

46

ENTERED



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

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

Date: April 30, 2013
Symbol: ENV-RCRA-13-0077
LAUR: 13-22601

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, FIRST QUARTER 2013, 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 first quarter 2013 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 (NMED), 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 first quarter of 2013 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.

Table 2.0 reports that the water level in CDBO-6 for the first quarter of 2013 was below the top of the pump.



Table 3.0 reports discharge volumes from the SWWS Plant to TA-3, the Power Plant to NPDES Outfall 001, and the Super Computing Complex (SCC) to NPDES Outfall 03A027. In addition, Table 3.0 reports the volume of SWWS Plant reuse water used by the SCC cooling towers during the first quarter of 2013.

Table 4.0 and Enclosure 2.0 present the results from monthly inspections of the leak collection ports (sumps) at the SERF evaporation basins located on Sigma Mesa for the first quarter of 2013. Three of the four SERF evaporation basins currently have leaks in their primary liners: southwest basin, southeast basin, and northeast basin. On March 21, 2013, DOE/LANS provided the NMED (ENV-RCRA-13-0061) with additional information on these leaks and the planned corrective actions to repair them.

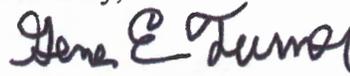
Please contact Robert S. Beers by telephone at (505) 667-7969 or by email at bbeers@lanl.gov if you have questions regarding this report.

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 Field Office
Department of Energy

AMD:GET:RSB/lm

Enclosures:

1. GEL Laboratories LLC Certificate of Analysis Reports
2. Monthly inspection photographs of SERF evaporation basins

Cy: James Hogan, NMED/SWQB, Santa Fe, NM, w/enc.
John E. Kieling, NMED/HWB, Santa Fe, NM, w/enc.
Steven M. Yanicak, NMED/DOE/OB, w/enc., (E-File)
Hai Shen, NA-OO-LA, w/enc., (E-File)
Gene E. Turner, NA-OO-LA, w/enc., (E-File)
Carl A. Beard, PADOPS, w/o enc., A102
Michael T. Brandt, ADESHQ, w/o enc., (E-File)
Alison M. Dorries, ENV-DO, w/o enc., (E-File)
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ENV-RCRA Correspondence File, w/enc., K490

Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

Table 1.0 Water Quality Data: SWWS Plant Reuse Water, NPDES Outfalls 001 and 03A027, and CDBO-6. 1st Quarter, 2013.

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	2/14/2013	SWWS46-13-28675	481	81	3.28	0.75	0.32
Sandia Canyon								
NPDES Outfall 001	UF	2/14/2013	SWWS46-13-28673	271	37.2	0.78	0.27	0.10
NPDES Outfall 03A027	UF	2/14/2013	SWWS46-13-28674	489	43.2	1.6	1.1	0.29
Canada del Buey								
CDBO-6		Dry ⁵						
NM WQCC Regulation 3103 Groundwater 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 NM WQCC Regulation 3103 Groundwater Standard is for NO₃-N.

⁴No Sample means that no sample was collected during the quarter. See cover letter for details.

⁵Dry 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.

Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

Table 2.0. Water Level in Cañada del Buey Observation Well (CDBO)-6, 1st Quarter 2013

Location	Date	Water Level† (ft)
CDBO-6	2/8/2013	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-2013	9.005	8.376	1.263	1.476
Feb-2013	8.436	6.709	0.985	1.346
Mar-2013	8.650	8.151	1.646	1.559

Notes:

¹In the 1st quarter of 2013, 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 1st quarter of 2013.

⁴The 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 Ports.

SERF Basin	Inspection Date	West Port	East Port
Northwest	1/18/2013	dry	2"
Northeast	1/18/2013	<1"	<1"
Southwest	1/18/2013	dry	28"
Southeast	1/18/2013	<1"	27"
Northwest	2/26/2013	dry	4"
Northeast	2/26/2013	18"	39"
Southwest	2/26/2013	dry	30"
Southeast	2/26/2013	1"	27"
Northwest	3/19/2013	dry	7"
Northeast	3/19/2013	106"	104"
Southwest	3/19/2013	dry	dry
Southeast	3/19/2013	dry	1"

ENCLOSURE 1

GEL Laboratories LLC
Certificate of Analysis Reports

ENV-RCRA-13-0077

LAUR-13-22601

APR 30 2013

Date: _____

GEL LABORATORIES LLC

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

Certificate of Analysis

Report Date: February 22, 2013

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: 2013-544

Client Sample ID: SWWS46-13-28673
 Sample ID: 320432001
 Matrix: Water
 Collect Date: 14-FEB-13 11:46
 Receive Date: 15-FEB-13
 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		37.2	0.670	2.00	mg/L	10	VH1	02/20/13	1725 1283358	1
Nutrient Analysis										
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"										
Nitrogen, Nitrate/Nitrite		0.780	0.085	0.250	mg/L	5	KLP1	02/19/13	1406 1283379	2
Nitrogen as Ammonia "As Received"										
Nitrogen, Ammonia		0.103	0.017	0.050	mg/L	1	KLP1	02/20/13	1330 1283373	3
Nitrogen, Total Kjeldahl (TKN) "As Received"										
Nitrogen, Total Kjeldahl		0.268	0.033	0.100	mg/L	1	KLP1	02/19/13	1448 1283378	4
Solids Analysis										
EPA 160.1 Solids, Dissolved-F "As Received"										
Total Dissolved Solids		271	3.40	14.3	mg/L		LYG1	02/18/13	1004 1283145	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	02/20/13	1155	1283371
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	02/19/13	1400	1283376

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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Report Date: February 22, 2013

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: 2013-544

Client Sample ID: SWWS46-13-28674
 Sample ID: 320432002
 Matrix: Water
 Collect Date: 14-FEB-13 11:37
 Receive Date: 15-FEB-13
 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		43.2	0.670	2.00	mg/L	10	VH1	02/20/13	1859	1283358	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite		1.61	0.085	0.250	mg/L	5	KLP1	02/19/13	1407	1283379	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.286	0.017	0.050	mg/L	1	KLP1	02/20/13	1330	1283373	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		1.10	0.033	0.100	mg/L	1	KLP1	02/19/13	1449	1283378	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		489	3.40	14.3	mg/L		LYG1	02/18/13	1004	1283145	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	02/20/13	1155	1283371
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	02/19/13	1400	1283376

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

Report Date: February 22, 2013

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: 2013-544

Client Sample ID: SWWS46-13-28675 Project: ESHL00110
 Sample ID: 320432003 Client ID: ARSL001
 Matrix: Water
 Collect Date: 14-FEB-13 10:50
 Receive Date: 15-FEB-13
 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		81.0	0.670	2.00	mg/L	10	VH1	02/20/13	1931	1283358	1
Nutrient Analysis											
EPA 353.2 Nitrogen, Nitrate/Nitrite "As Received"											
Nitrogen, Nitrate/Nitrite		3.28	0.085	0.250	mg/L	5	KLP1	02/19/13	1408	1283379	2
Nitrogen as Ammonia "As Received"											
Nitrogen, Ammonia		0.316	0.017	0.050	mg/L	1	KLP1	02/20/13	1331	1283373	3
Nitrogen, Total Kjeldahl (TKN) "As Received"											
Nitrogen, Total Kjeldahl		0.749	0.033	0.100	mg/L	1	KLP1	02/19/13	1449	1283378	4
Solids Analysis											
EPA 160.1 Solids, Dissolved-F "As Received"											
Total Dissolved Solids		481	3.40	14.3	mg/L		LYG1	02/18/13	1004	1283145	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	02/20/13	1155	1283371
EPA 351.2 Prep	EPA 351.2 Total Kjeldahl Nitrogen Prep	KLP1	02/19/13	1400	1283376

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 the
SERF evaporation basins

ENV-RCRA-13-0077

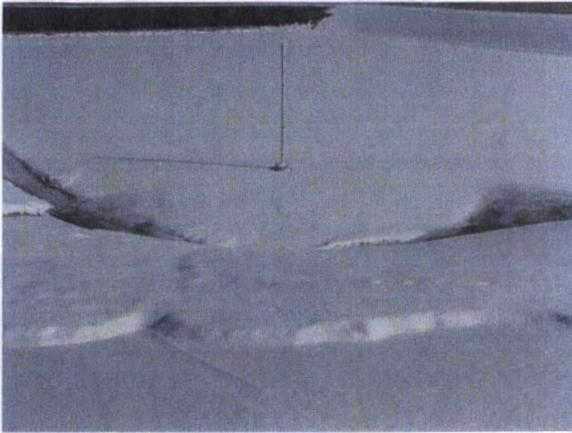
LAUR-13-22601

APR 30 2013

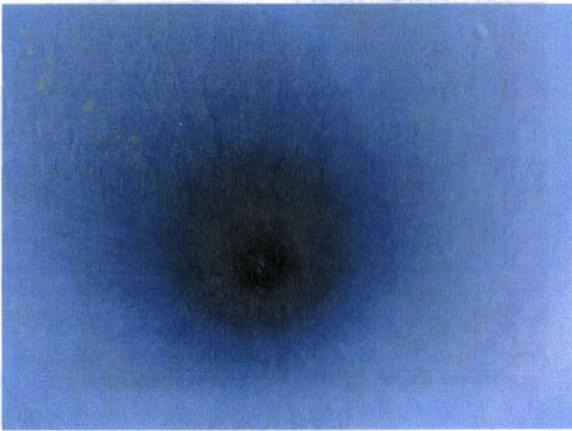
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ENCLOSURE 2
Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

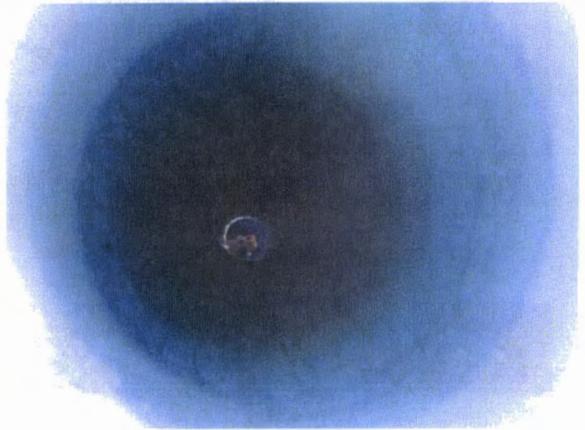
Northwest Basin (1/18/2013)



Northeast Basin (1/18/2013)



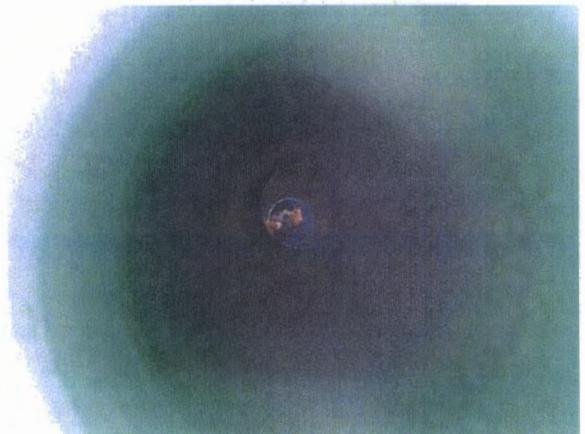
West Port, 0"



West Port, <1"



East Port, 2"



East Port, <1"

ENCLOSURE 2
Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

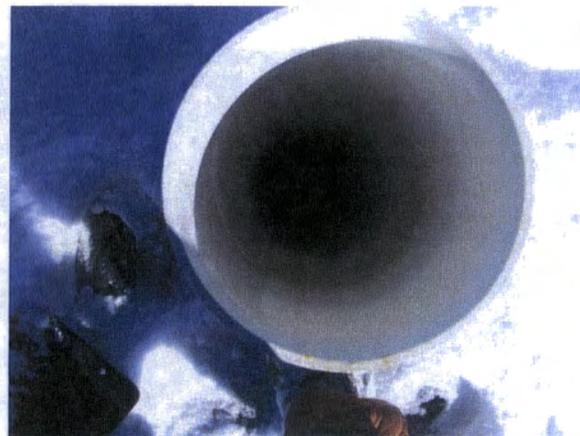
Southwest Basin (1/18/2013)



Southeast Basin (1/18/2013)



West Port, 0"



West Port, <1"



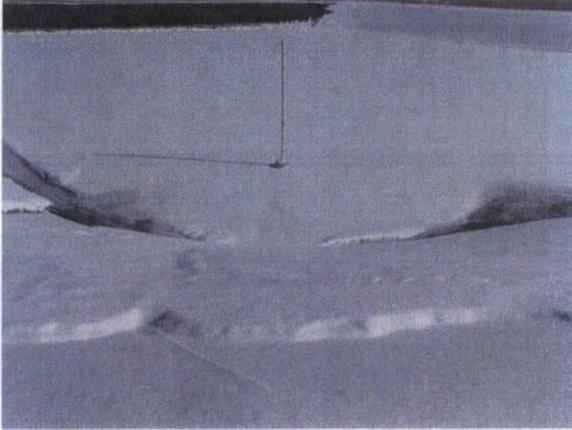
East Port, 28"



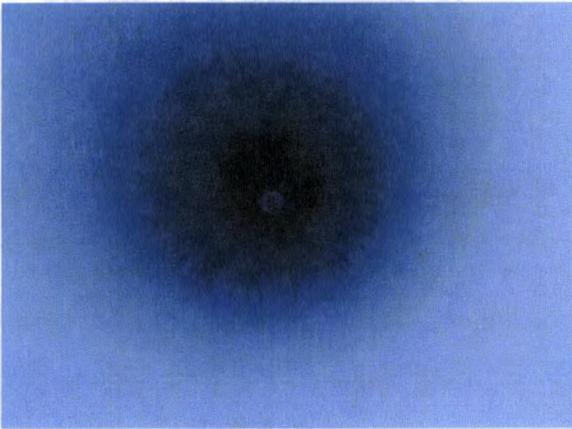
East Port, 27"

ENCLOSURE 2
Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

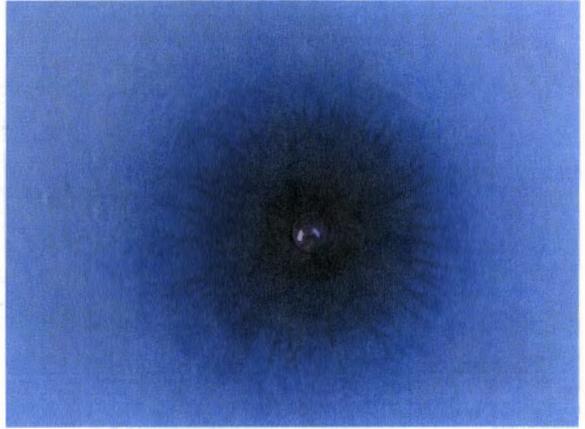
Northwest Basin (2/26/2013)



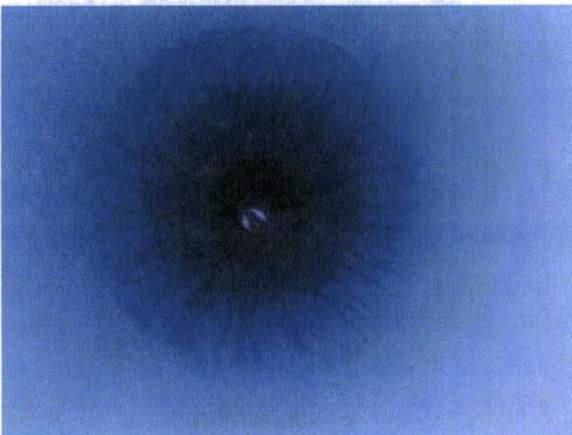
Northeast Basin (2/26/2013)



West Port, 0"



West Port, 18"



East Port, 4"



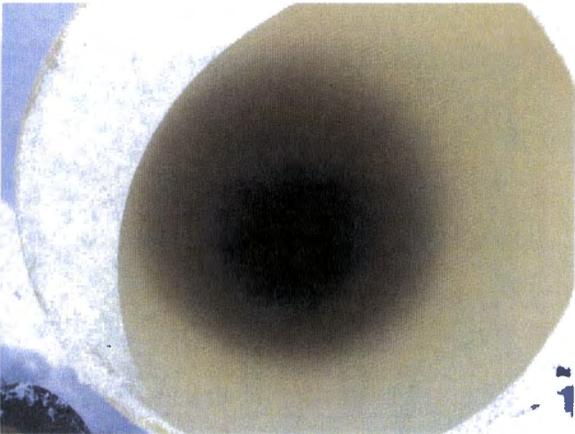
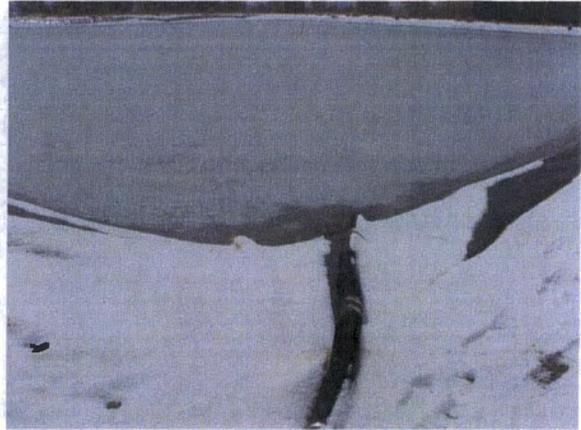
East Port, 39"

ENCLOSURE 2
Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

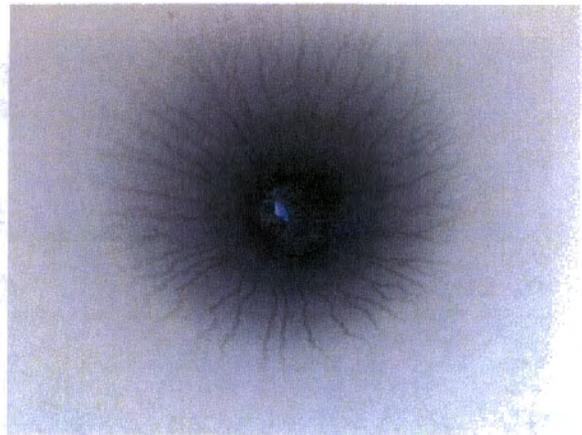
Southwest Basin (2/26/2013)



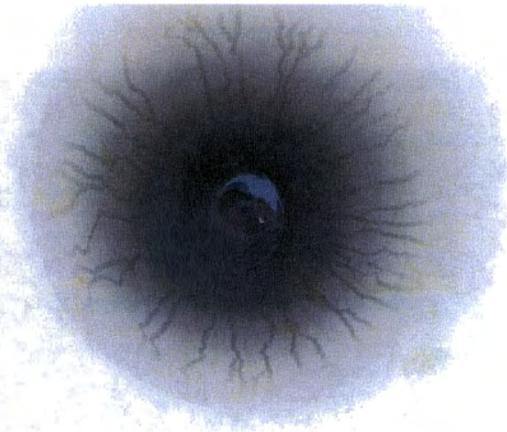
Southeast Basin (2/26/2013)



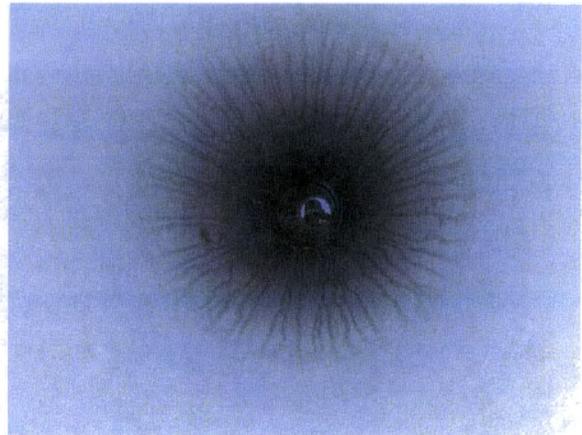
West Port, 0"



West Port, 1"



East Port, 30"



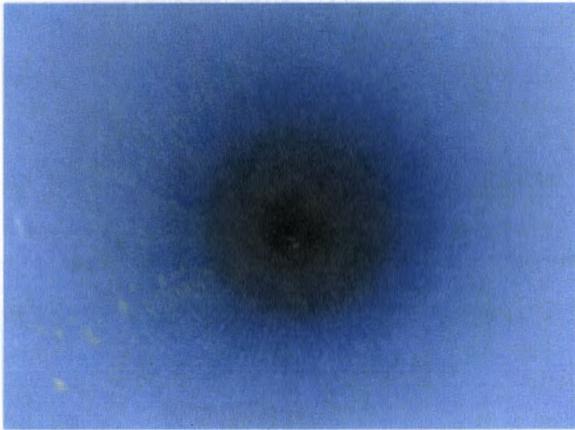
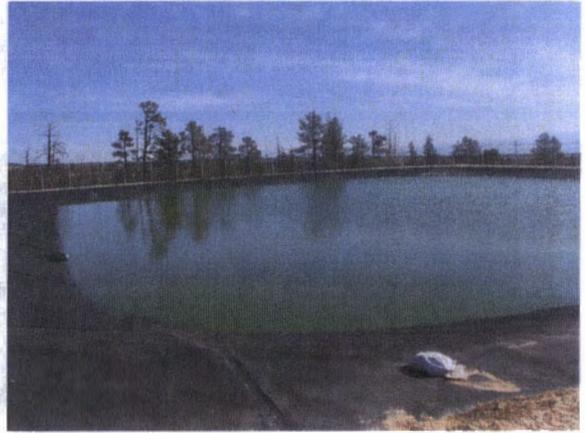
East Port, 26.5"

ENCLOSURE 2
Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

Northwest Basin (3/19/2013)



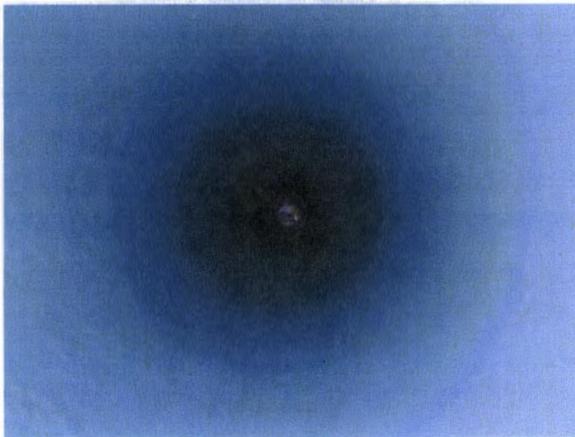
Northeast Basin (3/19/2013)



West Port, 0"



West Port, 106"



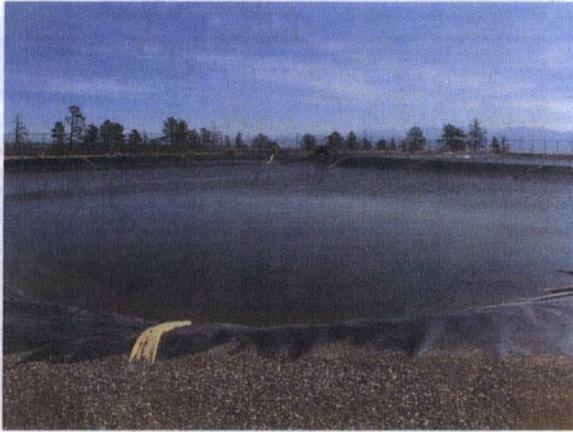
East Port, 6.5"



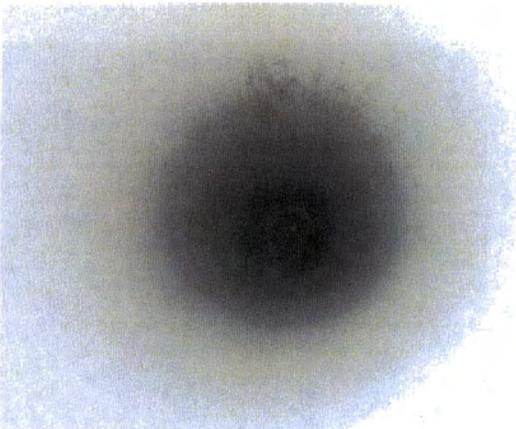
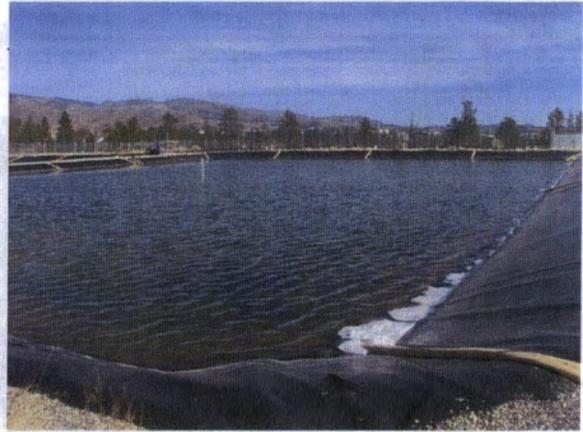
East Port, 104"

ENCLOSURE 2
Discharge Permit DP-857 Quarterly Report
1st Quarter, 2013

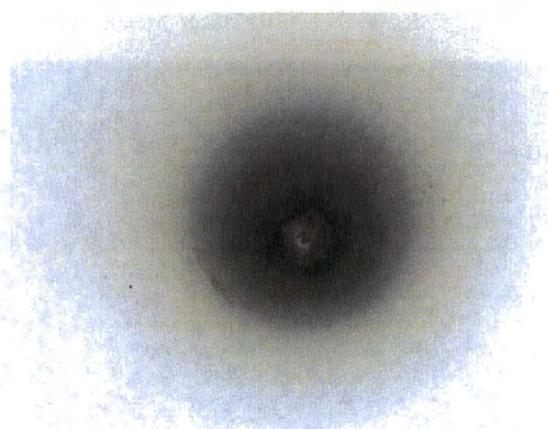
Southwest Basin (3/19/2013)



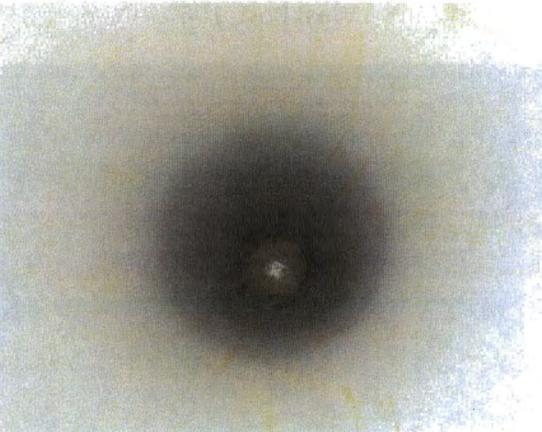
Southeast Basin (3/19/2013)



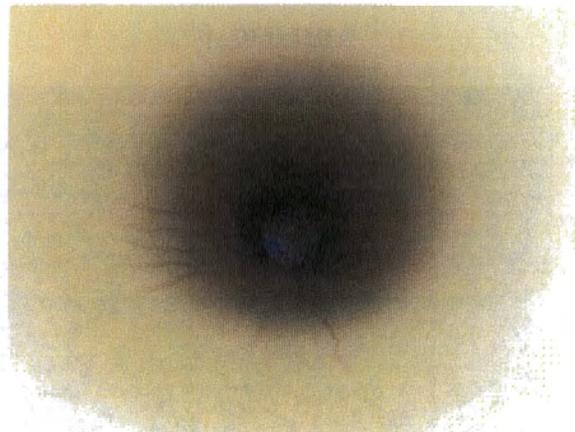
West Port, 0"



West Port, 0"



East Port, 0"



East Port, 1"