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Los Alamos
NATIONAL LABORATORY
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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: July 25, 2011
Refer To: ENV-RCRA-11-0142
LA-UR: 11-04200

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: GROUNDWATER DISCHARGE PLAN QUARTERLY REPORT, SECOND QUARTER 2011, SANITARY WASTEWATER SYSTEMS PLANT (DP-857)

This letter and enclosures are Los Alamos National Laboratory's quarterly report for the TA-46 Sanitary Wastewater Systems (SWWS) Plant Groundwater Discharge Plan (DP-857) for the second quarter (April, May, and June) of 2011.

Table 1.0 presents water quality data from sampling conducted at the TA-46 SWWS Plant's reuse wet well, NPDES Outfalls 001 and 03A027, and Cañada del Buey Observation Well (CDBO)-6 for the second quarter of 2011. All sample results presented in Table 1.0 are less than the New Mexico Water Quality Control Commission Regulation 3103 standards for groundwater. Enclosure 1.0 presents copies of the analytical reports prepared by General Engineering Laboratories, Inc.

Table 2.0 presents the water level in CDBO-6 for the second quarter of 2011.

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 second quarter of 2011, 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 Enclosure 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 April, May, and June 2011.

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The Laboratory reported to your agency in the TA-46 SWWS Plant's quarterly discharge plan (DP-857) report for the first quarter 2011 (ENV-RCRA-11-0072, April 19, 2011) that water was discovered in one of the SERF basin's inspection standpipes on February 24, 2011. At the recommendation of the Snow Company, Albuquerque, NM, the liner's installer, the Laboratory developed a plan to leak test the west SERF basin by injecting clean water between the primary and secondary liners. In preparation for the leak test, all remaining water and accumulated sediment were removed. During final cleaning and before the test was conducted, workers discovered six small tears in the liner. Patching these tears has been scheduled for completion by July 31, 2011.

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

Sincerely,

Robert Beers
Water Quality & RCRA Group

BB/lm

Enclosures: a/s

Cy: James Bearzi, NMED/SWQB, Santa Fe, NM, w/enc.
John Kieling, NMED/HWB, Santa Fe, NM, w/enc.
Hai Shen, LASO-EO, w/enc., A316
Gene Turner, LASO-EO, w/enc., A316
Steve Yanicak, LASO-GOV, w/enc., M894
Carl A. Beard, PADOPS, w/o enc., A102
J. Chris Cantwell, ADESHQ, w/o enc., K491
Mike Saladen, ENV-RCRA, w/o enc., K490, (E-File)
Andrew Erickson, UI-DO, w/o enc., K760
Walter E. Atencio, ESHQ-DR, w/enc., P908
Mell Smithour, ES-UI, w/enc., K718
Charles Barnett, UI-OPS, w/enc., J972
Martin Aguilera, MSS-UI, w/o enc., P968
ENV-RCRA File, w/enc., K490
IRM-RMMSO, w/enc., A150

Table 1.0 Water Quality Data: SWWS Plant Reuse Water, NPDES Outfalls 001 and 03A027, and CDBO-6. 2nd Quarter, 2011.

Sampling Location	Field Prep[2]	Sample Date	Sample ID No.	TDS (mg/L)	Chloride (mg/L)	NO3+NO2-N (mg/L)	TKN (mg/L)	NH3-N (mg/L)
SWWS Plant								
SWWS Plant Reuse Wet Well[1]	UF	05/26/11	SWWS46-11-13864	458	82.4	1.1	0.514J-	0.06
Sandia Canyon								
NPDES Outfall 001	UF	05/26/11	SWWS46-11-13862	438	76.8	0.83	0.539J-	0.05
NPDES Outfall 03A027	UF	05/26/11	SWWS46-11-13863	462	11.8	0.96	0.853J-	0.22
Canada del Buey								
CDBO-6	F	04/19/11	CAPA-11-9541	186	24.1	<0.5		<0.05
CDBO-6	UF	04/19/11	CAPA-11-9540				<0.1	
NM WQCC Regulation 3103 Groundwater Standards (mg/L)				*1000*	*250*	*10*[3]	*NA*	*NA*

Notes:

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

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

[3]The NM WQCC Regulation 3103 Groundwater Standard is for NO_3-N.

[4]Dry means that there was insufficient water in the well for sampling.

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

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.

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

Table 2.0. Water Level in Cañada del Buey Observation Well (CDBO)-6, 2nd Quarter 2011

Location	Date	Water Level† (ft)
CDBO-6	4/19/2011	NA

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

Table 3.0. Discharge Volumes from the TA-46 SWWS Plant, NPDES Outfalls 001 and 03A027, and Reuse Water to the SCC Cooling Towers (in millions of gallons).

Month	SWWS Plant Effluent to TA-3[1]	Discharges to NPDES Outfall 001[2]	Reuse Water to SCC Cooling Towers[3] (estimated)	Discharges to NPDES Outfall 03A027[4]
Apr-2011	7.958	8.079	0	1.837
May-2011	8.838	8.274	0	1.905
Jun-2011	6.868	6.586	0	1.784

Notes:
[1]In the 2nd quarter of 2011, all SWWS Plant effluent was pumped via a force main to TA-3 for reuse or discharge.
[2]Power plant wastewater and all SWWS Plant reuse water not used by the SCC Cooling Towers are discharged at NPDES Outfall 001.
[3]The 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 2nd quarter of 2011.
[4]The SCC cooling towers discharge to NPDES Outfall 03A027 at Sandia Canyon.
NA means that no flow volumes were available at the time this report was prepared.

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

Inspection Date	Inspection Results
4/12/11	All standpipes are dry or contain minimal amounts of condensate water
5/17/11	All standpipes are dry or contain minimal amounts of condensate water
6/15/11	All standpipes are dry or contain minimal amounts of condensate water

Analytical Reports

by

General Engineering Laboratories, Inc

Sample Dates:
5/26/2011
4/19/2011

Locations:
SWWS Plant Reuse Wet Well
NPDES Outfall 001
NPDES Outfall 03A027
CDBO-6

Analytes
Cl, NO_3+NO_2, TDS, TKN, NH_3

NPDES OUTFALL 001

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

Certificate of Analysis

Report Date: June 2, 2011

Company : Los Alamos National Laboratory
Address : TA-03, SM271, Drop Pt. 02U, Rm111

Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL WQH WQCC Regs

Client SDG: 11-2557

Client Sample ID: SWWS46-11-13862
Sample ID: 278930001
Matrix: Waste Water
Collect Date: 26-MAY-11 12:00
Receive Date: 27-MAY-11
Collector: Client

Project: ESHL00110
Client ID: ARSL001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
EPA 300.0 Chloride in Liquid "As Received"											
Chloride		76.8	0.660	2.00	mg/L	10	MAR1	05/28/11	1050	1106815	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite		0.827	0.100	0.500	mg/L	10	KLP1	05/31/11	1717	1107222	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.053	0.016	0.050	mg/L	1	SDS	06/01/11	1401	1106409	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		0.539	0.035	0.100	mg/L	1	KLP1	06/02/11	1349	1106403	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		438	2.38	10.0	mg/L		LYG1	06/01/11	1034	1107686	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	AXS5	05/31/11	1744	1106407
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	AXS5	06/01/11	1515	1106402

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	

NPDES OUTFALL 03A027

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

Certificate of Analysis

Report Date: June 2, 2011

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

Client SDG: 11-2557

Client Sample ID: SWWS46-11-13863
Sample ID: 278930002
Matrix: Waste Water
Collect Date: 26-MAY-11 12:00
Receive Date: 27-MAY-11
Collector: Client

Project: ESHL00110
Client ID: ARSL001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
EPA 300.0 Chloride in Liquid "As Received"											
Chloride		11.8	0.066	0.200	mg/L	1	MAR1	05/27/11	2354	1106815	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite		0.962	0.100	0.500	mg/L	10	KLP1	05/31/11	1718	1107222	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.223	0.016	0.050	mg/L	1	SDS	06/01/11	1405	1106409	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		0.853	0.035	0.100	mg/L	1	KLP1	06/02/11	1352	1106403	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		462	2.38	10.0	mg/L		LYG1	06/01/11	1034	1107686	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	AXS5	05/31/11	1744	1106407
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	AXS5	06/01/11	1515	1106402

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	

TA-46 SWWS PLANT REUSE WELL

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

Certificate of Analysis

Report Date: June 3, 2011

Company :	Los Alamos National Laboratory		
Address :	TA-03, SM271, Drop Pt. 02U, Rm111		
	Los Alamos, New Mexico 87545		
Contact:	Ms. Joylene Valdez	Client SDG:	11-2560
Project:	LANL WQH WQCC Regs		

Client Sample ID:	SWWS46-11-13864	Project:	ESHL00110
Sample ID:	279023001	Client ID:	ARSL001
Matrix:	Waste Water		
Collect Date:	26-MAY-11 12:00		
Receive Date:	28-MAY-11		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Ion Chromatography											
EPA 300.0 Chloride in Liquid "As Received"											
Chloride		82.4	0.660	2.00	mg/L	10	MAR1	06/03/11	0309	1107904	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite		1.06	0.100	0.500	mg/L	10	KLP1	05/31/11	1719	1107222	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.0586	0.016	0.050	mg/L	1	SDS	06/01/11	1406	1106409	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		0.514	0.035	0.100	mg/L	1	KLP1	06/02/11	1353	1106403	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		458	2.38	10.0	mg/L		LYG1	06/01/11	1034	1107686	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	AXS5	05/31/11	1744	1106407
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	AXS5	06/01/11	1515	1106402

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	

CDB0-6

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

Certificate of Analysis

Report Date: May 17, 2011

Company :	Los Alamos National Laboratory
Address :	TA-03, SM271, Drop Pt. 02U, Rm111
	Los Alamos, New Mexico 87545
Contact:	Ms. Joylene Valdez
Project:	LANL-WQH Water Samples

Client SDG: 11-2109

Client Sample ID:	CAPA-11-9540	Project:	ESHL00210
Sample ID:	276494004	Client ID:	ARSL001
Matrix:	WG		
Collect Date:	19-APR-11 12:00		
Receive Date:	21-APR-11		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Carbon Analysis											
SW 9060 Total Organic Carbon "As Received"											
Total Organic Carbon Average		1.72	0.330	1.00	mg/L	1	TSM	04/28/11	0237	1094015	1
Flow Injection Analysis											
WSP-CN(T) "As Received"											
Cyanide, Total	U	ND	1.50	5.00	ug/L	1	SDS	04/25/11	1814	1094604	2
Nutrient Analysis											
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl	U	ND	0.035	0.100	mg/L	1	KLP1	04/22/11	1358	1094653	3

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 335.4	EPA 335.4 Total Cyanide	AXS5	04/25/11	1500	1094601
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	AXS5	04/21/11	1820	1094652

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9060	
2	EPA 335.4	
3	EPA 351.2	

CD30-6

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

Certificate of Analysis

Report Date: May 17, 2011

Company : Los Alamos National Laboratory
Address : TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL-WQH Water Samples
Client SDG: 11-2109

Client Sample ID: CAPA-11-9541
Sample ID: 276494005
Matrix: WG
Collect Date: 19-APR-11 12:00
Receive Date: 21-APR-11
Collector: Client
Project: ESHL00210
Client ID: ARSL001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Conductivity Analysis											
EPA120.1 Specific Conductivity "As Received"											
Conductivity		238	1.00	1.00	umhos/cm	1	TXT1	05/04/11	1713	1098942	1
Electrode Analysis											
EPA 150.1 pH "As Received"											
pH at Temp 16.8C	H	6.24	0.010	0.100	SU	1	LXA1	05/02/11	1713	1097993	2
Ion Chromatography											
EPA 300.0 Anions Liquid 28 day "As Received"											
Bromide	U	ND	0.066	0.200	mg/L	1	VH1	04/22/11	0716	1094674	3
Fluoride		0.149	0.033	0.100	mg/L	1					
Sulfate		9.08	0.100	0.400	mg/L	1					
Chloride		24.1	0.132	0.400	mg/L	2	VH1	04/23/11	2037	1094674	4
Nutrient Analysis											
EPA 350.1 Nitrogen, Ammonia L "As Received"											
Nitrogen, Ammonia	U	ND	0.016	0.050	mg/L	1	KLP1	04/26/11	1039	1094661	5
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite	U	ND	0.100	0.500	mg/L	10	KLP1	05/10/11	1649	1095971	6
EPA 365.4 Phosphorus, Total in "As Received"											
Phosphorus, Total as P		0.227	0.015	0.050	mg/L	1	KLP1	04/22/11	1047	1094656	7
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		186	2.38	10.0	mg/L		LYG1	04/26/11	1413	1095920	8
Titration Analysis											
EPA 310.1 Total Alkalinity "As Received"											
Alkalinity, Total as CaCO3		66.8	0.725	1.00	mg/L		LXA1	05/03/11	1620	1098167	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	AXS5	04/25/11	1557	1094660
EPA 365.4 Prep	EPA 365.4 Phosphorus, Total in liquid PR	AXS5	04/21/11	1818	1094655

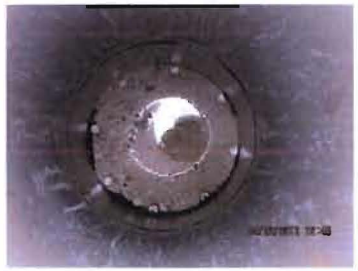
Photographs

SERF Evaporation Basins and Leak Inspection Pipes

Inspection Dates:

4/12/2011
5/17/2011
6/15/2011

West basin, west inspection Pipe. (4/12/2011)



West basin, East inspection Pipe. (4/12/2011)

East basin, West inspection pipe. (4/12/2011)

East basin, East inspection Pipe. (4/12/2011)

East basin influent pipe. (4/12/2011)

East basin overflow pipe (4/12/2011)

West basin overflow pipe (4/12/2011)

West basin influent pipe. (4/12/2011)

EVAPORATION POND RECORD
APRIL 12, 2011

West basin, west inspection Pipe. (5/17/2011)

West basin, East inspection Pipe (5/17/2011)

East basin West inspection Pipe. (5/17/2011)

East basin, East inspection Pipe. (5/17/2011)

East basin influent pipe. (5/17/2011)

East basin overflow pipe. (5/17/2011)

West basin overflow pipe. (5/17/2011)

West basin influent pipe. (5/17/2011)

EVAPORATION POND RECORD
MAY 17, 2011

West basin, west inspection Pipe. (6/15/2011)

West basin, East inspection Pipe (6/15/2011)

East basin West inspection Pipe. (6/15/2011)

East basin, East inspection Pipe. (6/15/2011)

East basin influent pipe. (6/15/2011)

East basin overflow pipe. (6/15/2011)

West basin overflow pipe. (6/15/2011)

West basin influent pipe. (6/15/2011)

EVAPORATION POND RECORD
JUNE 15, 2011