	mg/L	1	AXH3	08/25/08	1649	786754	7
Solids Analysis Federal											
<i>EPA 160.1 Solids, Dissolved-F "As Received"</i>											
Total Dissolved Solids		167	2.38	10.0	mg/L		NXM	08/22/08	1055	787302	8
Titration Analysis Federal											
<i>EPA 310.1 Total Alkalinity Federal "As Received"</i>											
Alkalinity, Total as CaCO3		55.7	0.725	1.00	mg/L		TXT1	08/22/08	1222	787330	9
Carbonate alkalinity (CaCO3)	U	ND	0.725	1.00	mg/L						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	AXH3	08/25/08	1009	787419
EPA 365.4 Prep	EPA 365.4 Phosphorus, Total in liquid-Fe	SXX1	08/21/08	1441	786753

The following Analytical Methods were performed

Method	Description	Analyst Comments
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GEL LABORATORIES LLC

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*CDBO-6
- unfiltered -*

Certificate of Analysis

Company : Los Alamos National Laboratories
 Address : PO Box 1663
 TA-03, SM271, Drop Pt. 02U, Rm111
 Los Alamos, New Mexico 87545
 Contact: Ms. Joylene Valdez
 Project: **ENV-WQH Water Samples**

Report Date: September 4, 2008

Client Sample ID:	CAMO-08-14436	Project:	ESHL00813
Sample ID:	214139001	Client ID:	LANL008
Matrix:	Ground Water		
Collect Date:	18-AUG-08 12:00		
Receive Date:	20-AUG-08		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis Federal											
<i>SW 9060 Total Organic Carbon "As Received"</i>											
Total Organic Carbon Average		2.04	0.330	1.00	mg/L	1	TSM	08/22/08	1911	787020	1
Nutrient Analysis Federal											
<i>Nitrogen, Total Kjeldahl (TKN) "As Received"</i>											
Nitrogen, Total Kjeldahl	U	ND	0.029	0.100	mg/L	1	AXH3	08/26/08	1433	786820	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	SXX1	08/22/08	1356	786818

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	SW846 9060	
2	EPA 351.2	

Photographs

SERF Evaporation Basins and Leak Inspection Pipes

Inspection Dates:

7/25/2008

8/21/2008



East basin 7/25/08



East basin east inspection pipe 7/25/08



East basin west inspection pipe 7/25/08



West Basin east inspection pipe
7/25/2008



West Basin west inspection pipe 7/25/08



July '08 Evap Basin Inspection Record



West Basin 7/25/08



East basin 8/21/08



East basin east inspection pipe 8/21/08



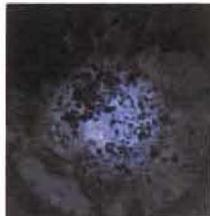
West Basin east inspection pipe
8/21/2008



August '08 Evap Basin Inspection Record



East basin west inspection pipe 8/21/08



West Basin west inspection pipe 8/21/08



West Basin 8/21/08