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NMED Hazardous Waste Bureau

Los Alamos
NATIONAL LABORATORY
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Environmental Protection Division
Water Quality & RCRA Group (ENV-RCRA)
P.O. Box 1663, K490
Los Alamos, New Mexico 87545
(505) 667-0666

National Nuclear Security Administration
Los Alamos Site Office, A316
3747 West Jemez Road
Los Alamos, New Mexico 87545
(505) 667-5794/FAX (505) 667-5948

Date: JUL 17 2012
Refer To: ENV-RCRA-12-0164
LAUR: 12-22777

Mr. Jerry Schoeppner, 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. Schoeppner:

SUBJECT: DISCHARGE PERMIT DP-857 QUARTERLY REPORT, SECOND QUARTER 2012, TA-46 SANITARY WASTEWATER SYSTEMS PLANT

This letter and enclosures from the U.S. Department of Energy and Los Alamos National Security LLC (DOE/LANS) are the second quarter 2012 Discharge Permit DP-857 report for the Technical Area (TA)-46 Sanitary Wastewater Systems (SWWS) Plant. Quarterly reports are submitted to the New Mexico Environment Department, Ground Water Quality Bureau, in accordance with the reporting requirements of the January 7, 1998, renewal letter for Discharge Permit DP-857.

Table 1.0 provides water quality data from sampling conducted at the TA-46 SWWS Plant's reuse wet well and National Pollutant Discharge Elimination System (NPDES) Outfalls 001 and 03A027. No sample was collected from Cañada del Buey Observation Well (CDBO)-6 during the second quarter of 2012 because there was insufficient water in the well. The water level at CDBO-6 is measured each quarter and a sample is collected whenever sufficient water is present. 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 submitted to DOE/LANS by GEL Laboratories LLC.

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Table 2.0 reports that the water level in CDBO-6 for the second quarter of 2012 was below the top of the pump.

Table 3.0 reports discharge volumes from the SWWS Plant's force main to TA-3, the Power Plant's NPDES Outfall 001, and the Super Computing Complex (SCC) NPDES Outfall 03A027. In addition, Table 3.0 reports the volume of SWWS Plant reuse water used by the SCC cooling towers during the second quarter of 2012. No reuse water was used by the SCC cooling towers during the second quarter of 2012 because the Sanitary Effluent Reclamation Facility (SERF) did not operate.

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 2012.

On April 26, 2012, DOE/LANS submitted to the NMED Ground Water Quality Bureau a Discharge Permit DP-857 Quarterly Report for the first quarter of 2012 (ENV-RCRA-12-0092). Table 3.0 of the referenced report incorrectly listed a discharge volume at NPDES Outfall 001 for March 2012 of 10,433,000 gallons; the correct discharge volume was 9,788,000 gallons. Enclosure 3.0 provides a revised Table 3.0.

Please contact Robert S. Beers by telephone at (505) 667-7969 or by email at bbeers@lanl.gov if you have questions regarding this report.

Sincerely,

Alison M. Dorries
Division Leader
Environmental Protection Division
Los Alamos National Security, LLC

Sincerely,

Gene E. Turner
Environmental Permitting Manager
Environmental Projects Office
Los Alamos Site Office
Department of Energy

Enclosures:

1. GEL Laboratories LLC Certificate of Analysis Reports
2. Monthly inspection photographs of SERF evaporation basins
3. Discharge Permit DP-857 Quarterly Report, First Quarter 2012, Revised Table 3.0

AMD:GET:RSB/lm

Cy: James Hogan, NMED/SWQB, Santa Fe, NM, w/enc.
John E. Kieling, NMED/HWB, Santa Fe, NM, w/enc.
Steve W. Yanicak, NMED/DOE/OB, w/enc., M894, (E-File)
Hai Shen, LASO-EPO, w/enc., A316
Gene E. Turner, LASO-EPO, w/enc., A316
Carl A. Beard, PADOPS, w/o enc., A102
Michael T. Brandt, ADESH, w/o enc., K491, (E-File)
Alison M. Dorries, ENV-DO, w/o enc., K491, (E-File)
Andrew W. Erickson, UI-DO, w/o enc., K760, (E-File)
Lawrence V. Chavez, UI-OPS, w/enc., K760, (E-File)
Mell A. Smithour, ES-UI, w/enc., K718, (E-File)
Charles H. Barnett, UI-OPS, w/enc., J972, (E-File)
Michael T. Saladen, ENV-RCRA, w/o enc., K490, (E-File)
Robert S. Beers, ENV-RCRA, w/enc., K490
IRM-RMMSO, w/enc., A150, (E-File)
ENV-RCRA Correspondence File, w/enc., K490

Table 1.0 Water Quality Data: SWWS Plant Reuse Water, NPDES Outfalls 001 and 03A027, and CDBO-6. 2nd Quarter, 2012.

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	5/1/2012	SWWS46-12-13876	474	89.3	0.52	0.58	0.08
Sandia Canyon								
NPDES Outfall 001	UF	5/1/2012	SWWS46-12-13874	483	87.6	0.35J	0.57	0.18
NPDES Outfall 03A027	UF	5/1/2012	SWWS46-12-13875	404	12.1	1.1	0.84	0.16
Canada del Buey								
CDBO-6		Dry[5]	Dry[5]	Dry[5]	Dry[5]	Dry[5]	Dry[5]	Dry[5]
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]No Sample means that no sample was collected during the quarter. See cover letter for details.

[5]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 2012

Location	Date	Water Level† (ft)
CDBO-6	5/29/2012	Below top of pump

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-2012	8.497	7.944	0	1.763
May-2012	7.327	6.818	0	1.843
Jun-2012	6.918	6.486	0	2.016

Notes:
[1]In the 2nd quarter of 2012, 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 2012.
[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
4/11/2012	All standpipes are dry or contain minimal amounts of condensate water
5/17/2012	All standpipes are dry or contain minimal amounts of condensate water
6/7/2012	All standpipes are dry or contain minimal amounts of condensate water

ENCLOSURE 1

GEL Laboratories LLC Certificate of Analysis Reports

ENV-RCRA-12-0164

LAUR-12-22777

Date: JUL 17 2012

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

ENV-RCRA-12-0164 ENCLOSURE 1 LAUR-12-22777

Certificate of Analysis

Report Date: May 10, 2012

Company :	Los Alamos National Laboratory
Address :	PO Box 1663 TA-03, SM271, Drop Pt. 02U, Rm111 Los Alamos, New Mexico 87545
Contact:	Keith Greene
Project:	LANL WQH WQCC Regs

Client SDG: 12-1270

Client Sample ID:	SWWS46-12-13874	Project:	ESHL00110
Sample ID:	303695001	Client ID:	ARSL001
Matrix:	Water		
Collect Date:	01-MAY-12 14:50		
Receive Date:	03-MAY-12		
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		87.6	0.670	2.00	mg/L	10	VH1	05/09/12	1446	1208949	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite	J	0.352	0.170	0.500	mg/L	10	KLP1	05/07/12	1618	1209625	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.179	0.017	0.050	mg/L	1	KLP1	05/08/12	1205	1209616	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		0.566	0.035	0.100	mg/L	1	KLP1	05/08/12	1056	1209618	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		483	3.40	14.3	mg/L		LYG1	05/04/12	1000	1209532	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	KLP1	05/07/12	1408	1209615
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	05/07/12	1406	1209617

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	

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

Certificate of Analysis

Report Date: May 10, 2012

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545
Contact: Keith Greene
Project: LANL WQH WQCC Regs
Client SDG: 12-1270

Client Sample ID: SWWS46-12-13875
Sample ID: 303695002
Matrix: Water
Collect Date: 01-MAY-12 14:42
Receive Date: 03-MAY-12
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		12.1	0.067	0.200	mg/L	1	VH1	05/08/12	1854	1208949	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite		1.07	0.085	0.250	mg/L	5	KLP1	05/07/12	1553	1209625	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.161	0.017	0.050	mg/L	1	KLP1	05/08/12	1212	1209616	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		0.841	0.035	0.100	mg/L	1	KLP1	05/08/12	1103	1209618	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		404	3.40	14.3	mg/L		LYG1	05/04/12	1000	1209532	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	KLP1	05/07/12	1408	1209615
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	05/07/12	1406	1209617

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	

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

ENV-RCRA-12-0164 ENCLOSURE 1 LAUR-12-22777

Certificate of Analysis

Report Date: May 10, 2012

Company :	Los Alamos National Laboratory
Address :	PO Box 1663 TA-03, SM271, Drop Pt. 02U, Rm111 Los Alamos, New Mexico 87545
Contact:	Keith Greene
Project:	LANL WQH WQCC Regs

Client SDG: 12-1270

Client Sample ID:	SWWS46-12-13876	Project:	ESHL00110
Sample ID:	303695003	Client ID:	ARSL001
Matrix:	Water		
Collect Date:	01-MAY-12 13:48		
Receive Date:	03-MAY-12		
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		89.3	0.670	2.00	mg/L	10	VH1	05/09/12	1604	1208949	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite		0.520	0.085	0.250	mg/L	5	KLP1	05/07/12	1554	1209625	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.084	0.017	0.050	mg/L	1	KLP1	05/08/12	1213	1209616	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		0.580	0.035	0.100	mg/L	1	KLP1	05/08/12	1104	1209618	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		474	3.40	14.3	mg/L		LYG1	05/04/12	1000	1209532	5

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 350.2 Prep	EPA 350.1 Ammonia Nitrogen Prep	KLP1	05/07/12	1408	1209615
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	05/07/12	1406	1209617

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	

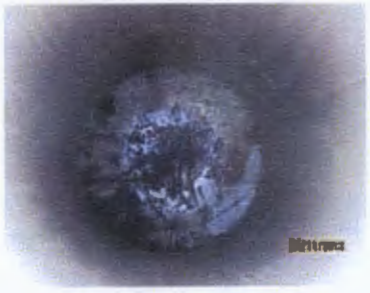
ENCLOSURE 2

Monthly inspection photographs of SERF evaporation basins

ENV-RCRA-12-0164

LAUR-12-22777

Date: JUL 1 7 2012



West basin, West inspection pipe. (04-11-12)

West basin, East inspection pipe. (04-11-12)

East basin, West inspection pipe. (04-11-12)

East basin, East inspection pipe. (04-11-12)

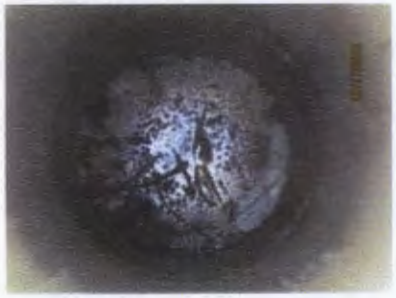
East basin influent pipe. (04-11-12)

East basin overflow pipe. (04-11-12)

West basin overflow pipe. (04-11-12)

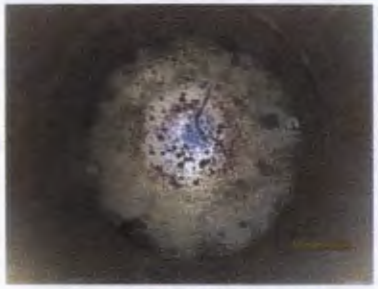
West basin influent pipe. (04-11-12)

SERF EVAPORATION BASINS INSPECTION RECORD
APRIL 11, 2012



West basin, West inspection pipe. (5-17-2012)

West basin, East inspection pipe. (5-17-2012)



East basin, West inspection pipe. (5-17-2012)

East basin, West inspection pipe. (5-17-2012)

East basin influent pipe. (5-17-2012)

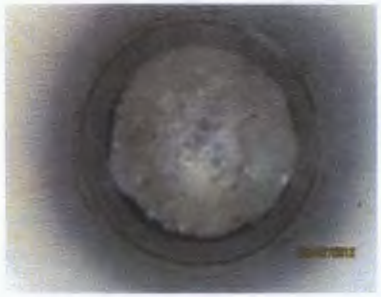
East basin overflow pipe (5-17-2012)

West basin overflow pipe (5-17-2012)

West basin influent pipe. (5-17-2012)

SERF EVAPORATION BASINS INSPECTION RECORD
MAY 17, 2012

West basin, West inspection pipe. (6-7-2012)



West basin, East inspection pipe. (6-7-2012)

East basin, West inspection pipe. (6-7-2012)

East basin, East inspection pipe. (6-7-2012)

East basin, influent pipe. (6-7-2012)

East basin, overflow pipe. (6-7-2012)

West basin, overflow pipe. (6-7-2012)

West basin, influent pipe. (6-7-2012)

SERF EVAPORATION BASINS INSPECTION RECORD
JUNE 7, 2012

ENCLOSURE 3

Discharge Permit DP-857 Quarterly Report
First Quarter 2012
Revised Table 3.0

ENV-RCRA-12-0164

LAUR-12-22777

Date: JUL 1 7 2012

Table 2.0. Water Level in Cañada del Buey Observation Well (CDBO)-6, 1st Quarter 2012

Location	Date	Water Level† (ft)
CDBO-6	3/15/2012	Below top of pump

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]
Jan-2012		10.063	0	1.595
Feb-2012		9.653	0	1.521
Mar-2012		~~10.443~~ 9.788	0	1.655

Notes:
[1]In the 1st quarter of 2012, 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 1st quarter of 2012.
[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
1/11/2012	All standpipes are dry or contain minimal amounts of condensate water
2/22/2012	All standpipes are dry or contain minimal amounts of condensate water
3/6/2012	All standpipes are dry or contain minimal amounts of condensate water