ftn Associates Ltd.
water resources / environmental consultants

ENTERGY ARKANSAS, LLC
INDEPENDENCE PLANT
LANDFILL CELLS 12 – 15

2018 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PREPARED IN COMPLIANCE WITH THE EPA FINAL RULE FOR THE DISPOSAL OF COAL COMBUSTION RESIDUALS TITLE 40 CODE OF FEDERAL REGULATIONS PART 257

Entergy®

JANUARY 31, 2019

ENTERGY ARKANSAS, LLC
ENTERGY INDEPENDENCE PLANT
LANDFILL CELLS 12 – 15

2018 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

Prepared for

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FTN No. R07920-1779-001

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1.0 INTRODUCTION

Entergy Arkansas, LLC (Entergy), operates a landfill for the disposal of coal combustion residuals (CCRs) at the Independence plant located near Newark, Arkansas. The landfill receives CCRs generated from the combustion of coal at the plant. Management of the CCRs at the landfill is performed pursuant to national criteria established in Title 40 of the Code of Federal Regulations (40 CFR), Part 257 (CCR rule), published by the US Environmental Protection Agency (EPA) on April 17, 2015. Entergy has installed a groundwater monitoring system at the CCR landfill that is subject to the groundwater monitoring and corrective action requirements provided under §§257.90 through 257.98 of the CCR rule. In accordance with §257.90(e) of the CCR rule, Entergy must prepare an annual report that provides information regarding the groundwater monitoring and corrective action program at the Independence plant CCR landfill. This document is intended to provide the required information.

2.0 GROUNDWATER MONITORING SYSTEM

Entergy's groundwater monitoring system consists of 11 monitoring wells as shown on Figure 1 included in Appendix A. Pursuant to §257.91(f) of the CCR rule, a qualified Arkansas-registered professional engineer has certified the groundwater monitoring system, which was designed and constructed to meet the requirements of §257.91.

3.0 INSTALLED OR DECOMMISSIONED WELLS DURING 2018

Entergy did not install any new wells or decommission any existing wells during 2018.

4.0 GROUNDWATER MONITORING DATA

In accordance with §257.90(e)(3), all monitoring data obtained under §§257.90 through 257.98 during 2018 are provided in Appendix B along with a summary of the number of

groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was collected as part of detection or assessment monitoring. Monitoring data collected prior to 2018 were provided in the 2017 Annual Groundwater Monitoring and Corrective Action Report, which has been posted to Entergy's CCR Rule Compliance Data and Information website.

5.0 STATUS SUMMARY OF THE 2018 GROUNDWATER MONITORING PROGRAM

Groundwater monitoring was performed in accordance with the detection monitoring requirements of §257.94. A summary of activities related to groundwater detection monitoring performed during 2018 is provided in the list below:

- In accordance with §257.91(f), the design and construction of the revised groundwater monitoring system was certified by a qualified Arkansas-registered professional engineer. The revised groundwater monitoring system certification has been posted to Entergy's CCR Rule Compliance Data and Information website.
- In accordance with §257.94(b), semiannual detection monitoring was performed during the first and second half of 2018 for analysis of appendix III parameters.
- Statistical evaluation of the semiannual detection monitoring data was performed in accordance with the statistical method certified by a qualified Arkansas-registered professional engineer. The certified statistical method has been posted to Entergy's CCR Rule Compliance Data and Information website.
- In 2018 Entergy completed a successful alternate source demonstration (ASD) per §257.94(e)(2) in response to statistically significant increases (SSIs) identified during the second half of 2017 detection monitoring event. The ASD was certified by an Arkansas-registered professional engineer and was placed into the facility's operating record. As required by §257.94(e)(2), a copy of the ASD is included as Appendix C. Based on the successful evaluation conducted and results presented in the ASD, Entergy continued with detection monitoring in accordance with §257.94.
- The first half 2018 detection monitoring sampling was performed during March 2018. Based on statistical evaluation of the data, resampling was performed during May 2018 to verify potential statistical exceedances. Results from resampling disconfirmed the initial results. Therefore, no SSIs were

identified during the first half 2018 detection monitoring period and Entergy continued with detection monitoring in accordance with §257.94.

- The second half 2018 semiannual detection monitoring was performed during August 2018. Based on statistical evaluation of the data, no SSIs were identified and Entergy continued with detection monitoring in accordance with §257.94.
- No new problems were encountered during 2018 with regard to the detection monitoring and corrective action system. Therefore, no actions were required for modifying the system.
- The facility remained in detection monitoring for the duration of 2018.

6.0 PROJECTED ACTIVITIES FOR 2019

Planned activities for the program during 2019 are listed below:

- Semiannual detection monitoring is planned for February and August 2019.

APPENDIX A

Site Map

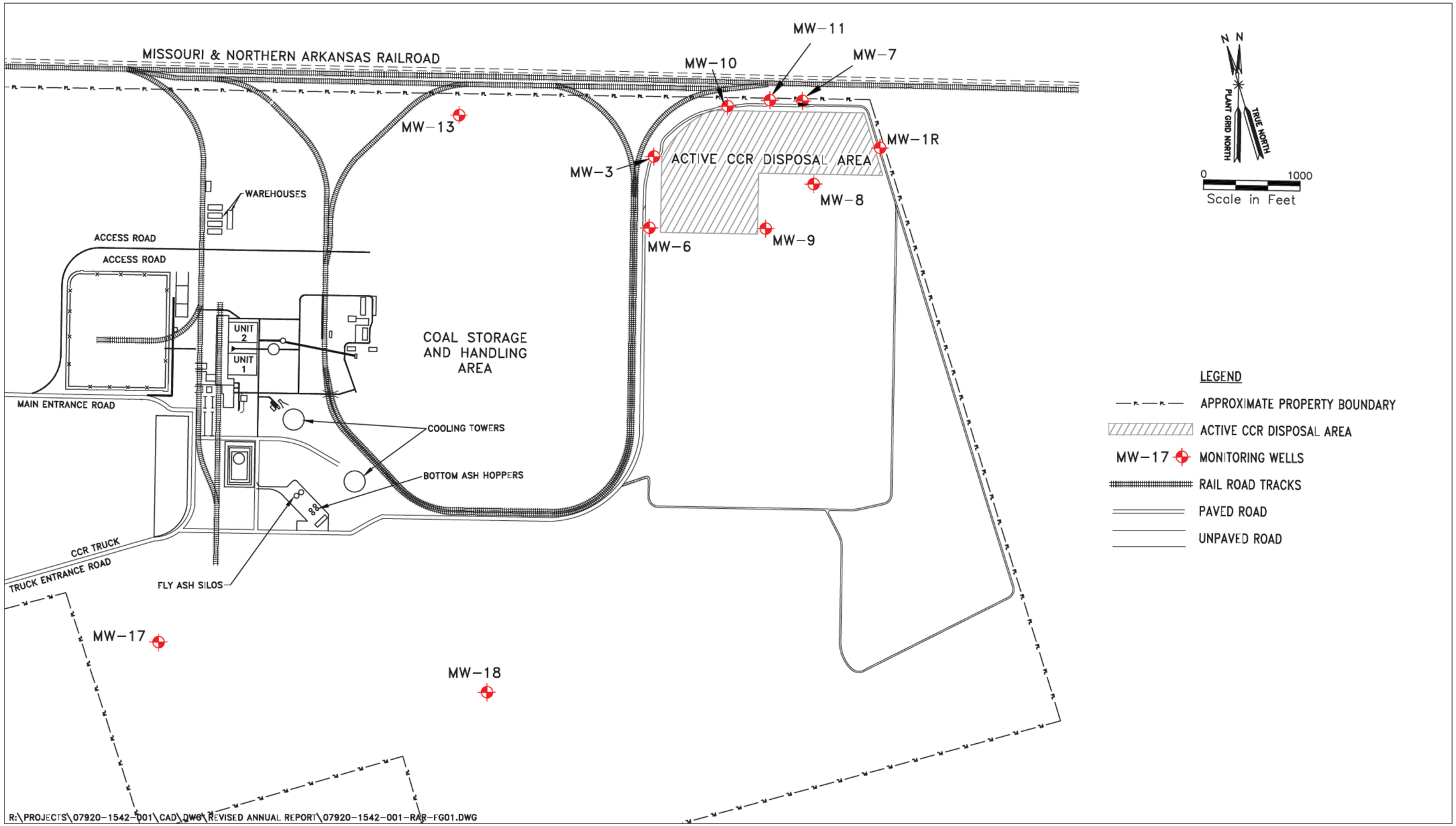

Figure 1. Groundwater monitoring network, Entergy Independence EPA CCR landfill.

APPENDIX B

Groundwater Monitoring Data

Sampling Schedule

Sampling schedule, Entergy Independence EPA CCR landfill network

Well ID	Detection Monitoring Sampling Dates and Wells Sampled			Number of Samples Collected
	3/26-28/2018	5/29/2018	8/15-22/2018	
MW-1R	X		X	2
MW-3	X		X	2
MW-6	X		X	2
MW-7	X		X	2
MW-8	X		X	2
MW-9	X	X	X	3
MW-10	X		X	2
MW-11	X		X	2
MW-13	X		X	2
MW-17	X		X	2
MW-18	X		X	2

Note: All samples collected in 2018 were part of the detection monitoring program. No samples collected in 2018 were part of an assessment monitoring program.

Field pH Data

Field pH data collected during 2018, Entergy Independence EPA CCR landfill network

Well	Date Collected	pH (su)
MW-1R	3/28/2018	6.2
	8/21/2018	6.4
MW-3	3/27/2018	6.5
	8/15/2018	6.4
MW-6	3/27/2018	6.1
	8/15/2018	6.2
MW-7	3/27/2018	7.1
	8/21/2018	6.9
MW-8	3/28/2018	6.2
	8/21/2018	6.3
MW-9	3/28/2018	6.2
	5/29/2018	6.3
	8/21/2018	6.2
MW-10	3/27/2018	6.9
	8/15/2018	6.5
MW-11	3/27/2018	6.7
	8/16/2018	6.6
MW-13	3/27/2018	6.5
	8/15/2018	6.7
MW-17	3/26/2018	5.9
	8/22/2018	6.1
MW-18	3/26/2018	6.2
	8/22/2018	6.5

Laboratory Analytical Data

ANALYTICAL REPORT

April 05, 2018

FTN Associates - Little Rock, AR

Sample Delivery Group:	L981419
Samples Received:	03/29/2018
Project Number:	07920-1779-001
Description:	Entergy Independence Landfill
Report To:	Dana Derrington 3 Innwood Circle, Suite 220 Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

MW-1R L981419-01 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/28/18 10:15	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1092053	1	04/02/18 15:06	04/02/18 16:01	MMF
Wet Chemistry by Method 9056A	WG1091197	1	04/02/18 23:24	04/02/18 23:24	MAJ
Wet Chemistry by Method 9056A	WG1091197	5	04/02/18 23:38	04/02/18 23:38	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 10:42	TRB

MW-3 L981419-02 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/27/18 10:35	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091752	1	03/31/18 15:43	03/31/18 16:43	MMF
Wet Chemistry by Method 9056A	WG1091197	1	04/02/18 23:51	04/02/18 23:51	MAJ
Wet Chemistry by Method 9056A	WG1092859	5	04/03/18 18:03	04/03/18 18:03	DR
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11 03	TRB

MW-6 L981419-03 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/27/18 09:50	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091752	1	03/31/18 15:43	03/31/18 16:43	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 00:09	03/31/18 00:09	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:13	TRB

MW-7 L981419-04 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/27/18 14:35	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091753	1	04/02/18 12:10	04/02/18 13:11	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 00:22	03/31/18 00:22	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:17	TRB

MW-8 L981419-05 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/28/18 11:00	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1092054	1	04/02/18 14:36	04/02/18 15:05	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 01:11	03/31/18 01:11	MAJ
Wet Chemistry by Method 9056A	WG1092074	5	04/01/18 11:31	04/01/18 11:31	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:20	TRB

MW-9 L981419-06 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/28/18 11:55	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1092054	1	04/02/18 14:36	04/02/18 15:05	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 01:49	03/31/18 01:49	MAJ
Wet Chemistry by Method 9056A	WG1092074	5	04/01/18 11:44	04/01/18 11:44	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:23	TRB

MW-10 L981419-07 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/27/18 11:20	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091753	1	04/02/18 12:10	04/02/18 13:11	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 02:01	03/31/18 02:01	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:27	TRB

MW-11 L981419-08 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/27/18 13:40	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091753	1	04/02/18 12:10	04/02/18 13:11	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 02:13	03/31/18 02:13	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:30	TRB

MW-13 L981419-09 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/27/18 08:50	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091753	1	04/02/18 12:10	04/02/18 13:11	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 02:26	03/31/18 02:26	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:34	TRB

MW-17 L981419-10 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/26/18 14 50	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091220	1	03/30/18 13:37	03/30/18 14:12	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 02:38	03/31/18 02:38	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:37	TRB

MW-18 L981419-11 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/26/18 14 00	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1091220	1	03/30/18 13:37	03/30/18 14:12	MMF
Wet Chemistry by Method 9056A	WG1091292	1	03/31/18 02:51	03/31/18 02:51	MAJ
Metals (ICP) by Method 6010B	WG1091261	1	03/29/18 19:00	03/30/18 11:41	TRB

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Technical Service Representative

Gravimetric Analysis by Method 2540 C-2011

Analyte	Resu t ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	597000		2820	10000	1	04/02/2018 16:01	WG1092053

Wet Chemistry by Method 9056A

Analyte	Resu t ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	90700		51.9	1000	1	04/02/2018 23:24	WG1091197
Fluoride	167		9.90	100	1	04/02/2018 23:24	WG1091197
Sulfate	129000		387	25000	5	04/02/2018 23:38	WG1091197

Metals (ICP) by Method 6010B

Analyte	Resu t ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	104	J	12.6	200	1	03/30/2018 10:42	WG1091261
Calcium	90700		46.3	1000	1	03/30/2018 10:42	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	551000		2820	10000	1	03/31/2018 16:43	WG1091752

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	45500		51.9	1000	1	04/02/2018 23:51	WG1091197
Fluoride	190		9.90	100	1	04/02/2018 23:51	WG1091197
Sulfate	117000		387	25000	5	04/03/2018 18 03	WG1092859

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	617		12.6	200	1	03/30/2018 11:03	WG1091261
Calcium	71800		46.3	1000	1	03/30/2018 11:03	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	377000		2820	10000	1	03/31/2018 16:43	WG1091752

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	32600		51.9	1000	1	03/31/2018 00:09	WG1091292
Fluoride	126		9.90	100	1	03/31/2018 00:09	WG1091292
Sulfate	94500		77.4	5000	1	03/31/2018 00:09	WG1091292

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	83.9	J	12.6	200	1	03/30/2018 11:13	WG1091261
Calcium	64500		46.3	1000	1	03/30/2018 11:13	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	628000		2820	10000	1	04/02/2018 13:11	WG1091753

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	26800		51.9	1000	1	03/31/2018 00:22	WG1091292
Fluoride	818		9.90	100	1	03/31/2018 00:22	WG1091292
Sulfate	72600		77.4	5000	1	03/31/2018 00:22	WG1091292

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	105	J	12.6	200	1	03/30/2018 11:17	WG1091261
Calcium	49700		46.3	1000	1	03/30/2018 11:17	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	683000		2820	10000	1	04/02/2018 15:05	WG1092054

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	84400		51.9	1000	1	03/31/2018 01:11	WG1091292
Fluoride	204		9.90	100	1	03/31/2018 01:11	WG1091292
Sulfate	205000		387	25000	5	04/01/2018 11:31	WG1092074

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	261		12.6	200	1	03/30/2018 11:20	WG1091261
Calcium	101000		46.3	1000	1	03/30/2018 11:20	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	748000		2820	10000	1	04/02/2018 15:05	WG1092054

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	68600		51.9	1000	1	03/31/2018 01:49	WG1091292
Fluoride	174		9.90	100	1	03/31/2018 01:49	WG1091292
Sulfate	249000		387	25000	5	04/01/2018 11:44	WG1092074

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	347		12.6	200	1	03/30/2018 11:23	WG1091261
Calcium	102000		46.3	1000	1	03/30/2018 11:23	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	1210000		2820	10000	1	04/02/2018 13:11	WG1091753

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	13200		51.9	1000	1	03/31/2018 02:01	WG1091292
Fluoride	472		9.90	100	1	03/31/2018 02:01	WG1091292
Sulfate	U		77.4	5000	1	03/31/2018 02:01	WG1091292

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	5440		12.6	200	1	03/30/2018 11:27	WG1091261
Calcium	183000		46.3	1000	1	03/30/2018 11:27	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	402000		2820	10000	1	04/02/2018 13:11	WG1091753

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	44600		51.9	1000	1	03/31/2018 02:13	WG1091292
Fluoride	229		9.90	100	1	03/31/2018 02:13	WG1091292
Sulfate	65800		77.4	5000	1	03/31/2018 02:13	WG1091292

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	182	J	12.6	200	1	03/30/2018 11:30	WG1091261
Calcium	64200		46.3	1000	1	03/30/2018 11:30	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	439000		2820	10000	1	04/02/2018 13:11	WG1091753

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	8080		51.9	1000	1	03/31/2018 02:26	WG1091292
Fluoride	335		9.90	100	1	03/31/2018 02:26	WG1091292
Sulfate	78600		77.4	5000	1	03/31/2018 02:26	WG1091292

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	439		12.6	200	1	03/30/2018 11:34	WG1091261
Calcium	73600		46.3	1000	1	03/30/2018 11:34	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	203000		2820	10000	1	03/30/2018 14:12	WG1091220

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	4540		51.9	1000	1	03/31/2018 02:38	WG1091292
Fluoride	101		9.90	100	1	03/31/2018 02:38	WG1091292
Sulfate	18500		77.4	5000	1	03/31/2018 02:38	WG1091292

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	747	J	12.6	200	1	03/30/2018 11:37	WG1091261
Calcium	43100		46.3	1000	1	03/30/2018 11:37	WG1091261

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	281000		2820	10000	1	03/30/2018 14:12	WG1091220

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	6280		51.9	1000	1	03/31/2018 02:51	WG1091292
Fluoride	108		9.90	100	1	03/31/2018 02:51	WG1091292
Sulfate	32900		77.4	5000	1	03/31/2018 02:51	WG1091292

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	43.3	J	12.6	200	1	03/30/2018 11:41	WG1091261
Calcium	65000		46.3	1000	1	03/30/2018 11:41	WG1091261

Method Blank (MB)

(MB) R3298295-1 03/30/18 14:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L981208-02 Original Sample (OS) • Duplicate (DUP)

(OS) L981208-02 03/30/18 14:12 • (DUP) R3298295-4 03/30/18 14:12

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	491000	498000	1	1.42		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298295-2 03/30/18 14:12 • (LCSD) R3298295-3 03/30/18 14:12

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8480000	8580000	96.4	97.5	85 0-115			1.17	5

Method Blank (MB)

(MB) R3299059-1 03/31/18 16:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L981643-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981643-01 03/31/18 16:43 • (DUP) R3299059-4 03/31/18 16:43

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	938000	962000	1	2.53		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3299059-2 03/31/18 16:43 • (LCSD) R3299059-3 03/31/18 16:43

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8490000	8560000	96 5	97.3	85 0-115			0.821	5

Method Blank (MB)

(MB) R3299068-1 04/02/18 13:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L981419-04 Original Sample (OS) • Duplicate (DUP)

(OS) L981419-04 04/02/18 13:11 • (DUP) R3299068-4 04/02/18 13:11

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	628000	612000	1	2.58		5

L981761-06 Original Sample (OS) • Duplicate (DUP)

(OS) L981761-06 04/02/18 13:11 • (DUP) R3299068-5 04/02/18 13:11

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	848000	860000	1	1.41		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3299068-2 04/02/18 13:11 • (LCSD) R3299068-3 04/02/18 13:11

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8570000	8610000	97.4	97.8	85 0-115			0.466	5

Method Blank (MB)

(MB) R3298648-1 04/02/18 16:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L981200-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981200-01 04/02/18 16:01 • (DUP) R3298648-4 04/02/18 16:01

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	167000	176000	1	5.25	J3	5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298648-2 04/02/18 16:01 • (LCSD) R3298648-3 04/02/18 16:01

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8630000	8640000	98.1	98 2	85 0-115			0.116	5

Method Blank (MB)

(MB) R3298645-1 04/02/18 15:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L981419-05 Original Sample (OS) • Duplicate (DUP)

(OS) L981419-05 04/02/18 15:05 • (DUP) R3298645-4 04/02/18 15:05

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	683000	684000	1	0.146		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298645-2 04/02/18 15:05 • (LCSD) R3298645-3 04/02/18 15:05

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8560000	8580000	97.3	97.5	85 0-115			0.233	5

Method Blank (MB)

(MB) R3298585-1 04/02/18 15:53

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	72.7	J	51.9	1000
Fluoride	U		9.90	100
Sulfate	92 6	J	77.4	5000

L981349-05 Original Sample (OS) • Duplicate (DUP)

(OS) L981349-05 04/02/18 17:09 • (DUP) R3298585-4 04/02/18 17:22

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	3930	4020	1	2.31		15
Fluoride	43.9	56 8	1	25 6	J P1	15
Sulfate	33600	34000	1	1.20		15

L981349-22 Original Sample (OS) • Duplicate (DUP)

(OS) L981349-22 04/02/18 19:50 • (DUP) R3298585-7 04/02/18 20:03

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	5450	5400	1	0.791		15
Fluoride	172	160	1	6.93		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298585-2 04/02/18 16:07 • (LCSD) R3298585-3 04/02/18 16:20

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Chloride	40000	39600	39600	99.1	99.1	80.0-120			0.0396	15
Fluoride	8000	8020	8020	100	100	80.0-120			0.0287	15
Sulfate	40000	40100	40000	100	100	80.0-120			0.0932	15

L981349-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981349-05 04/02/18 17:09 • (MS) R3298585-5 04/02/18 17:35 • (MSD) R3298585-6 04/02/18 17:49

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	3930	59800	54300	112	101	1	80.0-120			9.65	15
Fluoride	5000	43.9	5590	5380	111	107	1	80.0-120			3 67	15

L981349-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981349-05 04/02/18 17:09 • (MS) R3298585-5 04/02/18 17:35 • (MSD) R3298585-6 04/02/18 17:49

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Sulfate	50000	33600	80200	82200	93.1	97.1	1	80.0-120			2.45	15

L981349-22 Original Sample (OS) • Matrix Spike (MS)

(OS) L981349-22 04/02/18 19:50 • (MS) R3298585-8 04/02/18 20:16

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	5450	61900	113	1	80.0-120	
Fluoride	5000	172	5510	107	1	80.0-120	

Method Blank (MB)

(MB) R3298017-1 03/30/18 23:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	116	J	51.9	1000
Fluoride	U		9.90	100
Sulfate	285	J	77.4	5000

L981419-04 Original Sample (OS) • Duplicate (DUP)

(OS) L981419-04 03/31/18 00:22 • (DUP) R3298017-4 03/31/18 00:34

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	26800	26800	1	0.113		15
Fluoride	818	822	1	0.500		15
Sulfate	72600	72500	1	0.146		15

L981482-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981482-01 03/31/18 04:55 • (DUP) R3298017-7 03/31/18 05:07

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	7060	7200	1	2.01		15
Fluoride	73.9	99 7	1	29 7	J P1	15
Sulfate	19000	19400	1	2.15		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298017-2 03/30/18 23:32 • (LCSD) R3298017-3 03/30/18 23:45

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Chloride	40000	40000	40000	100	100	80.0-120			0.0530	15
Fluoride	8000	8630	8600	108	108	80.0-120			0.324	15
Sulfate	40000	41300	41200	103	103	80.0-120			0.440	15

L981419-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981419-04 03/31/18 00:22 • (MS) R3298017-5 03/31/18 00:47 • (MSD) R3298017-6 03/31/18 00:59

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	26800	76600	77100	99 6	101	1	80.0-120			0.628	15
Fluoride	5000	818	6050	6280	105	109	1	80.0-120			3 64	15
Sulfate	50000	72600	120000	120000	94.9	94.9	1	80.0-120	E	E	0.0136	15

L981482-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L981482-01 03/31/18 04:55 • (MS) R3298017-8 03/31/18 05:20

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	7060	57300	101	1	80.0-120	
Fluoride	5000	73.9	5500	108	1	80.0-120	
Sulfate	50000	19000	69800	102	1	80.0-120	

Method Blank (MB)

(MB) R3298329-1 04/01/18 10:37

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		77.4	5000

L981607-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981607-01 04/01/18 13:45 • (DUP) R3298329-6 04/01/18 13:59

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	22100	21900	1	0.501		15

L981925-01 Original Sample (OS) • Duplicate (DUP)

(OS) L981925-01 04/01/18 17:46 • (DUP) R3298329-7 04/01/18 18:00

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	25000	25100	1	0.431		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298329-2 04/01/18 10:51 • (LCSD) R3298329-3 04/01/18 11:04

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Sulfate	40000	40000	39900	100	99 8	80.0-120			0.221	15

L981925-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L981925-01 04/01/18 17:46 • (MS) R3298329-8 04/01/18 18:13

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	25000	71600	93.1	1	80.0-120	

Method Blank (MB)

(MB) R3298827-1 04/03/18 07:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		77.4	5000

L982420-01 Original Sample (OS) • Duplicate (DUP)

(OS) L982420-01 04/03/18 21:39 • (DUP) R3298827-7 04/03/18 21:54

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	15100	15400	1	1.98		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3298827-2 04/03/18 07:26 • (LCSD) R3298827-3 04/03/18 07:42

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Sulfate	40000	38400	38400	96.1	96 0	80.0-120			0.0601	15

L982420-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L982420-01 04/03/18 21:39 • (MS) R3298827-8 04/03/18 22:10

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	15100	64200	98 2	1	80.0-120	

QUALITY CONTROL SUMMARY

L981419-01,02,03,04,05,06,07,08,09,10,11

Method Blank (MB)

(MB) R3297748-1 03/30/18 10:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3297748-2 03/30/18 10:35 • (LCSD) R3297748-3 03/30/18 10:39

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Boron	1000	993	990	99 3	99 0	80.0-120			0.266	20
Calcium	10000	9750	9750	97.5	97.5	80.0-120			0.0624	20

L981419-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L981419-01 03/30/18 10:42 • (MS) R3297748-5 03/30/18 10:49 • (MSD) R3297748-6 03/30/18 10:52

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Boron	1000	104	1100	1100	100	99.4	1	75.0-125			0.508	20
Calcium	10000	90700	99400	99200	86 5	84.2	1	75.0-125			0.238	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have mu tiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value d fferent than 1 is used in this field, the resu t reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a qual ty control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qual fier is provided w thin the Glossary and Definitions page and potentially a discussion of possible implications of the Qual fier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable resu t returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the resu ts column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qual fiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were in tially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The ident fication of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

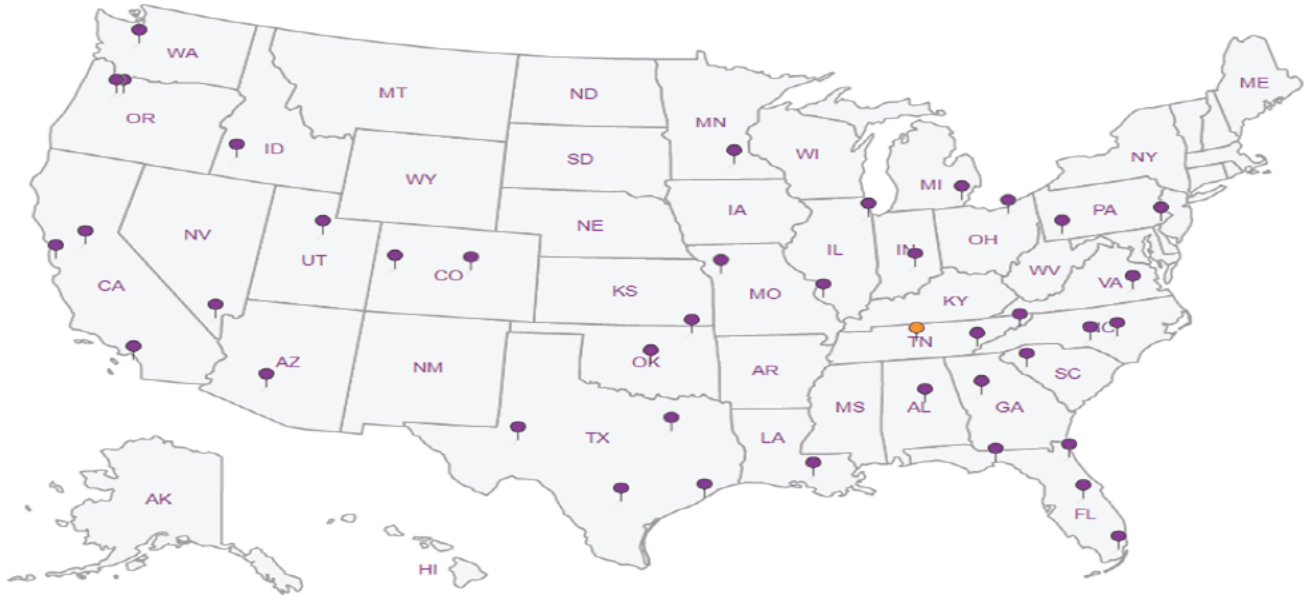
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com; hlf@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-920-9642
Fax:

Client Project # 07920-1779-001

Lab Project # FTNLRAR-ENTERGY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk: ✓

Analysis / Container / Preservative: BICP, CAICP 250mlHDPE-HNO3; Cl, F, SO4, TDS 250mlHDPE-NoPres

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Ctrs	BICP, CAICP 250mlHDPE-HNO3	Cl, F, SO4, TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-1R	Grab	GW		3/28/18	1015	2	X	X		-01
MW-3		GW		3/27/18	1035	2	X	X		-02
MW-6		GW		3/27/18	950	2	X	X		-03
MW-7		GW		3/27/18	1435	2	X	X		-04
MW-8		GW		3/28/18	1100	2	X	X		-05
MW-9		GW		3/28/18	1155	2	X	X		-06
MW-10		GW		3/27/18	1120	2	X	X		-07
MW-11		GW		3/27/18	1340	2	X	X		-08
MW-13		GW		3/27/18	850	2	X	X		-09
MW-17		GW		3/26/18	1450	2	X	X		-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 4269 9211 3135

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Michael Clayton	3/28/18	1400	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			914

Trip Blank Received: Yes / No (circled: No)
HCL / MeoH
TBR

Temp: 2.2 °C Bottles Received: 22

Date: 3/29/18 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N

Chain of Custody Page 2 of 2

ESC LABS SCIENCES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 914419

B048

Acctnum: FTNLRAR
Template: T133438
Prelogin: P643047
TSR: 134 - Mark W. Beasley
PB: 3-5-18 Gm

Shipped Via: FedEX Ground

FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: **Dana Derrington**

Email To: **dld@ftn-assoc.com; hlf@ftn-assoc.com**

Project Description: **Entergy Independence Landfill**

City/State Collected:

Phone: **501-920-9642**
Fax:

Client Project # **07920-1779-001**

Lab Project # **FTNLRAR-ENTERGY**

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BICP, CAICP 250mlHDPE-HNO3	Cl, F, SO4, TDS 250mlHDPE-NoPres									Remarks	Sample # (lab only)
MW-18	Grab	GW		3/26/18	1400	2	X	X										-11
		GW				2	X	X										
		GW				2	X	X										

Chain of Custody Page 2 of 2

ESC LAB SCIENCES
a subsidiary of Pace Analytical
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L # 981419

Table #

Acctnum: **FTNLRAR**
Template: **T133438**
Prelogin: **P643047**
TSR: **134 - Mark W. Beasley**
PB: 3-5-18 G

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 4269 9211 3135

Sample Receipt Checklist
COC Seal Present/Intact: NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Michael Clayton	3/28/18	1400		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.3 °C Bottles Received: 22
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) 904	Date: 3/29/18 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

ANALYTICAL REPORT

April 12, 2018

FTN Associates - Little Rock, AR

Sample Delivery Group:	L984448
Samples Received:	03/29/2018
Project Number:	07920-1779-001
Description:	Entergy Independence Landfill
Report To:	Dana Derrington 3 Innwood Circle, Suite 220 Little Rock, AR 72211

Entire Report Reviewed By:

Mark W. Beasley
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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MW-6 L984448-01 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/27/18 09:50	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1096737	1	04/11/18 21:50	04/11/18 21:50	MAJ

MW-9 L984448-02 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	03/28/18 11:55	03/29/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1096737	1	04/11/18 22:05	04/11/18 22:05	MAJ

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Mark W. Beasley
Technical Service Representative

Wet Chemistry by Method 9056A

Analyte	Resu t ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Fluoride	119		9.90	100	1	04/11/2018 21 50	WG1096737

Wet Chemistry by Method 9056A

Analyte	Resu t ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	67400		51.9	1000	1	04/11/2018 22:05	WG1096737

Method Blank (MB)

(MB) R3301138-1 04/11/18 19:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100

L984480-01 Original Sample (OS) • Duplicate (DUP)

(OS) L984480-01 04/11/18 22:20 • (DUP) R3301138-4 04/11/18 22:36

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	37700	37800	1	0.223		15
Fluoride	306	305	1	0.327		15

L984800-03 Original Sample (OS) • Duplicate (DUP)

(OS) L984800-03 04/12/18 01:41 • (DUP) R3301138-7 04/12/18 01:56

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	4570	4730	1	3.40		15
Fluoride	254	238	1	6.51		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3301138-2 04/11/18 19:35 • (LCSD) R3301138-3 04/11/18 19:51

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Chloride	40000	39400	39300	98 5	98 3	80.0-120			0.177	15
Fluoride	8000	8040	8000	100	100	80.0-120			0.450	15

L984480-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984480-01 04/11/18 22:20 • (MS) R3301138-5 04/11/18 22:51 • (MSD) R3301138-6 04/11/18 23:38

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	37700	86600	87200	97.9	99.1	1	80.0-120			0.673	15
Fluoride	5000	306	5180	5340	97.5	101	1	80.0-120			2.94	15

L984800-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L984800-03 04/12/18 01:41 • (MS) R3301138-8 04/12/18 02:43

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	4570	55100	101	1	80.0-120	
Fluoride	5000	254	5470	104	1	80.0-120	

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have mu tiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value d fferent than 1 is used in this field, the resu t reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a qual ty control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qual fier is provided w thin the Glossary and Definitions page and potentially a discussion of possible implications of the Qual fier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable resu t returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the resu ts column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qual fiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were in tially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

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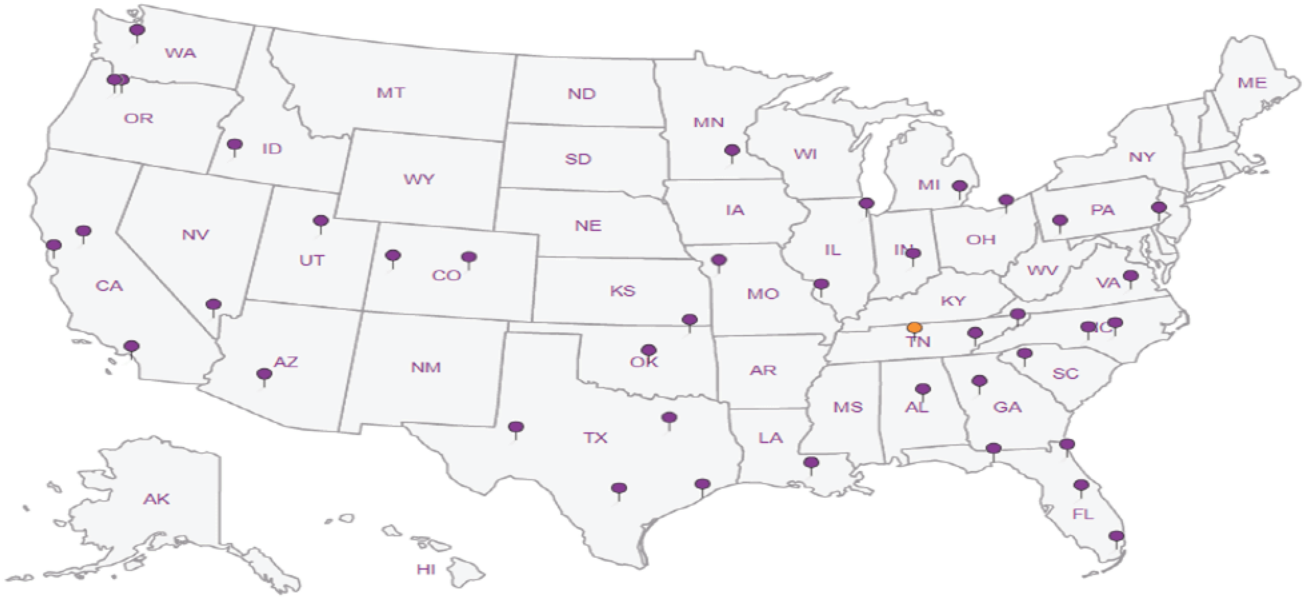

FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

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Report to: Dana Derrington

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Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-920-9642
Fax:

Client Project #: 07920-1779-001

Lab Project #: FTNLRAR-ENTERGY

Collected by (print): Michael Clayton

Site/Facility ID #:

P.O. #:

Collected by (signature): Michael Clayton

Immediately Packed on Ice: N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #:

Date Results Needed:

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

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Phone: 800-767-5859
Fax: 615-758-5859

LN 9x1419 µS 4/10
B048 L984448

Acctnum: FTNLRAR
Template: T133438
Prelogin: P643047
TSR: 134 - Mark W. Beasley
PB: 3-5-18

Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BICP, CAICP 250mlHDPE-HNO3	Cl, F, SO4, TDS 250mlHDPE-NoPres								Remarks	Sample # (lab only)
MW-1R	Grab	GW		3/28/18	1015	2	X	X									-01
MW-3		GW		3/27/18	1025	2	X	X									-02
MW-6		GW		3/27/18	950	2	X	X									-03 01
MW-7		GW		3/27/18	1435	2	X	X									-04
MW-8		GW		3/28/18	1100	2	X	X									-05
MW-9		GW		3/28/18	1155	2	X	X									-06 02
MW-10		GW		3/27/18	1120	2	X	X									-07
MW-11		GW		3/27/18	1340	2	X	X									-08
MW-13		GW		3/27/18	850	2	X	X									-09
MW-17		GW		3/26/18	1450	2	X	X									-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 4269 9211 3135

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Michael Clayton	3/28/18	1400			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.2 °C Bottles Received: 22	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) 914	Date: 3/29/18 Time: 8:45	Hold: Condition: NCF / OK

Matt Shacklock

From: Mark Beasley
Sent: Tuesday, April 10, 2018 7:22 AM
To: Login; Sample Storage
Subject: L981419 *FTNLRAR* relog

Relog the following as EX due 4/13:

L981419-03 for FLUORIDE
L981419-06 for CHLORIDE

Mark Beasley
National Account Manager

ESC Lab Sciences-a subsidiary of Pace Analytical
12065 Lebanon Road | Mt. Juliet, TN 37122
615.773.9672 | Cell 615.330.1602
mbeasley@esclabsciences.com | www.esclabsciences.com

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ANALYTICAL REPORT

June 07, 2018

FTN Associates - Little Rock, AR

Sample Delivery Group:	L997774
Samples Received:	05/30/2018
Project Number:	P07920-1779-001
Description:	Entergy Independence Landfill
Report To:	Dana Derrington 3 Innwood Circle, Suite 220 Little Rock, AR 72211

Entire Report Reviewed By:

Olivia Studebaker
Technical Service Representative

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Al: Accreditations & Locations	8
Sc: Sample Chain of Custody	9

MW-9 L997774-01 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	05/29/18 13:30	05/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1118092	1	05/31/18 19:30	05/31/18 19:30	MAJ

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Olivia Studebaker
Technical Service Representative

Wet Chemistry by Method 9056A

Analyte	Resu t ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	61300		51.9	1000	1	05/31/2018 19:30	WG1118092

Method Blank (MB)

(MB) R3314531-1 05/31/18 11:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3314531-2 05/31/18 11:47 • (LCSD) R3314531-3 05/31/18 12:02

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Chloride	40000	39500	39500	98 8	98 7	80.0-120			0.0413	15

L997804-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L997804-02 05/31/18 22:35 • (MS) R3314531-7 05/31/18 23:06 • (MSD) R3314531-8 05/31/18 23:21

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	1710	48600	60900	93.8	118	1	80.0-120		J3	22 5	15

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have mu tiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest lim t of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a qual ty control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qual fier is provided w thin the Glossary and Definitions page and potentially a discussion of possible implications of the Qual fier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable resu t returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the resu ts column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qual fiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were in tially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

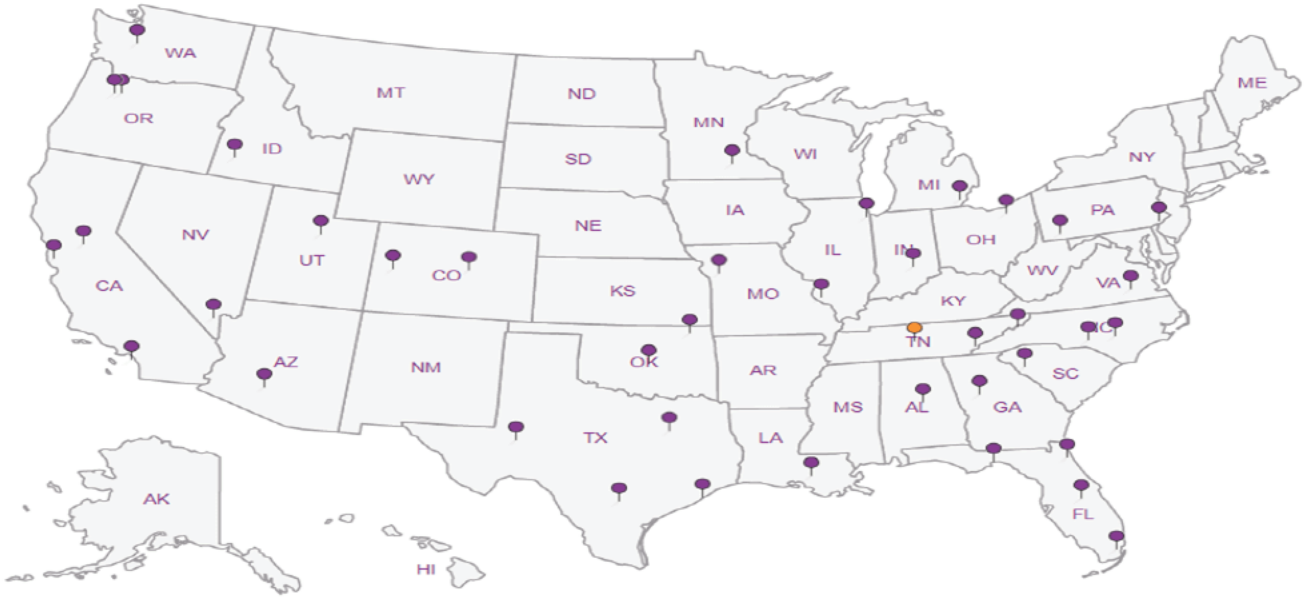
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com, ajp@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project # P07920-1779-001

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Chester

Site/Facility ID #

P.O. #

Collected by (signature): Michael Chester

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Pres Chk

CHLORIDE 125mlHDPE-NoPres

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CHLORIDE 125mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-9	Grab	GW		5/29/18	1330	1	X		-01
		GW				1	X		

Chain of Custody Page 1 of 1

ESC LAB SCIENCES
a subsidiary of Accutest

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L997774

C246

Acctnum: FTNLRAR
Template: T136480
Prelogin: P654577
TSR: 134 - Mark W. Beasley
PB: 5-22-18 AE
Shipped Via: FedEx Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Michael Chester	5/29/18	1530		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.3 °C Bottles Received: 31
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 05/30/18 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 21, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1019138
Samples Received:	08/18/2018
Project Number:	
Description:	Entergy Independence Landfill
Report To:	Dana Derrington 3 Innwood Circle, Suite 220 Little Rock, AR 72211

Entire Report Reviewed By:

Justin Carr
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

MW-3 L1019138-01 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/15/18 13:55	08/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1155474	1	08/22/18 18:25	08/22/18 18:50	MMF
Wet Chemistry by Method 9056A	WG1154936	1	08/21/18 05:16	08/21/18 05:16	ELN
Wet Chemistry by Method 9056A	WG1154936	5	08/21/18 11:10	08/21/18 11:10	ELN
Metals (ICP) by Method 6010B	WG1156845	1	08/25/18 14:45	08/26/18 21:54	RDS

MW-6 L1019138-02 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/15/18 15:25	08/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1155474	1	08/22/18 18:25	08/22/18 18:50	MMF
Wet Chemistry by Method 9056A	WG1154968	1	08/21/18 01:24	08/21/18 01:24	ELN
Wet Chemistry by Method 9056A	WG1155038	5	08/21/18 09:53	08/21/18 09:53	ELN
Metals (ICP) by Method 6010B	WG1156845	1	08/25/18 14:45	08/26/18 21:57	RDS

MW-10 L1019138-03 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/15/18 16:45	08/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1155476	1	08/22/18 18:52	08/22/18 19:14	MMF
Wet Chemistry by Method 9056A	WG1154968	1	08/21/18 01:38	08/21/18 01:38	ELN
Wet Chemistry by Method 9056A	WG1155038	5	08/21/18 10:07	08/21/18 10:07	ELN
Metals (ICP) by Method 6010B	WG1156845	1	08/25/18 14:45	08/26/18 22 00	RDS

MW-11 L1019138-04 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/16/18 13:15	08/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1156004	1	08/24/18 17:38	08/24/18 18 09	MCG
Wet Chemistry by Method 9056A	WG1154968	1	08/21/18 01:53	08/21/18 01:53	ELN
Metals (ICP) by Method 6010B	WG1156845	1	08/25/18 14:45	08/26/18 22 02	RDS

MW-13 L1019138-05 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/15/18 09:15	08/18/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1155476	1	08/22/18 18:52	08/22/18 19:14	MMF
Wet Chemistry by Method 9056A	WG1154968	1	08/21/18 02:07	08/21/18 02:07	ELN
Metals (ICP) by Method 6010B	WG1156845	1	08/25/18 14:45	08/26/18 22 05	RDS

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Justin Carr
Project Manager

Project Narrative

L1019138-04 and -06: TDS analysis was analyzed one day out of holding time due to lab error.

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	497000	J3 J4	2820	10000	1	08/22/2018 18:50	WG1155474

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	42900		51.9	1000	1	08/21/2018 05:16	WG1154936
Fluoride	101	P1	9.90	100	1	08/21/2018 05:16	WG1154936
Sulfate	109000		387	25000	5	08/21/2018 11:10	WG1154936

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	442		12.6	200	1	08/26/2018 21:54	WG1156845
Calcium	71700		46.3	1000	1	08/26/2018 21:54	WG1156845

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	460000	J3 J4	2820	10000	1	08/22/2018 18:50	WG1155474

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	35600		51.9	1000	1	08/21/2018 01:24	WG1154968
Fluoride	80.5	J	9.90	100	1	08/21/2018 01:24	WG1154968
Sulfate	119000		387	25000	5	08/21/2018 09:53	WG1155038

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	102	J	12.6	200	1	08/26/2018 21:57	WG1156845
Calcium	74500		46.3	1000	1	08/26/2018 21:57	WG1156845

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	426000		2820	10000	1	08/22/2018 19:14	WG1155476

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	52500		51.9	1000	1	08/21/2018 01:38	WG1154968
Fluoride	250		9.90	100	1	08/21/2018 01:38	WG1154968
Sulfate	215000		387	25000	5	08/21/2018 10 07	WG1155038

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	1250		12.6	200	1	08/26/2018 22:00	WG1156845
Calcium	94900		46.3	1000	1	08/26/2018 22:00	WG1156845

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	365000	Q	2820	10000	1	08/24/2018 18 09	WG1156004

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	39400		51.9	1000	1	08/21/2018 01 53	WG1154968
Fluoride	163		9.90	100	1	08/21/2018 01 53	WG1154968
Sulfate	27100		77.4	5000	1	08/21/2018 01 53	WG1154968

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	84.5	J	12.6	200	1	08/26/2018 22:02	WG1156845
Calcium	75800		46.3	1000	1	08/26/2018 22:02	WG1156845

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	692000		2820	10000	1	08/22/2018 19:14	WG1155476

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	10400		51.9	1000	1	08/21/2018 02:07	WG1154968
Fluoride	234		9.90	100	1	08/21/2018 02:07	WG1154968
Sulfate	81200		77.4	5000	1	08/21/2018 02:07	WG1154968

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	384		12.6	200	1	08/26/2018 22:05	WG1156845
Calcium	76200		46.3	1000	1	08/26/2018 22:05	WG1156845

Method Blank (MB)

(MB) R3336468-1 08/22/18 18:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1018519-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1018519-03 08/22/18 18:50 • (DUP) R3336468-4 08/22/18 18:50

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	3380000	3350000	1	0.893		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3336468-2 08/22/18 18:50 • (LCSD) R3336468-3 08/22/18 18:50

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	14500000	8640000	164	98 2	85 0-115	J4	J3	50.3	10

Method Blank (MB)

(MB) R3336259-1 08/22/18 19:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	4000		2820	10000

L1019138-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1019138-03 08/22/18 19:14 • (DUP) R3336259-4 08/22/18 19:14

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	426000	428000	1	0.468		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3336259-2 08/22/18 19:14 • (LCSD) R3336259-3 08/22/18 19:14

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8610000	8720000	97.8	99.1	85 0-115			1.27	10

Method Blank (MB)

(MB) R3336673-1 08/24/18 18:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	3000	J	2820	10000

L1018754-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1018754-01 08/24/18 18:09 • (DUP) R3336673-4 08/24/18 18:09

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	110000	131000	1	17.4	J3	5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3336673-2 08/24/18 18:09 • (LCSD) R3336673-3 08/24/18 18:09

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8280000	8360000	94.1	95 0	85 0-115			0.962	10

Method Blank (MB)

(MB) R3335357-1 08/20/18 19:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	128	J	51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1019087-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1019087-09 08/20/18 23:06 • (DUP) R3335357-4 08/20/18 23:22

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	1680	1630	1	2.96		15
Fluoride	28 0	54.1	1	63.6	J P1	15

L1019138-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1019138-01 08/21/18 05:16 • (DUP) R3335357-7 08/21/18 05:32

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	42900	43000	1	0.284		15
Fluoride	101	140	1	32.4	P1	15

L1019087-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1019087-09 08/21/18 09:53 • (DUP) R3335357-10 08/21/18 10:08

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	113000	114000	5	1.17		15

L1019138-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1019138-01 08/21/18 11:10 • (DUP) R3335357-11 08/21/18 11:25

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	109000	108000	5	1.14		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3335357-2 08/20/18 20:07 • (LCSD) R3335357-3 08/20/18 20:22

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Chloride	40000	38300	38300	95 7	95 7	80.0-120			0.0136	15
Fluoride	8000	7610	7610	95 2	95.1	80.0-120			0.0315	15
Sulfate	40000	39000	39100	97.6	97.7	80.0-120			0.0991	15

L1019102-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1019102-04 08/21/18 01:40 • (MS) R3335357-5 08/21/18 01:56 • (MSD) R3335357-6 08/21/18 02:11

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	83300	129000	129000	91.2	91.5	1	80.0-120	E	E	0.118	15
Fluoride	5000	896	5650	5910	95.1	100	1	80.0-120			4.48	15

L1019136-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1019136-01 08/21/18 06:18 • (MS) R3335357-8 08/21/18 06:34 • (MSD) R3335357-9 08/21/18 06:49

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	46300	92000	93000	91.4	93.4	1	80.0-120			1.10	15
Fluoride	5000	172	5110	4970	98 8	96 0	1	80.0-120			2.75	15
Sulfate	50000	4910	52900	51900	95 9	94.0	1	80.0-120			1.81	15

Method Blank (MB)

(MB) R3335206-1 08/20/18 19:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1018061-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1018061-07 08/20/18 21:05 • (DUP) R3335206-4 08/20/18 21:19

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	265000	265000	1	0.0840	E	15
Fluoride	1980	2200	1	10.6		15
Sulfate	45500	45400	1	0.149		15

L1019138-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1019138-05 08/21/18 02:07 • (DUP) R3335206-7 08/21/18 02:22

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	10400	10400	1	0.0326		15
Fluoride	234	270	1	14.6		15
Sulfate	81200	81200	1	0.0344		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3335206-2 08/20/18 19:35 • (LCSD) R3335206-3 08/20/18 19:49

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Chloride	40000	38500	38600	96 3	96 6	80.0-120			0.224	15
Fluoride	8000	7950	7930	99 3	99 2	80.0-120			0.144	15
Sulfate	40000	39800	39900	99 5	99 6	80.0-120			0.123	15

L1018061-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1018061-07 08/20/18 21:05 • (MS) R3335206-5 08/20/18 21:33 • (MSD) R3335206-6 08/20/18 22:17

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	265000	301000	302000	72.9	73.3	1	80.0-120	E V	E V	0.0721	15
Fluoride	5000	1980	4670	4650	53.8	53.5	1	80.0-120	J6	J6	0.294	15
Sulfate	50000	45500	93400	93400	95 9	95 8	1	80.0-120			0.0341	15

L1019138-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1019138-05 08/21/18 02:07 • (MS) R3335206-8 08/21/18 02:38

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	10400	60100	99 3	1	80.0-120	
Fluoride	5000	234	5230	99 8	1	80.0-120	
Sulfate	50000	81200	128000	93.4	1	80.0-120	E

Method Blank (MB)

(MB) R3335322-1 08/21/18 07:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	U		77.4	5000

L1019221-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1019221-01 08/21/18 13:43 • (DUP) R3335322-4 08/21/18 13:57

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	191000	192000	1	0.539	E	15

L1019225-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1019225-01 08/21/18 15:24 • (DUP) R3335322-7 08/21/18 15:38

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	43700	43900	1	0.366		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3335322-2 08/21/18 08:13 • (LCSD) R3335322-3 08/21/18 08:27

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Sulfate	40000	39600	39600	99 0	99 0	80.0-120			0.000	15

L1019221-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1019221-01 08/21/18 13:43 • (MS) R3335322-5 08/21/18 14:11 • (MSD) R3335322-6 08/21/18 14:26

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Sulfate	50000	191000	232000	232000	81.9	82 9	1	80.0-120	E	E	0.200	15

L1019226-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1019226-01 08/21/18 15:52 • (MS) R3335322-8 08/21/18 16:07

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	92900	139000	91.7	1	80.0-120	E

QUALITY CONTROL SUMMARY

L1019138-01,02,03,04,05

Method Blank (MB)

(MB) R3336800-1 08/26/18 21:19

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3336800-2 08/26/18 21:21 • (LCSD) R3336800-3 08/26/18 21:24

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Boron	1000	1010	1000	101	100	80.0-120			0.705	20
Calcium	10000	10200	10200	102	102	80.0-120			0.152	20

L1019597-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1019597-01 08/26/18 21:27 • (MS) R3336800-5 08/26/18 21:32 • (MSD) R3336800-6 08/26/18 21:35

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Boron	1000	ND	1080	1070	101	100	1	75.0-125			0.722	20
Calcium	10000	32400	42700	42600	103	102	1	75.0-125			0.158	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have mu tiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest lim t of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a qual ty control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qual fier is provided w thin the Glossary and Definitions page and potentially a discussion of possible implications of the Qual fier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable resu t returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the resu ts column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qual fiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were in tially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The ident fication of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered w th the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
Q	Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

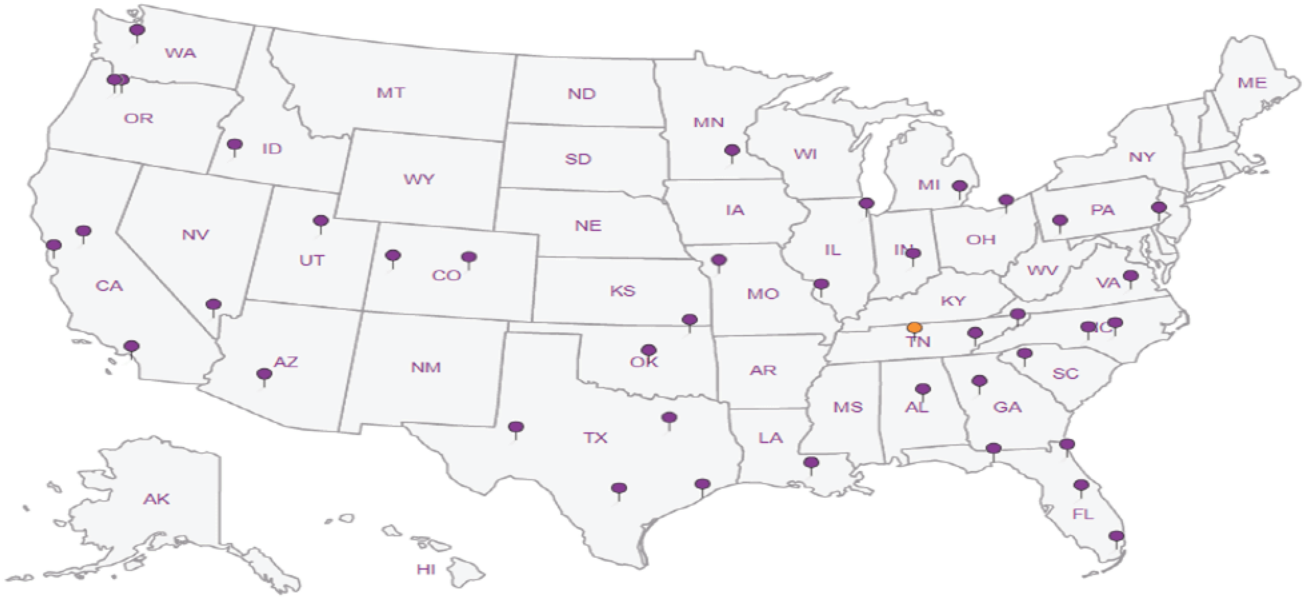
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L#L1019138
C045

Acctnum: FTNLRAR
Template: T139241
Prelogin: P666467
TSR: 134 - Mark W. Beasley
PB: TB 8-8-18
Shipped Via: FedEX Ground

FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk: ✓

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project #

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	B, Ca 250mlHDPE-HNO3	Cl, F, SO4, TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
~~MW-1R~~		GW				~~2~~	~~X~~	~~X~~		
MW-3	Grab	GW		8/15/18	1355	2	X	X		-01
MW-6	Grab	GW		8/15/18	1525	2	X	X		-02
~~MW-7~~		GW				~~2~~	~~X~~	~~X~~		
~~MW-8~~		GW				~~2~~	~~X~~	~~X~~		
~~MW-9~~		GW				~~2~~	~~X~~	~~X~~		
MW-10	Grab	GW		8/15/18	1645	2	X	X		-03
MW-11	Grab	GW	8/16/18	[illegible]	1315	2	X	X		-04
MW-13	Grab	GW		8/15/18	915	2	X	X		-05
~~MW-17~~		GW				~~2~~	~~X~~	~~X~~		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS ✓ FedEx __ Courier _____

Tracking # 4492 6221 8551

Sample Receipt Checklist
COC Seal Present/Intact: ✓NP __Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
L.5 MeOH

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeOH TBR	If preservation required by Login: Date/Time
Michael Clayton	8/17/18	1400			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.0 °C Bottles Received: 12	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/18/18 Time: 0845	Hold: / Condition: NCF / OK

FTN Associates - Little Rock, AR

3 Innwood Circle, Suite 220
Little Rock, AR 72211

Billing Information:
Accounts Payable
3 Innwood Circle, Suite 220
Little Rock, AR 72211

Pres Chk

Report to: Dana Derrington

Email To: dld@ftn-assoc.com, hlf@ftn-assoc.com

Project Description: Entergy Independence Landfill

City/State Collected:

Phone: 501-902-9642
Fax:

Client Project #

Lab Project # FTNLRAR-ENTERGYINDY

Collected by (print): Michael Clayton

Site/Facility ID #

P.O. #

Collected by (signature): Michael Clayton

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L1019138

Table #

Acctnum: FTNLRAR
Template: T139242
Prelogin: P666469
TSR: 134 - Mark W. Beasley
PB: TB 3-8-18
Shipped Via: FedEx Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	B, Ca 250mlHDPE-HNO3	Cl, F, SO4, TDS 250mlHDPE-NoPres								Remarks	Sample # (lab only)
~~EB-1~~		~~GW~~				~~2~~	~~X~~	~~X~~									
MW-11 DUP	Grab	GW		8/16/18	1320	2	X	X									-010
		GW				2	X	X									
		GW				2	X	X									
		GW				2	X	X									

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier __ _____

Tracking # 4492 6221 8551

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N
1.5 ml HCL

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Michael Clayton	8/17/18	1400			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 10 °C Bottles Received: 12	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/18/18 Time: 0845	Hold: / Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 21, 2019

FTN Associates - Little Rock, AR

Sample Delivery Group:	L1020635
Samples Received:	08/24/2018
Project Number:	
Description:	Entergy Independence Landfill
Report To:	Dana Derrington 3 Innwood Circle, Suite 220 Little Rock, AR 72211

Entire Report Reviewed By:

Justin Carr
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

MW-1R L1020635-01 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/21/18 11:45	08/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1157183	1	08/27/18 16 08	08/27/18 16:44	AJS
Wet Chemistry by Method 9056A	WG1158107	1	08/30/18 04:20	08/30/18 04:20	ELN
Wet Chemistry by Method 9056A	WG1158107	5	08/30/18 04:34	08/30/18 04:34	ELN
Metals (ICP) by Method 6010B	WG1158117	1	08/29/18 11 58	08/30/18 22:40	ST

MW-7 L1020635-02 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/21/18 10:40	08/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1157183	1	08/27/18 16 08	08/27/18 16:44	AJS
Wet Chemistry by Method 9056A	WG1158107	1	08/30/18 04:48	08/30/18 04:48	ELN
Metals (ICP) by Method 6010B	WG1158117	1	08/29/18 11 58	08/30/18 22:42	ST

MW-8 L1020635-03 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/21/18 13:05	08/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1157183	1	08/27/18 16 08	08/27/18 16:44	AJS
Wet Chemistry by Method 9056A	WG1158107	1	08/30/18 05:30	08/30/18 05:30	ELN
Wet Chemistry by Method 9056A	WG1159003	5	08/30/18 16:21	08/30/18 16:21	ELN
Metals (ICP) by Method 6010B	WG1158117	1	08/29/18 11 58	08/30/18 22:45	ST

MW-9 L1020635-04 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/21/18 14:15	08/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1157183	1	08/27/18 16 08	08/27/18 16:44	AJS
Wet Chemistry by Method 9056A	WG1158107	1	08/30/18 05:44	08/30/18 05:44	ELN
Wet Chemistry by Method 9056A	WG1159003	5	08/30/18 16:36	08/30/18 16:36	ELN
Metals (ICP) by Method 6010B	WG1158117	1	08/29/18 11 58	08/30/18 22:48	ST

MW-18 L1020635-05 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/22/18 16:55	08/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1157948	1	08/28/18 16:14	08/28/18 16:48	MMF
Wet Chemistry by Method 9056A	WG1158107	1	08/30/18 05:58	08/30/18 05:58	ELN
Metals (ICP) by Method 6010B	WG1158117	1	08/29/18 11 58	08/30/18 22 51	ST

MW-17 L1020635-07 GW

Collected by	Collected date/time	Received date/time
Michael Clayton	08/22/18 15:15	08/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1157948	1	08/28/18 16:14	08/28/18 16:48	MMF
Wet Chemistry by Method 9056A	WG1158107	1	08/30/18 06:53	08/30/18 06:53	ELN
Metals (ICP) by Method 6010B	WG1158117	1	08/29/18 11 58	08/30/18 22 56	ST

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Justin Carr
Project Manager

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	896000		2820	10000	1	08/27/2018 16:44	WG1157183

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	195000		260	5000	5	08/30/2018 04:34	WG1158107
Fluoride	141		9.90	100	1	08/30/2018 04:20	WG1158107
Sulfate	231000		387	25000	5	08/30/2018 04:34	WG1158107

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	122	J	12.6	200	1	08/30/2018 22:40	WG1158117
Calcium	130000		46.3	1000	1	08/30/2018 22:40	WG1158117

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	440000		2820	10000	1	08/27/2018 16:44	WG1157183

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	38800		51.9	1000	1	08/30/2018 04:48	WG1158107
Fluoride	429		9.90	100	1	08/30/2018 04:48	WG1158107
Sulfate	43100		77.4	5000	1	08/30/2018 04:48	WG1158107

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	953	J	12.6	200	1	08/30/2018 22:42	WG1158117
Calcium	58200		46.3	1000	1	08/30/2018 22:42	WG1158117

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	632000		2820	10000	1	08/27/2018 16:44	WG1157183

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	65700		51.9	1000	1	08/30/2018 05:30	WG1158107
Fluoride	162		9.90	100	1	08/30/2018 05:30	WG1158107
Sulfate	196000		387	25000	5	08/30/2018 16:21	WG1159003

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	317		12.6	200	1	08/30/2018 22:45	WG1158117
Calcium	95500		46.3	1000	1	08/30/2018 22:45	WG1158117

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	548000		2820	10000	1	08/27/2018 16:44	WG1157183

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	34500		51.9	1000	1	08/30/2018 05:44	WG1158107
Fluoride	114		9.90	100	1	08/30/2018 05:44	WG1158107
Sulfate	206000		387	25000	5	08/30/2018 16:36	WG1159003

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	369		12.6	200	1	08/30/2018 22:48	WG1158117
Calcium	83700		46.3	1000	1	08/30/2018 22:48	WG1158117

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	265000		2820	10000	1	08/28/2018 16:48	WG1157948

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	5390		51.9	1000	1	08/30/2018 05 58	WG1158107
Fluoride	40 9	J	9.90	100	1	08/30/2018 05 58	WG1158107
Sulfate	27600		77.4	5000	1	08/30/2018 05 58	WG1158107

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	54.7	J	12.6	200	1	08/30/2018 22:51	WG1158117
Calcium	63300		46.3	1000	1	08/30/2018 22:51	WG1158117

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Dissolved Solids	218000		2820	10000	1	08/28/2018 16:48	WG1157948

Wet Chemistry by Method 9056A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Chloride	6100		51.9	1000	1	08/30/2018 06 53	WG1158107
Fluoride	48.7	J	9.90	100	1	08/30/2018 06 53	WG1158107
Sulfate	19600		77.4	5000	1	08/30/2018 06 53	WG1158107

Metals (ICP) by Method 6010B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Boron	61.5	J	12.6	200	1	08/30/2018 22:56	WG1158117
Calcium	51000		46.3	1000	1	08/30/2018 22:56	WG1158117

Method Blank (MB)

(MB) R3337670-1 08/27/18 16:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1019274-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1019274-03 08/27/18 16:44 • (DUP) R3337670-4 08/27/18 16:44

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	412000	394000	1	4.47		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3337670-2 08/27/18 16:44 • (LCSD) R3337670-3 08/27/18 16:44

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8810000	8620000	100	98 0	85 0-115			2.18	10

Method Blank (MB)

(MB) R3337731-1 08/28/18 16:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dissolved Solids	U		2820	10000

L1019957-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1019957-01 08/28/18 16:48 • (DUP) R3337731-4 08/28/18 16:48

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Dissolved Solids	281000	293000	1	4.18		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3337731-2 08/28/18 16:48 • (LCSD) R3337731-3 08/28/18 16:48

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Dissolved Solids	8800000	8480000	8460000	96.4	96.1	85 0-115			0.236	10

Method Blank (MB)

(MB) R3337941-1 08/29/18 23:35

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Fluoride	U		9.90	100
Sulfate	U		77.4	5000

L1020046-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1020046-01 08/30/18 00:52 • (DUP) R3337941-4 08/30/18 01:06

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	4240	4270	1	0.771		15
Fluoride	973	975	1	0.257		15
Sulfate	16300	16400	1	0.652		15

L1020635-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1020635-06 08/30/18 06:12 • (DUP) R3337941-7 08/30/18 06:26

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Chloride	U	0.000	1	0.000		15
Fluoride	U	0.000	1	0.000		15
Sulfate	U	0.000	1	0.000		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3337941-2 08/29/18 23:49 • (LCSD) R3337941-3 08/30/18 00:03

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Chloride	40000	39600	39500	98 9	98 6	80.0-120			0.282	15
Fluoride	8000	7910	7890	98 8	98 7	80.0-120			0.191	15
Sulfate	40000	38500	38400	96 3	95 9	80.0-120			0.408	15

L1020046-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1020046-01 08/30/18 00:52 • (MS) R3337941-5 08/30/18 01:20 • (MSD) R3337941-6 08/30/18 01:33

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Chloride	50000	4240	55100	55100	102	102	1	80.0-120			0.0207	15
Fluoride	5000	973	5790	6040	96.4	101	1	80.0-120			4 27	15
Sulfate	50000	16300	63900	63400	95 3	94.3	1	80.0-120			0.826	15

L1020635-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1020635-06 08/30/18 06:12 • (MS) R3337941-8 08/30/18 06:40

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50000	U	49700	99 5	1	80.0-120	
Fluoride	5000	U	4920	98 5	1	80.0-120	
Sulfate	50000	U	48800	97.6	1	80.0-120	

Method Blank (MB)

(MB) R3338242-1 08/30/18 10:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Sulfate	114	J	77.4	5000

L1020883-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1020883-03 08/30/18 17:33 • (DUP) R3338242-4 08/30/18 17:48

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	33300	30200	1	9.67		15

L1021097-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1021097-01 08/30/18 19:14 • (DUP) R3338242-7 08/30/18 19:29

Analyte	Original Resu t ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qua ifier	DUP RPD Limits %
Sulfate	ND	2010	1	0.000		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3338242-2 08/30/18 11:14 • (LCSD) R3338242-3 08/30/18 11:28

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Sulfate	40000	41500	41400	104	104	80.0-120			0.138	15

L1020883-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1020883-03 08/30/18 17:33 • (MS) R3338242-5 08/30/18 18:02 • (MSD) R3338242-6 08/30/18 18:17

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Sulfate	50000	33300	81100	81500	95 6	96 3	1	80.0-120			0.432	15

L1021097-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1021097-01 08/30/18 19:14 • (MS) R3338242-8 08/30/18 20:12

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	50000	ND	54600	105	1	80.0-120	

QUALITY CONTROL SUMMARY

L1020635-01,02,03,04,05,07

Method Blank (MB)

(MB) R3338182-1 08/30/18 22:07

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Boron	U		12.6	200
Calcium	U		46.3	1000

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3338182-2 08/30/18 22:10 • (LCSD) R3338182-3 08/30/18 22:12

Analyte	Spike Amount ug/l	LCS Resu t ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qua ifier	RPD %	RPD Limits %
Boron	1000	1000	1010	100	101	80.0-120			0.949	20
Calcium	10000	9940	10100	99.4	101	80.0-120			1.54	20

L1020730-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1020730-01 08/30/18 22:15 • (MS) R3338182-5 08/30/18 22:20 • (MSD) R3338182-6 08/30/18 22:23

Analyte	Spike Amount ug/l	Original Resu t ug/l	MS Resu t ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qua ifier	RPD %	RPD Limits %
Boron	1000	ND	1090	1070	100	98 7	1	75.0-125			1.35	20
Calcium	10000	48300	57800	57700	95 0	94.5	1	75.0-125			0.0926	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have mu tiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest lim t of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a qual ty control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qual fier is provided w thin the Glossary and Definitions page and potentially a discussion of possible implications of the Qual fier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable resu t returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the resu ts column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qual fiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were in tially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The ident fication of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

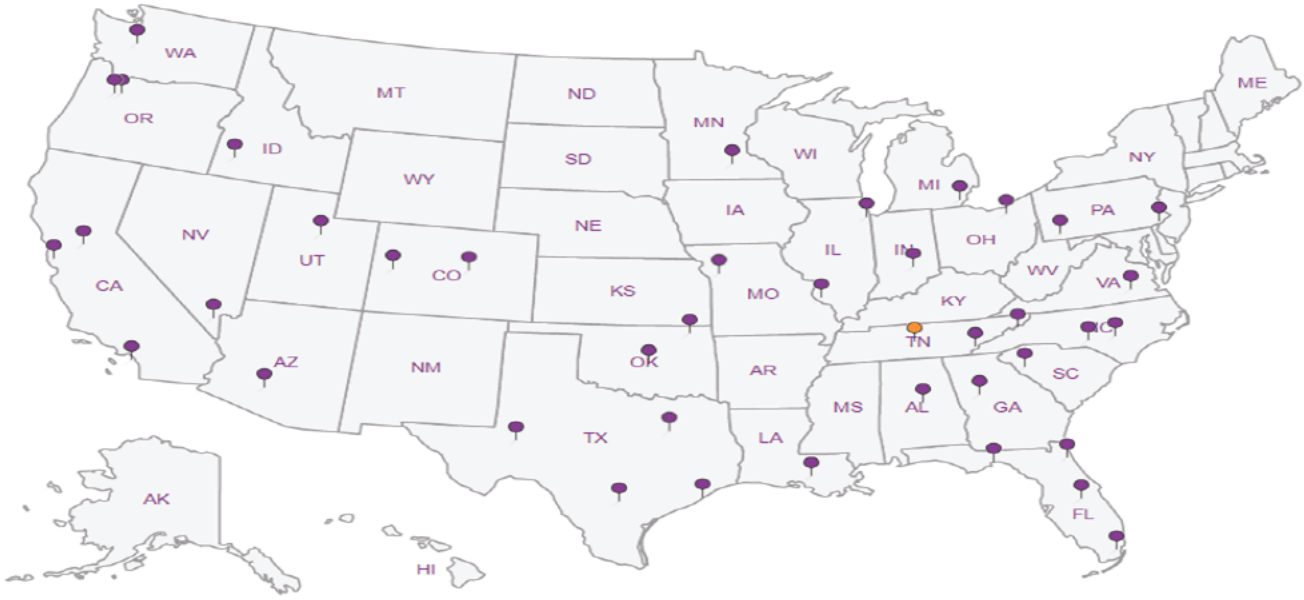
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



FTN Associates - Little Rock, AR

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Project Description: **Entergy Independence Landfill**

City/State Collected:

Phone: **501-902-9642**
Fax:

Client Project #

Lab Project #: **FTNLRAR-ENTERGYINDY**

Collected by (print): Michael Chytal

Site/Facility ID #

P.O. #

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk: Z

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	B, Ca 250mlHDPE-HNO3	Cl, F, SO4, TDS 250mlHDPE-NoPres	Remarks	Sample # (lab only)
MW-1R	Grab	GW		8/21/18	1145	2	X	X		-01
MW-3		GW				2	X	X		
MW-6		GW				2	X	X		
MW-7	Grab	GW		8/21/18	1040	2	X	X		-02
MW-8	Grab	GW		8/21/18	1305	2	X	X		-03
MW-9	Grab	GW		8/21/18	1415	2	X	X		-04
MW-10		GW				2	X	X		
~~MW-11~~ MW-2	Grab	GW		8/22/18	1655	2	X	X		-05
~~MW-18~~ EB-2	Grab	GW		8/22/18	1700	2	X	X		-06
MW-17	Grab	GW		8/22/18	1515	2	X	X		-07

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS ✓ FedEx __ Courier _____

Tracking # 4492 6217 1582

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	8/22/18	1000	
Relinquished by : (Signature)			Received by: (Signature)
Relinquished by : (Signature)			Received for lab by: (Signature)

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: 1.0 °C Bottles Received: 14

Date: 8/25/18 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF OK

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Chain of Custody Page 2 of 2

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Prelogin: P666467
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PB: 16 8-8-18
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APPENDIX C

Alternate Source Demonstration

Alternate Source Demonstration

Entergy Independence Plant
Coal Ash Disposal Landfill
Newark, Independence County, Arkansas

March 2018

Privileged and Confidential
Prepared at the Request of Counsel/Attorney-Client Communication/Attorney Work Product

Alternate Source Demonstration

Entergy Independence Plant
Coal Ash Disposal Landfill
Newark, Independence County, Arkansas

March 2018

Prepared For
Entergy Arkansas, Inc.
Independence Plant
555 Point Ferry Road
Newark, Arkansas 72562

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 9136
R. KENT NILSSON
3/23/18

R. Kent Nilsson, P.E.
Senior Engineer

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Project Manager

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Appendix A Nature and Extent Investigation Report (FTN, 2017)

Executive Summary

Entergy Arkansas, LLC (Entergy) operates the Entergy Independence Plant (Plant), a coal-fired power plant, to generate electricity. The Plant is located near Newark, Independence County, Arkansas. A site location map is provided as Figure 1. Coal combustion residuals (CCR) are produced as part of the electrical generation operations and have historically been managed by Entergy as follows:

- Beneficial use in local construction projects.
- Beneficial use as road bed material at the facility landfill.
- Placement into Entergy's on-site landfill.

Entergy operates a Class 3N non-commercial industrial landfill under Arkansas Department of Environmental Quality (ADEQ) Solid Waste Permit No. 0200-S3N-R2. Entergy also manages CCR at the landfill as provided in the federal Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule (CCR Rule), effective October 17, 2015.

Pursuant to the CCR Rule, Entergy has installed a groundwater monitoring system and has implemented groundwater monitoring at the landfill. The CCR certified groundwater monitoring network consists of 11 wells screened into the shallow alluvial aquifer (uppermost aquifer) at the landfill. Pursuant to the CCR Rule, eight quarterly background groundwater monitoring events were performed from the fourth quarter 2015 through the third quarter 2017. The samples were analyzed for the Appendix III to Part 257 – Constituents for Detection Monitoring and the Appendix IV to Part 257 – Constituents for Assessment Monitoring parameters. Upon completion of the background sampling, the first semiannual detection monitoring event for the Appendix III constituents was performed during the third quarter 2017 and verification sampling was performed during the fourth quarter 2017. Statistical analysis of these results relative to the background results was performed pursuant to 40 CFR 257.93(f) and the Statistical Analysis Plan (FTN, 2017). Based on the results of this statistical analysis, the concentrations of Appendix III constituents were within the intrawell prediction limits for each constituent at each monitoring well, except the following statistically significant increases (SSIs):

- Boron (MW-11).
- Chloride (MW-7).

Pursuant to 40 CFR 257.94(e)(2), Entergy may demonstrate that a source other than the CCR unit caused the SSIs or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. The information provided in this report serves as Entergy's alternate source demonstration (ASD) prepared in accordance with 40 CFR 257.94(e)(2) and demonstrates that the boron and chloride SSIs determined based on the first semiannual detection monitoring event performed in 2017 are not due to leakage from the base of the CCR unit, but are due to the following:

- The source of the boron SSI in groundwater at MW-11 is due to the periodic infiltration of standing surface water containing boron migrating down through the compromised annular well seal of MW-704S (ADEQ permit well).
  - This results in localized groundwater mounding at MW-704S and subsequent migration of groundwater containing boron from MW-704S (higher groundwater elevation) to the northeast downgradient towards MW-11 (lower groundwater elevation).
  - The compromised annular well seal provides a conduit for the migration of standing surface water down to the shallow alluvial aquifer, and then migration of boron in the shallow alluvial aquifer to the northeast to MW-11.

  As proposed by Entergy in the NEI Report (FTN, 2018), Entergy intends to properly plug and abandon MW-704S to mitigate the periodic migration of surface water down to groundwater at this location. Boron concentrations should naturally attenuate over time at the MW-704S and MW-11 locations.
- The source of the chloride SSI in groundwater at MW-7 is due to upwelling of chloride-rich water from the deep subhorizon. This a result of natural variation in groundwater quality between the shallow and deep subhorizons of the alluvial aquifer. This conclusion is based on the following:
  - Concentrations of chloride measured in landfill leachate are less than measured in the shallow groundwater monitored at MW-7;
  - Concentrations of chloride in the deep subhorizon of the alluvial aquifer are greater than in the shallow subhorizon;
  - Documented historical variations in background chloride concentrations at the Plant provide evidence that natural variation caused the SSI;
  - Periodic upward vertical hydraulic gradients have been observed based on water levels measured at well clusters screened within the shallow and deep subhorizons of the alluvial aquifer; and

- Minimal vertical flux in chloride from the deep to shallow subhorizon of the alluvial aquifer (minimum of 3.5%) is required to account for the observed chloride concentrations in groundwater during the first semiannual detection monitoring event at MW-7.

Therefore, based on the information provided in this ASD report, Entergy will continue to conduct detection monitoring as per 40 CFR 257.94 at the CCR certified groundwater monitoring network. Based on the information provided, Entergy is not required to implement an assessment monitoring program pursuant to the CCR rule during the second semiannual detection monitoring event.

Section 1
Introduction

1.1 Background

Entergy Arkansas, LLC (Entergy) operates the Entergy Independence Plant (Plant), a coal-fired power plant, to generate electricity. The Plant is located near Newark, Independence County, Arkansas, as shown in Figure 1. Coal combustion residuals (CCR) are produced as part of the electrical generation operations and have historically been managed by Entergy as follows:

- Beneficial use in local construction projects.
- Beneficial use as road bed material at the facility landfill.
- Placement into Entergy's on-site landfill.

Entergy operates a Class 3N non-commercial industrial landfill under Arkansas Department of Environmental Quality (ADEQ) Solid Waste Permit No. 0200-S3N-R2. Entergy also manages CCR at the landfill as provided in the federal Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule (CCR Rule), effective October 17, 2015.

The landfill consists of a total of 15 cells. Cells 1 through 11 of the CADL were closed under Entergy's ADEQ permit prior to the effective date of the CCR Rule and CCR has not been placed in these cells after October 15, 2015. There are currently four active disposal cells (Cells 12 through 15) at the landfill which compose the CCR unit. The closed and active areas are shown on Figure 2.

The certified groundwater monitoring system at the CCR unit consists of 11 wells installed in accordance with the CCR Rule into the shallow subhorizon of the alluvial aquifer. Pursuant to the CCR Rule, Entergy obtained certification by a qualified Arkansas-registered professional engineer stating that the groundwater monitoring system has been designed and constructed to meet the requirements of 40 CFR 257.91 of the CCR Rule (see Groundwater Monitoring System Certifications, TRC, October 16, 2017 and January 29, 2018). Also, pursuant to 40 CFR 257.93(f)(6) of the CCR Rule, statistical analysis of the monitoring results is performed in accordance with the Statistical Analysis Plan (FTN, October 4, 2017) and Entergy obtained certification by a qualified professional engineer stating that the selected statistical method is appropriate for evaluating the groundwater monitoring data for the CCR unit (see Statistical Methods Certification, TRC, October 16, 2017).

As discussed above, groundwater quality in the shallow subhorizon of the alluvial aquifer is currently being monitored pursuant to both the ADEQ solid waste management permit and the CCR Rule. Pursuant to the CCR Rule, eight quarterly background groundwater monitoring events were performed from the fourth quarter 2015 through the third quarter 2017. The samples were analyzed for the Appendix III to Part 257 – Constituents for Detection Monitoring and the Appendix IV to Part 257 – Constituents for Assessment Monitoring. The first semiannual detection monitoring event for the Appendix III constituents as per the CCR Rule was performed during the third quarter 2017 and statistical analysis of these results relative to the background results was performed pursuant to 40 CFR 257.93(f) and the Statistical Analysis Plan. Based on the results of this statistical analysis, the concentrations of Appendix III constituents in the shallow alluvial aquifer subhorizon were within the intrawell prediction limits for each constituent at each monitoring well, except the following statistically significant increases (SSIs):

- Boron (MW-11).
- Chloride (MW-7).

1.2 Purpose

Pursuant to 40 CFR 257.93(h), SSIs were determined for two Appendix III constituents at two monitoring wells screened within the shallow alluvial aquifer subhorizon at the landfill. The SSIs were reported in the 2017 Annual Groundwater Monitoring and Corrective Action Report (Entergy, January 31, 2018), which was also placed in the Plant's operating record and posted to Entergy's CCR web page. Pursuant to 40 CFR 257.94(e)(2), Entergy may demonstrate that a source other than the CCR unit caused the SSIs or that the SSIs resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. As per 40 CFR 257.94(e)(2), Entergy must complete the demonstration within 90 days of determination of the SSIs.

The objective of this report is to provide written documentation of the alternate source demonstration for both SSIs determined for the first semiannual detection monitoring event, as provided for in 40 CFR 257.94(e)(2) of the CCR Rule. Also, pursuant to 40 CFR 257.94(e)(2), this *ASD* report has been certified by a qualified Arkansas-registered professional engineer verifying the accuracy of the information provided in this report.

1.3 Site Hydrogeology

Subsurface investigations at the landfill have identified the following three stratigraphic horizons at the landfill:

- **Upper Confining Unit**. A 23 to 35 feet thick upper confining unit consisting of clays and silts is present at the ground surface down to 23 to 35 feet below ground surface (bgs).

Vertical hydraulic conductivity of the upper confining unit is estimated to range from 4.0×10^{-9} to 7.8×10^{-7} centimeters per second (cm/s) based on flexible wall permeability tests (FTN 2001, FTN and Golder Associates Inc. 2017).

- **Alluvial Aquifer**. An alluvial aquifer consisting of fine to medium grained sandy sub rounded to sub angular chert gravel with varying amounts of silt and clay is present beneath the upper confining unit. The alluvial aquifer is the uppermost laterally continuous water bearing zone beneath the landfill and represents the uppermost aquifer pursuant to the CCR Rule. The alluvial aquifer extends to depths of 85 to 120 feet bgs. Hydraulic conductivity of the alluvial aquifer is estimated to range from 2.1×10^{-2} to 6×10^{-2} cm/s (FTN 2015).

  As summarized in the Conceptual Site Model, the alluvial aquifer is further subdivided into two subhorizons: shallow and deep; based on geochemical fingerprinting of groundwater quality within each of these subzones. Geochemical fingerprinting (Conceptual Site Model, TRC, September 11, 2017 and January 24, 2018) indicates that the source of groundwater in the deep subhorizon is unrelated to the landfill and its source is located elsewhere at the Plant. Whereas, groundwater quality in the upper and middle portions of the alluvial aquifer are associated with the landfill. Therefore, the 11 monitoring wells making up the CCR Rule certified groundwater monitoring system are screened within the shallow subhorizon of the alluvial aquifer.

  Groundwater in the alluvial aquifer is present under confined conditions (i.e., the hydraulic head in the aquifer is present above the base of the upper confining clays and silts). Observed fluctuations in water levels during the eight-quarterly background and first semiannual detection monitoring events have been almost 14 feet. During the first semiannual detection monitoring event, groundwater flow was to the northeast; however, based on historical groundwater monitoring at the landfill, seasonal variations in groundwater flow direction have been documented with flow to the southeast, north, east, and south (TRC, 2018). The most recently developed groundwater potentiometric contour map for the first semiannual detection monitoring event is provided as Figure 4.

- **Bedrock**. Pennsylvanian aged bedrock consisting of chert, limestone, sandstone, and carbonaceous shale and associated residuum at the bedrock surface are present beneath the alluvial aquifer (Albin, 1965). The top of the bedrock is approximately 85 to 120 feet bgs.

Groundwater monitoring at the landfill began in 2002 in accordance with ADEQ Solid Waste Permit No. 0200-S3N. Pursuant to 40 CFR 257.94(b) of the CCR Rule, eight rounds of Appendix III and IV constituents were collected and analyzed, within the wells of the CCR Rule P.E. certified network, to establish background groundwater quality at the CCR unit. These samples were collected from October 2015 through July 2017. The first semiannual detection monitoring event pursuant to 40 CFR 257.90 was collected in August 2017, and verification sampling was performed during November 2017. Sampling and analysis was performed as per the protocols provided in the Groundwater Sampling and Analysis Plan (FTN 2017a). Statistical analysis was

performed as per 40 CFR 257.93(f) and (g), the Statistical Methods Certifications (TRC 2017) and the Statistical Analysis Plan (FTN 2017b).

1.4 General Groundwater Quality

Regionally, groundwater in the alluvial aquifer is a calcium-bicarbonate water type with sodium, magnesium, chloride, sulfate, silica, and iron comprising most of the remaining dissolved ions (Kresse et al. 2014). Elevated concentrations of trace metals including iron, manganese, and arsenic are ubiquitous in the alluvial aquifer and thought to be elevated due to the presence of carbonaceous material within the alluvial aquifer that drives redox-sensitive parameters to dissolve in groundwater (Kresse and Fazio 2003, Gonthier 2003, Kresse and Clark 2008, Welch et al. 2009, Kresse et al. 2014). Most parameters show a wide variability in concentration with respect to lateral and vertical position in the aquifer (Albin et al. 1967, Kresse et al. 2014).

Groundwater quality at the base of the alluvial aquifer can be heavily influenced by the underlying bedrock. As described in the Conceptual Site Model (TRC, 2017 and 2018), the lower portion of the alluvial aquifer has high concentrations of chloride. The chloride concentrations in the deep alluvial aquifer subhorizon range from 1,260 to 2,220 milligrams per liter (mg/L). The source of this brackish to salty water in the deep alluvial aquifer subhorizon is likely related to upwelling of high-salinity groundwater from the underlying bedrock. An example of this type of upwelling has been documented in Morris and Bush (1986), where a similar plume of chloride (with concentrations in the 1,000s of mg/L) originated in the underlying bedrock and migrated up into the overlying alluvial aquifer.

Section 2
Alternate Source Demonstration

Collection of the first semiannual detection monitoring event was completed in August 2017. Verification sampling was performed in November 2017. Eight background quarterly detection monitoring events were previously collected per 40 CFR 257.93(d) and 257.94(b). Statistical analysis of the first semiannual detection monitoring data was performed pursuant to 40 CFR 257.93(f) and (g), and in accordance with the Statistical Methods Certifications (TRC 2017) and the Statistical Analysis Plan (FTN 2017b). Based on intrawell statistical analysis, the following SSIs were determined:

- Boron (MW-11).
- Chloride (MW-7).

All other Appendix III constituents were within than their intrawell prediction limits in all the CCR Rule groundwater monitoring system wells. After identifying these SSIs, verification sampling was completed in November 2017. This verification sampling confirmed the SSIs.

2.1 Boron at MW-11

The source of the boron SSI at MW-11 is due to the migration of boron in groundwater from monitoring well MW-704S. Based on periodic observation of standing surface water at MW-704S and mounding of the potentiometric surface at MW-704S, boron in standing surface water periodically migrates from the ground surface during high precipitation events down through the compromised MW-704S annular well seal to groundwater at MW-704S, resulting in a localized groundwater mounding effect. The groundwater mounding effect is shown in the attached potentiometric contour map (Figure 4). Due to the localized mounding effect, the resultant elevation of groundwater at MW-704S is higher than that at MW-11 allowing migration of groundwater to the northeast towards MW-11. This has been documented in a Nature and Extent Investigation Report (FTN, 2018), prepared in compliance with ADEQ permit requirements, which is included in Appendix A. The primary lines of evidence for this source of boron at MW-704S and MW-11 are as follows:

- **Primary Lines of Evidence:**
  - **Surface Water is Periodically Present at MW-704S –** The location of MW-704S was specified by the ADEQ as part of the landfill permit and is situated within a landfill perimeter drainage swale that collects storm water runoff from the landfill and its access roads. As documented in the Nature and Extent Investigation (NEI) Report (Appendix A), during periods of high precipitation, surface water from the perimeter drainage swale is standing in the MW-704S area.

- **Well MW-704S has a Compromised Annular Well Seal** – The surface casing of MW-704S has become detached from the soils in which it is coupled. This uncoupling indicates that the surface annular seal is compromised, resulting in a vertical conduit for the downward migration of standing surface water during high precipitation events when standing surface water is present at MW-704S.
- **Groundwater Mounding** – As shown on the most recent potentiometric contour map (Figure 4), groundwater is mounded around MW-704S. This mounding occurs as a result of infiltration of standing surface water downward through a compromised annular well seal. The potentiometric data supporting this line of evidence is provided in Table 1. As discussed above, the compromised nature of the MW-704S annular well seal is the conduit for surface water containing boron to migrate down to the underlying alluvial aquifer.
- **Boron is Present in Surface Water in the Drainage Swale at MW-704S** – Based on surface water quality data collected by Entergy during the fourth quarter 2017 (see sample ASHLF704S in Table 2) from the drainage swale, boron is present in the surface water at concentrations greater than those observed in well MW-11. Surface water concentrations range from 0.305 to 15.2 mg/L (see Table 2). Boron concentrations at well MW-11 ranges from 0.0922 to 0.259 mg/L (see Table 3) and boron concentrations at MW-704S range from 7.18 to 10.9 mg/L.
- **The Extent of Boron is Limited at the MW-704S Location** – As illustrated in Figure 1 of the NEI Report (Appendix A), the highest concentration of boron in groundwater at the landfill is at MW-704S (i.e., the source of surface water infiltration to groundwater). The concentrations of boron in groundwater decrease significantly to the north and northeast of MW-704S.
- **Migration Pathway** – Based on groundwater elevations shown in potentiometric surface mapping, groundwater is mounded at MW-704S, with the result that the elevation of groundwater is higher at MW-704S than at MW-11. Therefore, this difference in groundwater elevation creates a hydraulic gradient from MW-704S towards an area of lower potentiometric head at MW-11. Hence, creating a migration pathway from MW-704S to MW-11 for boron.

Therefore, these multiple primary lines of evidence demonstrate that the source of the boron SSI in groundwater at MW-11 is due to the periodic infiltration of standing surface water containing boron down through the compromised annular well seal at MW-704S. This results in localized groundwater mounding at MW-704S and subsequent migration of groundwater containing boron from MW-704S (higher groundwater elevation) to the northeast downgradient towards MW-11 (lower groundwater elevation). These lines of evidence demonstrate that the boron SSI is not due to leakage from the base of the CCR unit, but due to the periodic presence of standing surface water at MW-704S and its compromised annular well seal that provides a conduit for the

migration of surface water down to the alluvial aquifer, and then migration of boron in groundwater to the northeast to MW-11.

Entergy has proposed in the NEI Report (FTN, 2018) to properly plug and abandon MW-704S to mitigate the periodic migration of surface water down to groundwater through the compromised annular well seal at this location. Eliminating this migration pathway would eliminate this minor source of boron to the shallow subhorizon of the alluvial aquifer, resulting in boron concentrations naturally attenuating (i.e., by migration and dispersion) over time, with subsequent decreases in boron concentrations in this area (e.g., MW-704S and MW-11).

2.2 Chloride in MW-7

The source of the chloride SSI at MW-7 is the result of natural variation in groundwater quality at this location. The following primary and secondary lines of evidence support this determination, as follows:

- **Primary Lines of Evidence:**
  - **Concentration of Chloride in Leachate is Less Than in Groundwater –** The maximum concentration of chloride measured in landfill leachate was 49.5 mg/L while the concentration of chloride for the first detection monitoring event at MW-7 was 99.4 mg/L. Based on subsequent verification sampling at MW-7, the concentration of chloride was 105 mg/L, which confirmed the SSI. In consideration that measured chloride in groundwater is higher than chloride measured in landfill leachate, it is unlikely that the SSI for chloride at MW-7 was caused by leachate migration, particularly given the effect of dilution.
  - **Background Variations –** Chloride concentration fluctuations are evident based on review of historical background monitoring data for shallow subhorizon wells at the Plant. Figure 5 shows the most recent trends in the MW-7 and surrounding CCR certified monitoring wells, providing evidence of natural chloride concentration variations.
- **Secondary Lines of Evidence:**
  - **High Chloride Concentrations in the Deep Subhorizon of the Alluvial Aquifer is a Potential Source** – Concentrations of chloride in the deep subhorizon wells are orders of magnitude higher than in the shallow subhorizon wells. As shown in Figure 5.
  - **Upward Flow can Transport Chloride from Deep to Shallow Wells –** Natural variations in vertical hydraulic gradients can result in relatively rapid changes in chloride concentrations in the shallow subhorizon. Therefore, changes in shallow subhorizon concentrations due to cyclical changes in vertical gradients would influence the chloride concentrations in the shallow subhorizon. These variations in

the vertical direction of groundwater flow (Table 4) would periodically result in fluctuations in chloride concentrations and the periodic identification of chloride SSIs at MW-7.

- **Percentage Flux to Cause SSI is Very Small –** The chloride concentrations in the shallow subhorizon range from 8.57 to 237 mg/L. Chloride concentrations in the deep subhorizon range from 1,200 to 2,200 mg/L. Therefore, to cause the observed changes in chloride concentrations that resulted in the SSI at MW-7, a minimum of 3.5 percent of the chloride in groundwater in the deep subhorizon would be required to migrate vertically upward to the shallow subhorizon. This percentage is calculated based on an average concentration of chloride measured in August 2017 at deep subhorizon wells (MW-1D, MW-3D, MW-9D and MW-10D) of 1,735 mg/L, and the difference in chloride concentration from the final background monitoring event and the first semi-annual detection monitoring event in August 2017. This analysis indicates that only a small fraction of deep subhorizon chloride would be required to trigger an SSI at MW-7.

Therefore, these multiple primary and secondary lines of evidence demonstrate that the source of the chloride SSI in groundwater at MW-7 is not due to leakage from the base of the CCR unit, but is likely the result of upwelling of chloride-rich groundwater from the deep subhorizon of the caused by periodic upward vertical gradients.

Section 3
Conclusions

The information provided in this report serves as the alternate source demonstration prepared in accordance with 40 CFR 257.94(e)(2) of the CCR Rule and demonstrates that the boron and chloride SSIs determined based on the first semiannual detection monitoring event performed in 2017 are not due to leakage from the base of the CCR unit, but are due to the following:

- The source of the boron SSI in groundwater at MW-11 is due to the periodic infiltration of standing surface water containing boron migrating down through the compromised annular well seal of MW-704S (ADEQ permit well).
  - This results in localized groundwater mounding at MW-704S and subsequent migration of groundwater containing boron from MW-704S (higher groundwater elevation) to the northeast downgradient towards MW-11 (lower groundwater elevation).
  - The compromised annular well seal provides a conduit for the migration of standing surface water down to the shallow alluvial aquifer, and then migration of boron in the shallow alluvial aquifer to the northeast to MW-11.

  As proposed by Entergy in the NEI Report (FTN, 2018), Entergy intends to properly plug and abandon MW-704S to mitigate the periodic migration of surface water down to groundwater at this location. Boron concentrations should naturally attenuate over time at the MW-704S and MW-11 locations.
- The source of the chloride SSI in groundwater at MW-7 is due to upwelling of chloride-rich water from the deep subhorizon. This a result of natural variation in groundwater quality between the shallow and deep subhorizons of the alluvial aquifer. This conclusion is based on the following primary and secondary lines of evidence:
  - Concentrations of chloride measured in landfill leachate are less than in shallow groundwater at MW-7;
  - Concentrations of chloride in the deep subhorizon of the alluvial aquifer are greater than in the shallow subhorizon;
  - Documented historical variations in background chloride concentrations at the Plant provide evidence that natural variation caused the SSI;
  - Periodic upward vertical hydraulic gradients have been observed based on water levels measured at well clusters screened within the shallow and deep subhorizons of the alluvial aquifer; and

- Minimal vertical flux in chloride from the deep to shallow subhorizons of the alluvial aquifer (minimum of 3.5%) is required to account for the observed chloride concentrations in groundwater during the first semiannual detection monitoring event at MW-7.

Therefore, based on the information provided in this *ASD* report. Entergy will continue to conduct detection monitoring as per 40 CFR 257.94 at the certified groundwater monitoring network. Based on the information provided, Entergy is not required to implement an assessment monitoring program pursuant to the CCR Rule during the second semiannual detection monitoring event scheduled for the first half of 2018.

Section 4
Certification

I hereby certify that the alternative source demonstration presented within this document for the Independence Plant CCR unit has been prepared to meet the requirements of Title 40 CFR §257.94(e) 2 of the Federal CCR Rule. This document is accurate and has been prepared in accordance with good engineering practices, including the consideration of applicable industry standards, and with the requirements of Title 40 CFR §257.94(e) 2.

Name: _____ **Expiration Date:** 12/31/18

Company: TRC Environmental Corporation **Date:** 3/23/18

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 9136
R. KENT NILSSON

(SEAL)

Section 5
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Table 1
Groundwater Elevation (ft MSL)

EPA WELL ID	3/6/2017	3/27/2017	4/17/2017	5/8/2017	5/29/2017	6/19/2017	7/10/2017	7/31/2017	8/21/2017
MW-1R	208.99	209.87	211.00	217.01	218.49	214.31	212.76	209.19	210.91
MW-1M	208.99	209.87	210.99	217.03	218.51	214.33	212.76	209.21	210.93
MW-1D	209.01	210.87	210.99	216.97	218.48	214.37	212.76	209.23	210.94
MW-3	209.23	209.96	211.04	216.21	218.31	214.72	212.99	209.66	211.00
MW-3M	209.25	209.99	211.08	216.21	218.32	214.75	213.00	209.67	210.99
MW-3D	209.21	209.95	211.32	216.16	218.26	214.71	212.96	209.64	210.99
MW-9	209.09	209.93	211.03	216.89	218.56	214.49	212.98	209.61	211.03
MW-9M	209.10	209.93	211.02	216.87	218.54	214.53	212.98	209.57	211.03
MW-9D	209.10	209.93	211.03	216.86	218.55	214.51	212.98	209.57	211.02
MW-10	209.19	209.96	211.02	216.22	218.22	214.64	212.85	209.35	210.94
MW-10M	209.19	209.97	211.04	216.21	218.24	214.64	212.86	209.36	210.95
MW-10D	209.19	209.96	211.03	216.21	218.22	214.63	212.84	209.45	210.95

Prepared by K. Barber 1/26/2018
Checked by L. Auner 2/1/2018

Table 2
Surface Water Quality Data Summary

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
404S	u																																			
	5/28/1997	445	104	7 9	16	68	34 3	1.71	262	0.188	6.6	18 5	589	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	357	116	6.7	17	58	20	1	182	0.1	6.7	17	590	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	380	94.7	7 6	17.1	75	28.1	1.74	232	0.19	6.6	16	654	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	346	65.2	7 3	16 2	66	27 8	2.43	259	0.13	6.8	17 5	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	468	95.3	6 6	16 6	71	29 9	2 53	221	0.18	6.9	18	613	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	278	52.4	6 6	18 9	57	20.4	0.1	188	2.56	6.5	17 5	475	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	325	77.1	6 6	20.7	68	23 6	2 56	178	0.128	6.7	17.4	518	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	462	63.3	7 2	13 8	91	37 2	2 21	320	0.156	6.4	17 3	751	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	340	82.4	5 3	22 8	59	22 8	1 65	178	0 094	6.3	18 3	528	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	249	35.7	5.1	11 9	45	30.4	1.4	144	0 086	6.4	17.4	269	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	245	33.5	5.1	14.1	84	16 6	1.6	172	0.104	6.7	n/a	232	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	385	135	9.29	22.4	64.7	21 9	2 27	159	0.125	6.6	17 9	440	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	430	165	9.32	22 5	74.9	25 5	3.12	154	0.132	6.5	18 2	631	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	518	209	12.2	23 9	93.2	26 8	2 31	149	0.125	6.5	18 2	650	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	510	218	11.3	22 2	77.8	30 6	3.76	155	0.159	6.48	17	724	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	590	177	11.4	22	115	41 8	2.79	332	0.162	6.49	17 5	862	1.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	410	113	6.76	19 6	76.5	26 6	2.47	192	0.126	6 66	17.4	506	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/16/2006	520	240	11	31	97.8	30.1	3 25	169	0.164	7 33	16 6	613	0.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	500	161	9.47	26.4	95.8	31.1	3.42	180	0.15	6.72	17 2	722	1.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	400	95.6	7.46	19 3	88.2	28.1	2 23	202	0.14	7.2	16 8	590	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	370	96.7	6.38	15 2	71.6	22.7	1 57	195	0.11	6 68	17 5	740	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2008	330	58.9	6.16	12.4	61.8	22 9	1.9	201	0.14	6 69	17 8	723	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	340	47.9	5.46	13 8	70	22 2	1 85	220	0.15	6 66	17.4	728	17.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
408S	u																																			
	5/28/1997	193	17.2	5	3.9	39	11 6	0 82	142	0.126	6.6	17.1	311	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	189	17.1	5	3.4	43	11	1	136	0.1	6.5	16.1	318	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	207	12.8	4 6	4.5	49	13 6	0.73	150	0.11	6.8	16	372	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	193	16.1	5	5.2	41	11 3	1 31	145	0 072	6.8	12 8	321	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	187	16.5	5	3.1	40	11 6	1.4	148	0.09	7	17 5	273	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	195	22.2	3 9	5.4	43	11 9	1 29	150	0 073	6.9	17 3	354	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	215	18.1	3 3	7.4	52	14 8	1.13	158	0 078	7.1	18 8	345	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	202	15.7	3 9	4.2	48	13 3	1	150	0 073	6.8	16 9	360	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	270	27.3	4	11.4	53	18 9	0 92	202	0 088	6.5	18 5	451	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	200	14.9	4 6	3.6	43	14 2	0.73	161	0 072	6.5	17.7	105(R)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/21/2002	207	16.9	5 5	4.8	48	13 6	0 87	147	0 074	6.4	17.4	269	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	241	20.1	5.1	10.1	57	16	1 06	195	0 093	6.6	17 2	236	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	301	39.3	6 9	14	60.3	18.7	1 06	210	0.11	6.6	17	424	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	320	43.6	5.21	17.1	65.5	20 9	1.78	228	0.117	6.5	18 3	636	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	223	24.1	3.25	5.5	49.6	14 2	0.76	160	0 071	6.1	17 6	426	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	330	37.1	5.85	17 9	71.1	21.4	1 82	237	0.116	6.46	17.4	489	1.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	360	40.2	5.55	24 6	77.8	24	1.4	281	0.12	6 35	17 2	677	4.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	260	23	4.61	7.2	52.6	17 3	1 39	194	0 084	6 31	17 5	364	4.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	230	23.3	5.46	7	52.5	15 6	0 93	179	0 073	6 62	16 8	389	5.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	230	18.4	5.56	6.2	56.5	15 5	1 05	166	0.07	6.41	17.1	488	4.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/1/2007	260	17	5.14	14	59.1	19 5	1 05	209	0.09	6.42	17	370	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	240	16.4	5.79	10 5	55.8	19 3	1.13	175	0.09	6 34	17 9	508	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	250	16.6	5.72	10 5	60.8	17	1 08	200	0.08	6 38	17.4	530	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	220	10.6	4.65	4.2	48.5	13 8	0 97	160	0.07	6.3	17 9	536	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
409S	d																																			
	5/28/1997	325	153	28.7	24 8	58	9.3	0.952	146	0 308	6.2	18.1	570	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	289	93.6	10.5	9.9	49	15	1.6	121	0.14	6.4	16 8	463	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	424	167	27	27 8	74	23.7	2 38	149	0 3	6.6	14	678	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	334	129	15.5	21 3	52	16.4	3 65	125	0 209	7	18	503	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	440	156	20.9	25.7	66	21 3	3 25	140	0.27	6.3	17	605	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	269	87.3	9 9	14 3	49	15 6	3.15	127	0.148	6.2	17.1	472	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	272	65	7 2	7.6	51	15 2	2 01	123	0.128	6.5	17 2	445	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	269	72.9	7 8	8.2	52	15.4	2.11	130	0.147	6.4	17 2	447	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	330	90.4	8 6	11 2	52	20 3	1.9	133	0.141	5.8	19.4	506	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	310	102	9 8	11 3	50	17.7	2 22	139	0.15	5.8	16 6	393	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/21/2002	336	112	94.1(Q)	12	61	17 6	1 86	127	0.133	6.3	17 2	397	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	391	140	11.2	38 9	85	26	3 84	130	0 279	6.3	17 2	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2003	553	239	21.8	44 2	86.6	26.7	4 87	139	0 304	6.2	18	579	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	530	226	17.4	45.1	79.4	26 2	4 23	145	0 317	6	18.1	833	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/17/2004	516	243	11.2	23.1	105	26.4	2 39	118	0.178	6.2	18.1	733	5.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	660	287	17.6	58 6	97.3	32	6.12	162	0 381	6.14	17.4	859	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	650	320	20.4	50.1	96.3	30 6	5.47	155	0.28	6 06	18 3	887	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	450	132	12.2	27.1	73.5	23 8	3.76	165	0 203	6 06	17 6	503	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	430	172	12.9	26 8	77.1	23 9	3 25	170	0.179	6.47	17 9	654	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/4/2006	470	156	12.8	29 6	84.3	26 8	3.44	165	0.18	6 23	18	740	0.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/1/2007	580	243	17.5	50 2	93.8	32 9	3.77	147	0.28	5.9	17 6	852	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/17/2007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.18	18 2	724	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	470	168	13.9	27	78.5	26 5	3.4	160	0.27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2008	360	97.2	8.08	15 5	66.8	19 6	2.45	142	0.18	6.2	18 2	696	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/8/2008	370	76.8	6.55	15 6	63.2	18	2 63	124	0.17	6.12	18	740	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2009	290(B)	64.2	6.61	7 66	66.5	18	1 87	150	0.17	6 22	18	607	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2009	330	81.7	8.59	15 8	26.3	8 07	2 35	150	0.19	6 26	15.18	510	0 24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2010	420	105	7.06	20.7	66.9	21 5	2.17	144	0.23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2010	440	120	<0.5	31 6	101	28	3 99	189	0.27	6 35	16.94	668	1 93	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/24/2011	320	74.4	7.41	13 2	62.2	18.7	1 92	152	0.167	6.5	19.25	478	0 85	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/4/2011	450(B)	122	13.2	30.4	78.8	25 6	3.12	185	0 273	6.13	17.76	695	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2012	460	97.9	12.1	35 5	92.1	26 9	2 94	196	0 313	6.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2012	390	104	10.8	19 5	77.2(B)	24.4	2 91	168	0 256	6.3	24 8	519	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/14/2013	430	142	10.2	19.1	86.5	23 6	n/a	141	n/a	6.3	19 9	653	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	540	171	13.8	43.1	80.5	25 3	n/a	256	n/a	6.4	18 2	808	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	480	188	9.78	28	102(B)	25 6	n/a	136	n/a	6.4	16 5	691	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	440	124	11.4	28 8	97.2	26 3	n/a	180	n/a	6.1	19.4	678	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	400	120	14(B)	20	67	20	n/a	150	n/a	5.9	18 3	566	1.5	0 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/28/2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.4	17 5	613	0.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2015	418	1.08(J)	0.434(J)	23 6	74.7	21.4	n/a	126	n/a	n/a	n/a	n/a	n/a	0 295	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	409	134	10.1	24 8	81.8	21 5	n/a	144	n/a	6.2	17 3	646	1.3	0 331	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/18/2017	678	253	19.1	62.7	117	37 5	n/a	258	n/a	6.4	18	964	0	0.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/10/2017	617	236	18.1	50	98.8	32 6	n/a	223	n/a	6.4	20 3	736	0.4	0.63	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
410S	d																																			
	5/28/1997	489	336	11.5	36.7	88	26	0.736	127	1.15	7.3	19 3	804	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	563	310	9.4	36	92	28	1	119	0.38	6.8	18.4	819	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	683	370	12.3	41.4	117	32 6	1 21	133	0.81	6.8	15	968	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	597	307	11.3	34 2	87	25.1	2 32	119	0 536	7	18	820	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	617	319	5	43	93	28 5	3 68	111	0.48	6.8	19.7	829	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	608	345	13.2	42 2	105	31 6	2 52	107	0 508	7	17 6	926	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
	5/30/2000	632	321	13.8	35.4	94	29 8	2 25	178	0.423	6.9	19 8	685	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	557	286	11.1	35.7	97	26 6	1 81	106	0 655	6.9	19 6	844	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	1100	279	10.7	36.1	100	30 6	1.43	102	0 545	6.5	21	855	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	670	368	12.9	47.7	88	27 8	1.7	110	0.743	6.3	17 5	786	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	887	541	20	54.4	133	31 8	2 88	94	1.07	6.9	18 5	718	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	1188	736	23.1	68.4	174	43.7	3 27	110	1.25	7	17 2	730	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	1030	587	20.2	77 2	152	42 9	2.7	123	1.13	6.8	19	769	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/22/2003	930	543	17	62 9	146	38.7	3 38	109	0 994	6.7	18.4	1151	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	857	480	16.8	59 6	140	36 5	3 36	95	0 881	6.6	18.7	1007	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2004	670	358	13.6	52 9	108	27 2	3 02	98.4	0.708	6 64	17 6	840	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2005	670	357	13	42.7	107	26 6	2.13	120	0 639	6.48	18 9	864	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	700	352	12.8	48.4	99.8	28.1	2 38	101	0.722	6 87	19 8	720	1.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/16/2006	920	513	20.5	55 9	170	34.7	2 98	105	1.06	7.16	19 3	1059	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	780	411	15.5	49 6	135	29 8	2 84	114	0.76	6.79	18.7	927	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	900	424	16.1	65	157	32 6	3 31	130	1.02	7 02	18 6	992	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2007	860	338	14.2	44 9	142	32.4	3 09	125	1.01	6 54	18.4	980	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2008	730	305	14	43.1	133	31	2 84	160	0.94	6 65	18.7	942	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2008	640	214	11.5	51.7	119	31 6	3	130	0.74	6.5	19	1011	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2009	790(B)	319	13.5	48.1	116	35	2.46	146	1.09	6 65	18 6	955	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2009	640	240	11.3	49 8	44.3	13	2.44	155	0.7	6 66	16.52	872	0 56	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2010	750	182	10	49	95	33	2.2	124	0.79	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2010	730	314	11.6	69.7	138	38 9	2 68	144	0.81	7.2	20.59	994	3.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/24/2011	620	267	11.2	52	111	31 6	2.4	165	0 687	6 85	19.45	883	0 27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/4/2011	540(B)	178	9.33	39 5	91.5	27 6	1 95	180	0 627	6.78	19.74	797	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2012	640	182	11.1	53 9	123	32 9	2 01	156	0.772	6.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2012	660	300	12.5	55 9	126(B)	36.4	2 22	141	0 817	6.8	21.54	804	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/14/2013	690	196	12.2	50 6	114	32	n/a	153	n/a	6.8	18 9	981	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	630	280	15.3	39.4	82.5	22 3	n/a	162	n/a	6.8	19.1	864	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	680	269	11.4	50.1	119(B)	32 3	n/a	155	n/a	6.8	19	911	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	750	242	11.5	72	146	34 6	n/a	176	n/a	6.6	18 3	1010	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	790	380	18(B)	61.7	110	33.4	n/a	150	n/a	6.6	18.4	1020	0.1	0 621	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/28/2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.8	19.1	939	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2015	662	326	14.1	57.7	106	29 9	n/a	138	n/a	n/a	n/a	n/a	n/a	0 578	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	799	338	13.5	65 8	115	30 3	n/a	137	n/a	6.6	17 9	798	1.1	0.68	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2016	615	258	11.4	70 3	36.6	7 27	n/a	147	n/a	6.9	18 6	714	1.5	0 0662(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2017	657	319	13.6	60.1	108	29.1	n/a	156	n/a	6.7	19	838	0	0 576	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/10/2017	542	226	13.8	47 3	86.4	25 6	n/a	179	n/a	6.8	19 9	649	0.5	0 532	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
411S	u																																			
	5/28/1997	327	85.6	8.7	17	46	13 3	1 02	160	0.24	6.5	17 8	402	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	313	103	8 2	17	56	17	1.3	159	0.18	6.6	18	545	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	340	105	8.7	20 3	64	20 6	1.73	171	0.33	6.8	17	573	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	322	86.7	9.4	20 8	53	17 6	2 66	180	0 233	6.7	18.4	514	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	372	108	5	21 8	58	20 6	2 53	166	0.25	6.5	21 6	530	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	348	87.1	10.2	27 6	63	21 5	2 85	181	0 254	6.9	17	612	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/31/2000	351	117	9	18 5	61	19 3	2 24	146	0 201	6.7	19	485	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	423	138	9 6	24.4	70	23.4	2 62	181	0 304	6.6	19.1	700	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	450	110	8 8	23 2	71	29 2	1 86	196	0 3	6.2	21 3	622	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	440	159	8 9	24 2	66	25 5	2 24	186	0 324	6.3	17 8	506	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	2/14/2002	398	109	10.2	24	60	20.7	3.3	190	0 226	6.8	16 3	440	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2002	375	101	13.3	20 9	64	21 2	2 33	196	0 298	6.7	19.1	420	6.3	0.155	<0.05	0 042	<0.005	<0.02	0 017	<0 01	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	2.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	8/6/2002	469	108	10.9	29	82	28 2	2.42	234	0.408	6.5	20 5	620	0.5	0.199	<0.05	0 044	<0.005	<0.02	0 011	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/16/2002	474	104	10.7	26	70	24 6	2.2	199	0 354	6.8	17 5	399	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	n/a	n/a
	2/11/2003	424	164	10.8	23 2	75.8	26 9	2 52	204	0 367	6.3	17 9	418	4	0.174	<0.05	0 044	<0.005	<0.02	0.02	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	5/19/2003	390	102	7.4	21 3	62	21	1 86	158	0 297	6.5	19.1	449	1	0.141	<0.05	0 046	<0.005	<0.02	0 023	<0 01	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	0.27	3.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	8/26/2003	380	126	14.3	28 3	77.5	27.7	2.12	194	0 348	6.6	19	479	1	0.132	<0.05	0 043	<0.005	<0.02	0.01	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	0 014	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/22/2003	440	132	13.2	23 3	74.1	25.7	2 58	196	0 313	6.6	18 6	688	1	0.11	<0.05	0 039	<0.005	<0.02	<0 01	<0 01	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	2/25/2004	460	153	11.8	26 6	82.4	26	2.48	198	0.434	6.6	16 8	720	2	0.146	<0.05	0 043	<0.005	<0.02	0 015	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	5/19/2004	360	111	9.32	21 3	73.6	24 5	1 89	171	0 292	6.4	18 8	616	1	0.118	<0.05	0 041	<0.005	<0.02	0 026	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	4.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/20/2004	400	103	13.9	28 6	79.5	26 6	3.18	216	0 377	6.7	16 8	616	1	0.168	<0.05	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	n/a	n/a
	5/18/2005	350	96	10.1	22	67.1	23 5	2 31	200	0 302	6.6	19 9	517	1	0.131	<0.05	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	350	90.2	9 9	19 8	65.3	21.7	2 31	188	0 3	6.6	21 5	600	1	0.11	<0.05	n/a	n/a	n/a	0 014	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	5/8/2006	378	79.7	8.86	28 3	74.9	25.4	2.16	233	0 346	6.6	19 5	523	1.4	0.14	<0.01	n/a	n/a	n/a	0 015	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	9/26/2006	312	67.3	8.88	20 8	61.6	21 6	2.2	205	0.25	6.5	20.32	577	1.2	0.108	<0.01	n/a	n/a	n/a	0.01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.20E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	302	48.6	7.73	20 5	64.1	22 5	1 82	202	0.28	6.6	21.05	507	2.4	0.126	<0.01	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	403	83	11.2	24 2	79.2	27	2.7	239	0.4	6.6	n/a	637	0	<0.1	<0.01	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	350	65.5	8.72	22.7	70.6	23 6	3 33	210	0.33	6.7	n/a	603	0	0.102	<0.01	n/a	n/a	n/a	0.04	0.01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	370(B)	61.8	8 9	22.4	73.4	22.4	2 05	214(B)	0.37	6.7	n/a	627	0.4	<0.1	<0.01	n/a	n/a	n/a	0.044(B)	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	1.48	n/a
	5/12/2009	290(B)	59	8.07	17 6	58.7(B)	21 2	1 97	170	0.24	6.6	n/a	486	1 97	0.101	<0.01	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2009	320	69.7	8 5	16.7	25.3	8.9	1.73	170	0.27	6.6	n/a	490	1.44	<0.1	<0.0005	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	5/26/2010	370	55.5	5.65	19.4	58	22.4	1.78	185(B)	0.32	6.6	19	568	0.5	0.101	<0.0005	n/a	n/a	<0.02	0.022(B)	<0 01	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/13/2010	410(B)	97.9	12.2	28.7	72.8	27.7	2.31(B)	226	0.41	6.73	20.43	649	2.41	0.122	<0.0005	n/a	n/a	<0.01	0 041	<0 01	<0 0002	<0 03	0 004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/24/2011	300	58.2	7	15 3	55.3	19.4	1 57	155	0 263	6 61	22.58	465	0 57	<0.1	<0.0005	n/a	n/a	<0.01	<0.035	<0 01	<0 0002	<0 03	0 00205	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	350(B)	72.8	7.56	27.1	72.6	23 8	2 06	212	0.442	6.6	19 2	599	1	0.167	<0 00025	n/a	n/a	<0.01	<0.035	<0 01	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	310	50.8	7.51	20 8	65.5	19	1 53	182	0 327	n/a	n/a	n/a	n/a	0.109	<0 00025	n/a	n/a	<0.01	0.0368	<0 01	<0 0002	<0 03	0 00205	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/11/2017	350	90.3	14.9	25 3	64.4	21 8	n/a	193	n/a	6.6	19.1	479	1	0.106(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
412S	d																																			
	5/15/2013	300	22	5.09	13 6	59.7	24.4	n/a	207	n/a	6.4	17	450	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	170	18	5.06	4 86	30.2	9.16	n/a	113	n/a	6.1	18 2	289	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	280	22.2	3.64	12 3	58.4(B)	23 8	n/a	186	n/a	6.6	16 5	441	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	190	13.3	4.58	5 21	50.6	12 9	n/a	105	n/a	6	16.4	302	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	280	21	4.3(B)	n/a	47	n/a	n/a	n/a	0.14	5.9	18 6	390	1.9	0.041(J)	0 00028(J)	0 032(B)	<0.001	0 00084(J)	<0.1	<0 01	<0 0002	<0.005	0.0064	<0.002	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	214	18.1	4.77	7	38.6	12 5	n/a	117	n/a	6.2	17 9	325	2.5	0 0833(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2016	200	16.3	5.02	6 29	40.3	12.1	n/a	110	n/a	6.4	17 6	261.4	1.7	0 0495(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/18/2017	192	15.3	5.69	7.44	36.8	13	n/a	117	n/a	6.4	17 2	299.7	0.6	0 0348(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/10/2017	189	15.3	10.1(B)	5.77	38.8	12	n/a	120	n/a	6.2	20.4	273	0.6	0 0344(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
413S	u																																			
	5/28/1997	542	134	44.9	42 9	77	27 3	1.47	282	0.407	6.7	17.1	629	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	750	310	28.2	110	88	37	1.5	338	0.37	7.7	16 5	1210	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	441	104	31.3	40.4	85	28.4	2.16	262	0.37	6.7	16	720	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	617	197	27.3	65 2	78	28.7	3 09	305	0 338	7	17.1	1025	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	550	134	28	56 6	81	33	2 92	295	0.35	6.8	18 8	768	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	561	272	28.5	75 2	93	33 6	3.18	280	0.38	6.9	17.1	1019	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/31/2000	801	270	16.8	72.7	105	39 3	2 51	286	0.438	6.9	17.1	946	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	618	245	34.2	64 6	82	32.7	2.5	212	0.42	6.9	17 6	1023	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	670	200	17	82 2	89	39 5	1 88	283	0 315	6.5	17 8	595	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	520	125	9	72 5	62	26 6	2 04	268	0 311	4.4	16 3	522	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	2/14/2002	483	113	19.9	62 3	59	21.7	2 98	248	0 207	6.9	14.7	550	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2002	661	217	22.5	86	83	30 3	2 59	296	0 363	7	17 3	682	7.6	<0.1	<0.05	0 034	<0.005	<0.02	0 331	0.129	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	1.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	8/6/2002	762	248	17.4	110	98	37.4	2 67	308	0.414	7	20 2	887	0.2	0.113	<0.05	0 032	<0.005	<0.02	0 234	0 228	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	1.00E-07	<0.04	<0 02	<0.02	n/a	0.006
	10/16/2002	723	238	15.2	102(Q)	95	35.1	2 31	312	0 393	6.9	17.1	575	4.7	0.102	<0.05	0 031	<0.005	<0.02	0 968	0.103	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	1.00E-07	<0.04	0 029	<0.02	n/a	<0 005

Table 2
Surface Water Quality Data Summary

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
	2/11/2003	588	310	11.3	89.1	86.8	34 5	2 59	297	0 388	6.6	16	599	3	0.106	<0.05	0 034	<0.005	<0.02	0 884	0.487	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	0.27	3.00E-07	<0.04	<0 02	<0.02	n/a	0.005
	5/19/2003	610	184	11.6	100	70.3	27	2 23	272	0 305	7.1	17.7	671	1	0.102	<0.05	0 029	<0.005	<0.02	0 602	0 288	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	0.38	1.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	8/26/2003	520	134	9.34	28 3	77.5	27.7	2.12	268	0 348	6.7	18 5	557	2	0.132	<0.05	0 043	<0.005	<0.02	0.01	<0.02(R)	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	0 014	0 3	2.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/22/2003	510	132	10	72.7	65.6	25.1	2 68	274	0 255	7	18 3	810	1	<0.1	<0.05	0 026	<0.005	<0.02	0.158	0.161	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	0 3	1.00E-07	<0.04	<0 01	<0.02	n/a	0 01
	2/25/2004	490	123	10.2	75.7	67.4	24	2 32	287	0 319	5.3	16.7	840	1	<0.1	<0.05	0.03	<0.005	<0.02	1 2	0 284	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	0.36	5.00E-06	<0.04	<0 02	<0.02	n/a	0.214
	5/19/2004	480	115	11.8	66 5	67.1	25	2 07	270	0 254	6.5	17 5	795	1	<0.1	<0.05	0 031	<0.005	<0.02	1.46	0 392	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	0.33	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/20/2004	320(1)	53 6(1)	15 8(1)	48.4(1)	62 5(1)	22.1(1)	2.98(1)	191(1)	0.209(1)	6.6(1)	16.7(1)	543(1)	6(1)	<0.1	<0.05	n/a	n/a	n/a	0 694	0.714(R)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3E-07(1)	n/a	n/a	n/a	n/a	n/a
	12/7/2004	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.2(1)	15.9(1)	804(1)	1(1)	n/a	n/a	n/a	n/a	n/a	n/a	0 091	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1E-07(1)	n/a	n/a	n/a	n/a	n/a
	5/18/2005	480	113	13.8	47.7	77.5	30 6	2 25	291	0.25	6.9	18.7	772	1	<0.1	<0.05	n/a	n/a	n/a	0.163	0 233	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	360	103	19.8	41	56.4	20.7	2.8	230	0.173	5.8	20.1	591	1	<0.1	<0.05	n/a	n/a	n/a	0 038	0 042	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.70E-06	n/a	n/a	n/a	n/a	n/a
	5/8/2006	368	61.6	20.2	46 9	57.6	21 5	2 94	230	0.161	6.5	18 3	520	1.3	<0.1	<0.01	n/a	n/a	n/a	0 346	0.157	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	9/26/2006	382	80.5	17.4	47.4	56.3	22 8	2 51	240	0.18	6.4	19.32	677	0.45	<0.1	<0.01	n/a	n/a	n/a	0.14	0.12	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	502	110	13	57 2	85	32	2 31	301	0.27	6.9	19.85	776	2	<0.1	<0.01	n/a	n/a	n/a	0.1	0.27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	473	94.3	10.6	47.4	78.1	29 5	3.2	290	0.29	6.8	n/a	750	0	<0.1	<0.01	n/a	n/a	n/a	<0 01	0.04	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	360	54.4	22.7	34.4	60.4	21 3	4 88	200	0.17	6.7	n/a	635	0 65	<0.1	<0.01	n/a	n/a	n/a	0.96	0.35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	580(B)	114	9.66	44 2	84.3	34 5	2 57	345(B)	0.35	7	n/a	985	1.2	<0.1	<0.01	n/a	n/a	n/a	0.471(B)	0 092	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	1.43	n/a
	5/12/2009	520(B)	97.6	14.9	68.1	90.2(B)	34	2.19	335	0.24	7	n/a	862	1 59	0 226	<0.01	n/a	n/a	n/a	0.164	0 081	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2009	450	83.7	8.43	61 9	33.1	11 8	2 65	314	0.27	7.1	n/a	741	3 99	0.165	<0.0005	n/a	n/a	n/a	0 094	0.165	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	<1	n/a
	5/26/2010	490	79.7	6.69	62 8	70	30 9	1 84	306(B)	0.29	7	17.4	784	1.2	<0.1	<0.0005	n/a	n/a	<0.02	0.066(B)	0.06	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	<1	n/a
	10/13/2010	450(B)	80.2	7 6	61	67.5	28 8	2.45(B)	289	0.31	7 03	19.36	737	4 51	0 211	<0.0005	n/a	n/a	<0.01	0 507	0 872	<0 0002	<0 03	0 003	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/25/2011	360	48.1	25.8	40.1	58.8	22 6	2 88	220	0.161	6 53	17.37	580	0	<0.1	<0.0005	n/a	n/a	<0.01	0.0682	0.0111	<0 0002	<0 03	0 00791	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	460(B)	79.7	8.74	50 9	70.7	27.4	1 86	296	0 301	7	17 2	773	0	0 236	<0 00025	n/a	n/a	<0.01	0.0462	0.0139	<0 0002	<0 03	0 00228	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	420	53.6	12.5	52 2	75.4	25.1	1 88	284	0 261	n/a	n/a	n/a	n/a	0.185	<0 00025	n/a	n/a	<0.01	0.0669	0 051	<0 0002	<0 03	0 00262	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
414S	d																																			
	5/28/1997	472	215	16.2	27.7	64	21 9	1 02	136	0 201	6.5	17.4	585	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	316	120	10.2	17	52	17	1	132	0.1	6.8	18	523	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	520	243	14.9	36.7	83	28 9	1 83	163	0.26	6.7	15	763	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	464	181	14.8	26 2	65	20 9	3 04	131	0.149	6.5	18 3	656	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	763	198	15.1	29 8	89	28 6	2 81	152	0 2	6.6	22	1041	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	515	266	15	50 2	87	30 3	3 92	156	0.184	6.3	18 2	858	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/31/2000	450	154	11.4	27 9	72	22 9	2 64	127	0.136	6.5	19 3	534	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	768	390	15.3	53.1	110	38	4 09	136	0 223	6.1	18 8	1160	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	710	281	11.1	55 3	93	38.1	2 82	123	0.186	6	21 6	740	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	640	313	12	50 9	74	29 8	3 22	143	0.172	6.1	18 5	670	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2002	1104	674	19.4	87.1	122	62 5	2 84	108	0 283	6.6	19 5	633	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/16/2002	1128	659	17.4	86 3	137	68 9	3.46	186	0 298	6.7	17 5	622	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2003	552	255	16.4	97 6	105	55 6	2 08	160	0 231	6.5	20.1	683	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/22/2003	710	358	15.2	57 5	96.1	43 9	3 53	156	0.17	6.6	19 3	807	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2004	730	359	15.5	56 6	97.4	47	2 92	164	0.194	6.3	18.7	973	1.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2004	690	318	14	61 2	99.9	47 8	3 26	165	0 213	6 66	18 5	887	1.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2005	650	358	15	47 9	86.7	41 2	1 39	128	0.197	6 36	20 2	865	1.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	530	209	10.9	36 9	72.3	33 5	1 93	144	0.148	6.8	20 5	590	2.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/16/2006	460	182	10.8	33 9	77.8	28 3	2 24	153	0.141	7 34	19 3	648	1.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2006	520	280	13.6	30 6	62.4	28 5	2	156	0.13	6 84	19.4	742	1.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	580	252	11.6	53 8	92.9	38.4	2 96	145	0.16	7 34	18 2	620	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/24/2007	560	176	8.94	40 8	72.4	36 3	0.988	140	0.21	7	19	780	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2008	610	238	12.6	42	94.8	40 3	2 21	201	0.18	7.12	19	769	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2008	620	205	12.3	49 2	92.2	41 9	2 64	160	0.19	6 97	19 3	n/a	784	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2009	610(B)	223	10.7	41	91	42 6	1 67	160	0.25	7.19	18 8	769	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2009	450	108	8.39	32 9	25.2	13	1.43	180	0 2	6.73	18.13	660	0.48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2010	490	123	6.49	44 8	79.6	41 6	0.917	220	0 3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2010	380	88.9	8.88	30 6	67	33 2	2 01	180	0.15	6 64	22.94	603	18.15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/24/2011	470	164	13.7	35 8	75.8	35	1 84	175	0.177	6 61	21.7	723	0 96	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2011	520(B)	177	12.1	35.1	74.9	33.1	1 83	175	0.196	6.5	19.27	800	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2012	740	181	13.7	52 9	140	53.7	1 06	230	0 547	6.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2012	380	107	10.9	28 9	79.2(B)	34 5	1.71	184	0 211	6.6	20 8	551	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/14/2013	400	107	10.3	26 9	72.8	30 6	n/a	190	n/a	6.6	20.7	656	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/16/2013	480	177	12.9	26.7	63.9	26.4	n/a	189	n/a	6.5	18	706	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	480	139	10.5	29.1	82.3(B)	32 3	n/a	299	n/a	6.6	19 5	697	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	470	132	10.6	38 2	93.8	35	n/a	193	n/a	7.4	18.1	713	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	630	250	18(B)	43	89	40	n/a	190	n/a	6.5	19 3	891	0.2	0.29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/28/2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.7	18 9	865	0.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2015	655	289	16.3	44 8	90.2	39.4	n/a	177	n/a	n/a	n/a	n/a	n/a	0 389	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	573	226	11.9	48 5	100	41.1	n/a	220	n/a	6.7	18 5	735	0.8	0.462	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2016	580	189	12.5	42.7	88.2	38.7	n/a	216	n/a	6.7	20.7	792	0.7	0 326	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2017	436	112	12.9	31 8	76.9	31 9	n/a	205	n/a	6.8	19.7	636	7.4	0 229	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/11/2017	532	194	13.6	37 5	85.5	36.7	n/a	225	n/a	6.8	18 6	677	0.4	0 309	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
415S	d																																			
	5/28/1997	363	39.1	14.9	27	64	34.4	0 34	317	0 359	7.1	17.4	543	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	411	62.5	45.2	34	75	24	1	268	0.24	6.3	17.4	726	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	388	38.5	7.1	26 8	76	26 5	1.12	303	0.37	6.8	15	674	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	364	62.9	5 9	22.1	65	21.4	1 89	291	0 265	6.9	16.7	652	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	406	39.1	7.4	26.4	71	23 6	1 04	301	0 3	7.1	17.4	572	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	461	103(Q)	39.3	44.1	87	31.7	2.75	279	0 295	7	17 9	809	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/31/2000	385	28	7 2	25 3	72	24 2	1 96	147	0 236	6.8	17.1	547	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	511	150(Q)	37.5	43 8	78	31 3	2 88	253	0 292	6.8	16.7	851	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	400	32.1	14	28 2	68	28 2	1.4	275	0 213	6.7	18 3	586	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	510	84.6	52.7	44.7	61	28.4	2.2	263	0 237	6.4	17.1	446	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	424	38.2	7 8	26.4	75	25.7	1.41	303	0 268	7.2	17	411	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	428	37.1	7	35 8	83	28.1	1.5	316	0 283	7	17 2	402	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/22/2003	390	32.9	4.75	18 3	75.8	25 2	1.73	293	0 232	7	18 3	666	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	443	36.2	4.97	25	78.5	27.4	1.43	325	0 237	6.7	18 2	616	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2004	430	36.5	4.12	23 6	84.1	29 2	1.73	327	0 252	7 09	17.1	646	2.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2005	470	47.2	41.4	19 6	92.5	28	1 33	357	0 217	6 85	18.4	650	1.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	590	115	48.6	54 2	92.8	39.7	2.77	303	0 271	7 05	17 8	650	1.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/16/2006	520	64.6	5.14	31 2	112	34 3	1.45	385	0 303	8	17 2	783	0.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	500	63.4	4.35	28 2	105	35 2	1.77	375	0.27	7.46	17 6	713	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	580	80.6	15.8	25.1	106	33 2	1 66	190	0.26	7.9	17	752	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2007	560	85.6	18.3	30.1	122	40 2	1.41	364	0.32	7 24	18	764	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2008	620	112	12.9	34 6	121	41 3	1.7	172	0.35	7.16	17	800	635	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2008	740	207	7.02	42.7	149	47.1	2 38	334	0.41	7 29	17.4	760	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2009	1000(B)	343	6.96	49 5	161	61 3	1 85	332	0.56	7.2	17.1	790	317	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2009	930	347	7.26	62 8	70.4	24 3	2.45	325	0.48	6 87	16.54	1256	1.16	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2010	780	185	4.41	39.7	68.6	28 5	1 63	360	0.41	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2010	740	198	5.21	44 9	168	51 8	2 68	287	0.42	6 93	20.74	1006	2.75	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/24/2011	780	237	4.46	62 9	141	44.7	2.1	342	0.405	7 02	22.61	1066	0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2011	810(B)	245	4.67	35 2	129	38 5	2	325	0 396	6 98	17.44	1143	9 99	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2012	890	234	5.68	84.1	167	47.7	2.19	345	0.485	7.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2012	920	325	6.53	90.4	178(B)	53 5	2 68	335	0 522	7	22.4	1103	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/14/2013	830	229	4.45	86 2	134	41 6	n/a	175	n/a	7	18 6	1201	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 2
Surface Water Quality Data Summary

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
417S	u																																			
	5/28/1997	212	33.3	5	7.8	30	12	0.3	111	0.175	6.4	18 2	275	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	191	29	5	6.2	38	10	1	123	0.1	6.4	17	301	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	194	38	2.7	11 5	34	10	0 62	106	0 2	6.6	16	294	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	192	32.1	5	9.8	32	9.7	1 29	113	0 079	6.6	17 3	321	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	198	31.3	5	12 3	30	10 3	1 05	112	0.09	6.6	17 6	260	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	206	32.9	5.7	7.5	42	12.4	0 99	130	0 097	6.4	17.1	350	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	216	22.1	3 6	9.1	45	13.1	1.45	124	0.133	6.6	17	340	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	213	30.2	4 2	8.1	43	12 3	1 06	134	0 089	6.5	16.7	352	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	220	27.8	2.7	10.1	35	13 5	0.8	115	0 096	6.1	18.7	322	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	210	25.7	4 6	6.1	37	12 2	0.75	136	0 087	6.2	18.1	247	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/21/2002	188	28.9	4.7	9.5	34	11.4	0 67	109	0.164	6.2	17	236	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	194	27.9	3 8	9.3	34	10.7	0 64	106	0.154	6.3	17 5	190	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2003	184	31.8	2.7	11.7	30.9	9.9	0.74	102	0.107	6.3	17 3	254	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	210	30	4.18	9.5	37.3	11	0 88	125	0 084	6.3	18	334	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/17/2004	154	29.2	1.43	11.1	23.9	9.5	0 54	97	0.102	7.7	18.1	283	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	220	31.1	4.38	10 3	40.5	12.1	1.1	117	0.101	6 21	17	321	5.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/17/2005	190	29.2	1.78	12 9	25.7	9.2	0 89	115	0.103	5.9	17.4	314	3.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	230	29	3.4	8.9	41	10 5	0 95	119	0 081	6.15	17.1	288	2.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	230	27.3	9.48	5.8	51.1	13 6	0 67	155	0 082	6.5	16 8	362	8.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/4/2006	230	23.8	5.88	6.3	52.3	14.4	0 94	157	0.08	6.11	17 6	378	8.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/1/2007	200	20.5	3.84	9.4	36.5	12 6	0.77	117	0.1	5 98	16.1	314	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/17/2007	2300(R)	0.742(R)	972(R)	442(R)	122(R)	41.1(R)	11.6(R)	308(R)	3.75(R)	6 06	18.1	382	9.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	160	10.1	2.82	5.8	43.8	10 9	2.13	120	0.06	6 04	17 8	396	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/8/2008	360(Q)	76.4(Q)	7.65(Q)	15 8(Q)	64.1(Q)	18.7(Q)	3 08(Q)	344(Q)	0.17(Q)	6	17 8	394	8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
418S	u																																			
	5/28/1997	234	28.6	7 2	7.6	45	16 3	0 96	175	0.12	6.3	16 5	351	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	227	32.7	6 3	6.3	51	14	1	166	0.1	7.2	16 5	430	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	239	28.4	6.7	8	61	15 5	1 02	175	0.14	6.5	16	465	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	254	36.4	9	8.8	56	15 5	1 81	188	0.103	6.6	13.7	441	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	226	27	5 3	11 2	54	15 5	1 37	161	0.11	6.6	18.1	381	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	263	34.4	8.7	9.9	48	16 9	1.9	186	0 098	6.4	17 3	436	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	262	28.6	11.4	7.6	59	16 2	1 66	169	0 091	6.6	17 2	371	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	270	34.9	9	8.3	63	18.1	1 58	180	0.101	6.5	18 2	465	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	310	37.7	6 5	9.1	59	21	1.18	213	0 084	6.2	18 6	515	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	230	24.9	5.7	5.8	42	13 5	1 09	159	0 079	6.1	16 5	270	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/21/2002	217	24.2	6 8	6.9	49	13.7	1 01	147	0 079	6.4	17 5	278	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	214	22.9	5 6	4.3	52	13 9	1.12	172	0 086	6.5	17 5	223	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	204	37.8	7.55	13 2	64.5	20	1 59	222	0.107	6.5	17	369	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	340	51.5	8.06	11 9	68.1	20 5	2 04	228	0.106	6.4	18 3	575	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	387	132	4.62	12.4	88.6	21 3	1 62	156	0.103	6.4	17.7	584	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	360	80.6	8.45	14 2	84.1	24.7	2 36	216	0.121	6 21	16.7	576	0.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	370	74.2	6.98	12.4	81.9	24.7	1.75	239	0.111	6 22	17.4	581	1.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	350	63.9	5.94	10 9	70	21 5	1.77	234	0.103	6.3	18.4	459	1.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	290	58	6 8	11 5	74.6	18 5	1 63	186	0 097	6 56	16.7	465	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	280	37	6.15	10 5	68.7	19 9	1 88	187	0.09	6 35	17.4	514	2.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/1/2007	240	29.4	5.74	7.8	56.7	16 6	1 28	164	0.08	6 36	17 2	420	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	300	44.8	6.63	8.3	58.5	19 5	1 06	200	0.09	6.43	17 8	492	17 8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2008	260	26.7	5.4	6.5	54.6	16.7	1.2	167	0.08	6 35	17 6	484	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	260	21.3	4.66	6.3	52.8	15.4	1 25	174	0.08	6.5	17 5	489	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
419S	d																																			
	10/11/2017	393	n/a	n/a	61	114	45.4	n/a	432	n/a	6.9	20.7	860	3.6	0.175(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
501D	u																																			
	5/28/1997	765	17.6	360	181	54	19.7	0 29	163	1.83	6.5	17.4	1053	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	767	17.1	290	180	56	16	1.9	160	1 2	6	16 6	1408	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	707	18.1	340	182	62	18 2	2.7	166	1.4	6.8	14	1243	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	703	14.8	294	140	47	14 3	4 82	152	1.07	6.8	16.4	1352	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	779	15.1	380	174	61	20 5	2 82	162	1.19	6.5	18 6	1295	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	780	14.2	330	179	60	18 8	4 87	168	1.32	6.7	16 8	1370	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/31/2000	862	10.9	372	108	58	18 3	3.16	166	1.24	6.7	16 6	1173	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	827	12.3	366	214	57	18 6	3.75	169	1.38	6.3	16.7	1405	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	870	11	350	235	62	21 8	2.72	174	1.23	6.2	17 2	654	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	840	10.1	370	242	48	18	3 27	175	1.4	6.1	15 9	1059	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/21/2002	745	14	338	201	52	16 2	4.19	160	1.24	6.5	17 9	971	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	704	11.4	295	198	50	14 8	3 56	177	1.1	6.6	17 3	774	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2003	1460	7.25	656	494	81.5	23 8	7.77	222	2 3	6.9	17 3	1851	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	2500	0 5	1110	898	110	36.1	11 5	310	3.31	6.7	17.7	2238	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/17/2004	913	11.1	359	255	84.2	20 8	5.73	229	1.83	5.5	18.1	2210	6.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	2000	3.06	1000	8.6	110	32 2	12 9	290	3.08	6 56	16 8	1993	1.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/17/2005	2200	0 902	1110	569	103	33 5	13 6	312	3.29	6.46	17.4	2650	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	2000	0 5	1190	637	130	38 6	11 6	290	3.64	6.77	17.4	3021	3.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	2400	0 5	1050	494	117	38 2	9 39	312	3 5	6 99	16 8	3340	1.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/4/2006	2200	3 3	1110	584	141	46 5	7 59	306	3.85	6 65	17.4	3120	1.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	1700	4.1	976	352	83.9	25.7	5 85	258	1.83	6.74	17	3160	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/17/2007	2200	<0.5	948	556	135	43 3	11.7	314	3.96	6 54	17.7	2860	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	1100	7.56	506	305	79	22 8	6.4	270	1.63	6.45	17 2	2620	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/8/2008	1700	3.41	729	382	91.9	27 5	11 6	255	2.59	6.46	17.7	2700	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
502D	u																																			
	5/28/1997	188	13.9	5 6	2.5	38	12 3	1.2	132	0.11	6.4	18	286	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	165	12.7	5	4.1	42	9.6	1	131	0.1	6.1	16.1	320	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	186	12.2	4.21	3.2	45	11.1	0 63	138	0.11	6.7	15	336	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	159	11.1	5	3.8	40	9.5	1 09	130	0 065	6.4	17 5	271	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	177	11.3	5	2.9	44	9.7	1 07	132	0.11	6.7	19	289	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	184	11.6	4 8	4	47	11 3	1 09	141	0 086	6.4	17 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	199	9 3	4 2	3	40	10 2	0 89	135	0 069	6.5	16 5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	180	11	3 9	3.1	46	11 8	0 98	140	0 062	6	17 5	317	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	180	10	3.36	2.6	42	12 6	0 55	139	0 052	6	19.1	351	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	200	9.7	4.19	2.7	38	10 8	0 67	141	0 061	6.2	18 6	229	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/21/2002	182	10.9	4.67	3.4	45	11 2	0 67	135	0 062	6.4	17 5	243	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	150	10	3.93	2	49	11 6	0 94	146	0 072	6.4	17	207	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2003	205	11.4	3.63	3.1	48.4	11 3	0.74	145	0 065	6.6	18	337	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	210	12.2	5.03	3.5	50.2	11 6	1 38	146	0 064	6.3	18.1	373	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	194	12	3.25	2.7	48.6	12.1	0 66	143	0.06	6.1	17 5	367	1.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	200	12.6	5.64	3.6	52.6	13.1	1.13	140	0 075	6 23	17.4	330	8.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	220	12.4	5 6	3	54.3	10.7	0.71	153	0 064	6.18	17.4	350	5.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	210	11.4	4.49	2.8	44	11	0 65	152	0.06	6.3	17 3	290	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	200	12.6	5.34	3	46.6	12.4	0.6	147	0 059	6 56	16.7	325	4.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
503S	u																																			
	5/28/1997	283	12.5	6.1	8.4	45	16	1.1	291(Q)	0.188	6.4	17	356	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	232	11.5	5 9	8.2	49	13	1	211	0.1	6.3	16 2	426	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 2
Surface Water Quality Data Summary

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
	5/19/1998	229	16	5 5	6.2	54	14 2	0.79	176	0.16	6.6	15	417	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	208	12.3	5 5	7.1	45	12 3	1.48	186	0.102	7	17 2	377	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	254	13.8	5	7.4	58	15 2	1 36	188	0.13	6.9	18.4	415	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	230	13.9	6	9.2	55	15	1 65	195	0.112	6.5	17 3	418	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	256	12.6	5.4	8	50	14.7	1 35	195	0.132	6.7	17.7	379	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/21/2002	212	13.4	7 6	7.8	54	19 3	5.5	185	0.1	6.4	17 2	304	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	236	4.83(Q)	7 3	6.3	53	16 3	16 9(Q)	214	0.106	6.5	17 5	253	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2003	236	11	6.01	9.6	52	16	1 89	182	0 075	6.6	17 8	337	210	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	230	13.2	6.34	8.5	52.6	15.7	2.15	179	0 075	6.4	18 2	472	41	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	183	19.6	3.12	5.4	45.3	12 9	2.49	150	0 088	6	17.4	401	88	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	180	14.4	7.69	10.7	46.7	15 6	1 85	182	0 074	6 34	16 9	411	89.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	250	13.6	7.04	8.2	53.8	16 3	1 38	195	0 069	6 22	17.4	433	76 6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	220	11.3	6.45	8.5	53.1	16.4	1 35	193	0 069	6 27	16 9	370	35 8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	230	13.9	6.46	6.8	45.9	14.1	1 01	191	0 061	6 65	16.7	406	39 9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	210	13.3	5.54	7.2	49	15 5	1 26	193	0.06	6 35	17 2	426	64	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/1/2007	230	7 2	7.18	8	51.9	15.7	1.19	203	0.07	6.3	17	370	38	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	240	10	6.94	7.6	53.2	16.1	0 94	195	0.08	6.3	17 9	414	82	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	140	10.5	2.45	4.4	45.3	15.7	5 96	120	0.1	6.2	17 6	390	70	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	170	1.29	2 8	4.2	47.8	15.7	4.44	160	0.08	6 26	18 2	432	76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
504S	u																																			
	5/28/1997	370	131 8	10.7	16.4	57	21.7	1.46	147	0 206	6.4	17 2	490	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	303	113 9	8 9	12	57	16	1	141	0.1	6.8	17	475	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	349	121	8 8	16 3	67	18 9	1.45	152	0 2	6.5	17 3	572	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	323	122	9.1	15 6	59	16 8	1 96	140	0.135	6.7	15 3	480	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	349	105	8.7	16.1	62	19 5	1 82	148	0.19	6.8	18 3	546	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	305	108	9 3	16 3	62	17 9	1.77	144	0.127	6.4	17 6	536	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	309	72.9	8.1	13.4	56	16 9	1 82	148	0.116	6.5	16 8	410	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	353	105	8.1	15 2	59	17 6	1.71	148	0.125	6.5	16 9	558	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	310	80.2	6.4	11.4	56	17 9	2.15	158	0 314	6.3	19.4	475	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	351	55.7	7 8	13.4	61	21.4	2.7	196	0.11	6.4	17 2	342	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	544	49.4	7 9	17 9	92	41.1	5 82	260	0.158	7	17.4	381	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	356	87.4	7 9	16.4	62.3	21.7	2.11	183	0.115	6.7	17	417	43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	450	50.2	11	18.1	83.4	38.7	2 54	368	0.144	6.8	18 3	585	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	400	128	4.16	17 9	85.6	23.7	2 24	164	0.111	6.3	17.4	608	18.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	470	111	10.5	18	83.5	36 3	4 01	277	0.15	6 63	17.1	688	90 2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	570	135	11.1	18 9	105	41.7	2 85	315	0.145	6 69	17.4	798	18	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	470	75.5	10.4	16.4	90.7	39 3	2 69	313	0.133	7 02	16 8	589	35.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	440	180	9.33	25 2	104	29.4	3 08	170	0.15	6 63	17 2	663	7.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	480	145	8.04	19 5	80.7	28 8	3 96	183	0.12	6 66	17 2	733	12	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/1/2007	500	90.4	7.46	16 9	93.1	39 3	2.4	294	0.14	6 54	17 2	628	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	430	150	8.11	14 8	63.9	22.4	1 39	158	0.12	6 59	17 9	694	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	460	65.1	6.74	14 6	97.5	38.1	2.42	308	0.15	6 57	17.4	650	11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	440	65.9	6.41	13 3	73.6	28.1	2.45	96	0.13	6 57	17 6	700	12	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
505D	u																																			
	5/28/1997	355	70.6	87.2	21 3	61	32 2	1.4	170	0 259	6.5	17 6	535	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	399	90.4	78.9	23	77	26	1	162	0.18	6.8	17	720	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	394	99.8	49.2	20 9	72	22	1 55	160	0.27	6.6	14	702	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	405	97.9	64.7	21 6	66	22 6	2.49	154	0.186	6.6	15 8	699	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	420	111	46.3	21.1	71	23 8	2 26	164	0 2	6.6	17 9	594	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	430	129	49.2	22 6	75	26 2	2 24	159	0.19	6.4	17 6	719	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/31/2000	457	118	45	26 3	76	25.1	2 92	160	0.194	6.7	17.4	592	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	464	171	29.1	23 8	77	23.4	2 35	129	0 215	6.4	17.1	706	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	550	130	78	39 6	89	39 6	1 62	164	0.17	5.8	16 6	520	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	490	215	24	26.1	72	24	2 21	137	0 206	5.9	16 2	173(R)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	509	192	36.7	26.7	80	24.7	2 33	142	0 213	6.4	17 6	439	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/16/2002	577	142	108	31.1	102	37 3	2 59	158	0 268	6.3	17 3	506	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	581	157	102	34.4	98.6	37	2.47	158	0 246	6.4	18 2	556	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/22/2003	630	151	122	29 8	108	39 8	2 99	170	0 252	6.3	18 3	978	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	533	179	54.2	29 6	93.8	31 2	2 59	147	0 206	6.2	17 6	773	4.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2004	820	129	241	44 5	140	59 6	3.79	203	0 326	6 36	16 8	1180	6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2005	820	160	250	43 9	155	60	2 87	215	0 304	6.15	18.1	1251	3.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	510	186	35.2	29 3	87.4	29 6	2 67	146	0.19	6.6	18.4	604	4.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/16/2006	650	185	117	35 6	110	41 9	2 52	179	0 241	7 33	17 3	950	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	530	205	41	31 5	95.2	32 6	2 82	147	0.18	6.76	17 8	1120	4.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	720	130	142	37.1	122	44 3	2.5	185	0.23	7.15	17 5	870	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2007	690	118	124	34 5	117	50.1	2 29	190	0.24	6 84	17 9	1080	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2008	600	162	68.6	32 6	108	39 9	2 65	174	0.23	6 82	17 8	1016	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2008	640	161	73	35.7	101	36 3	3 29	170	0.22	6.9	17.4	1050	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
506D	u																																			
	5/28/1997	407	157	9 9	15.7	68	21.7	1 66	145	0 231	6.2	16	511	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	365	175	9 2	17	72	19	1	143	0.13	6.5	17	537	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	360	163	9 8	17 3	79	21 2	1 27	159	0.22	6.7	14	627	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	368	144	9 3	18.4	66	18 3	2 27	143	0.141	6.8	17.4	547	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	416	150	12.1	19.4	76	22.4	2.17	151	0.16	6.4	18 8	523	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	340	111	9	20.4	64	18 5	2 21	156	0.13	6.5	17.7	580	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	383	98.9	7 8	17 5	64	18 8	1 92	157	0.129	6.9	17 2	572	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	350	107	7 8	17 9	63	18 6	1 84	144	0.134	6.1	17	542	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	350	106	6 2	21.1	57	21.1	1 33	156	0.103	6.5	17 6	529	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	340	104	7 5	15 9	54	18 5	1 87	160	0.125	6.2	17 3	391	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	342	99.2	9 6	16 5	60	19 3	1 51	170	0.135	6.7	17 3	332	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	329	75.7	6 9	0.2(Q)	71	21 6	1 89	162	0.148	6.8	17.4	283	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	326	80.8	7.61	16 3	58.3	17 5	1 58	159	0.114	6.5	17.4	367	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	360	105	7 5	15 2	65.4	19 3	2 38	160	0.117	6.4	18 3	520	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	351	106	9.07	16 3	72.7	17 9	1 37	154	0.101	6.1	17 3	571	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	380	120	8.35	14.4	59.6	19	1 95	157	0.119	6 22	16 9	508	8.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	360	114	8 6	14 6	74.7	21 3	1.46	164	0.121	6.15	17 3	544	5.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	450	162	9.02	18.1	79.2	24.4	1 95	148	0.141	6 63	17 2	503	1.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	430	183	9.78	23.1	98.7	25.1	2 03	151	0.154	6 56	16.7	592	1.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	430	172	9.27	19 3	84.1	24.4	1 99	148	0.13	6 38	17	565	3.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/1/2007	410	128	8 2	19.4	78.5	23 8	1 62	155	0.12	6.4	16 8	565	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	430	142	8.24	14 6	68.1	23 8	1 22	160	0.13	6 52	18	545	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2008	480	140	10.3	20.7	81.8	30.4	1.72	188	0.17	6.5	17.7	544	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	430	104	7 3	18 5	74.7	23 9	1 97	155	0.14	6 59	18 2	560	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
507D	u																																			
	5/28/1997	705	145	167	77 3	81	43 9	1.49	211	0 358	6.6	17 2	876	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	630	143	138	71	89	29	1.8	221	0.26	6.3	16 3	1045	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	652	136	147	81 2	94	32.4	2 83	230	0.42	6.7	15	1089	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	514	112	107	55 5	67	23 9	4 03	213	0 246	6.6	16 5	870	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	574	134	103	78 2	88	33 8	3 33	214	0.27	7	17 8	874	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	462	83.5	84	62.1	67	25.1	3.6	214	0 224	6.4	17	837	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 2
Surface Water Quality Data Summary

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
	5/31/2000	554	88.7	105	64 2	74	27 6	3 62	213	0 265	6.9	16 8	782	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	470	86	97.5	53	68	26	2 59	192	0 225	6.9	16 8	847	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	490	86.8	74.9	55 9	66	28 9	2.1	211	0.18	6.5	17 5	609	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	470	87.2	63.3	53.4	51	22 6	3.1	210	0.197	6.2	17 3	141(R)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	532	92.5	161	68 8	67	25.4	4.42	201	0 236	6.5	17 2	540	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/16/2002	398	54.1	59.7	47 5	57	20 2	3 24	190	0.199	6.4	17.4	420	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/22/2003	490	91.6	81	61 9	68.2	25 8	3.76	205	0 208	6.3	17.7	830	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	532	79	126	72	69	26 5	3 58	193	0 215	6.2	17 9	868	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2004	440	73.8	63	63	64.7	25 8	4 27	201	0.191	6.43	16 8	754	3.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2005	530	90.7	86	60 3	75.4	26 8	3.73	219	0 203	6 03	17 3	800	0.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	470	70.5	66.6	58 3	63.3	24 9	3.18	201	0.198	6 53	17.4	617	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/16/2006	500	87	92.6	57 8	69.5	25.1	3 51	211	0 208	7.47	16 8	770	1.7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	470	82.8	77.7	55.7	72.1	27	3 67	221	0.19	7 57	17	796	2.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	490	69.7	71.1	66 2	69.5	25 9	3 21	209	0.19	7 38	16 8	750	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2007	500	81.3	71.1	52 8	72.6	27 3	3 23	230	0.21	7 54	17 6	778	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2008	500	82	77.8	51 9	69.8	28	2 93	220	0.22	7.42	17 2	768	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2008	500	77.1	73.1	55.1	72.4	26 5	4 07	225	0 2	7 58	17 2	781	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
508D	d																																			
	5/15/2013	240	10.9	39.7	21.4	45.7	12.1	n/a	104	n/a	6.2	16 2	403	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	180	11.8	22	11 2	29	7 94	n/a	105	n/a	6.2	16 3	341	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	260	9.36	50.6	31 5	54.1(B)	13 3	n/a	132	n/a	6.4	15 2	488	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	260	9.44	46.3	34.7	53.3	12 5	n/a	122	n/a	6.2	16 6	458	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	310	10	51(B)	n/a	49	n/a	n/a	n/a	0.43	6.3	19 3	506	10.4	0.062(J)	0 00036(J)	0.48(B)	<0.001	<0 002	0.34	0.12	<0 0002	<0.005	0.0018(J)	<0.002	<0.002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	167	11.9	10.6	4.45	36	9.77	n/a	95.4	n/a	6	16.7	224.1	4.5	0 0793(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/18/2017	231	12.1	34.9	19 8	41.4	11 8	n/a	112	n/a	6.3	16 2	387	0	0 0448(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/10/2017	171	n/a	n/a	4 03	36.9	10	n/a	101	n/a	6	19 8	274	0.2	0 0423(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
509D	d																																			
	5/15/2013	280	7.54	51.8	29 5	52.6	12.4	n/a	143	n/a	5.8	17.7	461	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	220	11.7	23.3	13.1	37	8 93	n/a	144	n/a	6.6	18	421	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/28/2014	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.5	16 3	505	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	280	8.43	48.5	30 6	60.2(B)	13 2	n/a	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	290	7.92	50.6	36 5	63.7	13	n/a	153	n/a	6.3	16 5	516	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	300	11	50(B)	27	48	12	n/a	150	n/a	6.1	18 6	606	5.4	0.08(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	270	11.3	30.8	15.4	56.9	14.1	n/a	168	n/a	6.4	17.1	369.8	1.7	0.1(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/18/2017	267	9.33	45.7	29.7	48.1	12 3	n/a	140	n/a	6.4	17.1	456	0.3	0 0821(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/10/2017	278	9.22	50.7	30	54	13	n/a	160	n/a	6.6	22	522	1.1	0 0989(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
510S	d																																			
	5/28/1997	392	232	11.8	22 2	68	25 6	1.77	141	0 202	6.3	18	568	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	432	225	11.3	24	76	22	1.8	142	0.13	7.4	17	640	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	492	194	11.8	24 9	77	25	2.42	170	0.23	6.7	17	680	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	379	173	10.9	22 3	61	20	3.19	151	0.129	6.7	18.1	600	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	442	207	10.9	24 6	79	28 6	2 91	149	0.18	6.8	18 5	559	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	395	161	12	26.1	69	23	3.15	148	0.131	6.6	18.1	661	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/30/2000	425	141	10.5	26 6	69	24 2	3 09	160	0.133	6.7	17 2	677	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2000	427	161	9	25 9	72	25 6	3	155	0.129	6.2	17 2	650	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2001	420	137	7 9	28 8	67	28 8	2 21	163	0.111	6.2	18	538	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/26/2001	420	180	9 5	24 9	61	24.7	2 55	164	0.13	6.2	17.4	441	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	414	144	12.8	23.7	65	30.1	2 66	152	0.141	6.6	17 2	377	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	393	122	8	21 6	70	23 9	2 64	166	0.156	6.8	17 6	348	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2003	419	149	10.1	26 8	66.8	23 9	2.49	165	0.125	6.5	18	467	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	410	146	9.93	22 6	70.4	25 3	3.14	169	0.122	6.5	17 9	665	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2004	437	153	12.2	26.7	76	28 3	3 01	166	0.133	6.3	18 2	667	1.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/20/2004	450	165	11	25 5	78.1	28 9	3.71	170	0.136	6.5	16 8	642	1.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2005	470	196	12.1	25 2	87.8	30 3	3 07	175	0.13	6.1	17 6	690	0.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2005	520	196	11.3	27 2	82.9	33	3 22	170	0.137	6 68	17.4	584	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/16/2006	530	247	13.4	35 3	108	33.7	3.48	170	0.153	7.47	17 3	758	0.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	520	227	12.2	28 2	86.6	32 8	3.44	163	0.12	6 53	17 3	714	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/2/2007	530	189	11.6	30 3	87.6	32.4	2 88	169	0.13	7 35	17 2	740	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2007	500	174	10.1	24.4	79.3	32.1	2 58	170	0.13	6.44	17 6	690	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	490	131	10.1	24 8	83.6	31 2	2 83	170	0.13	6 56	17 5	700	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2008	430	130	8.68	24.1	79	29 5	2 93	175	0.13	6.5	17 6	680	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2009	500(B)	175	7.34	23 3	79.8	31	2.2	175	0.15	6.6	17 9	694	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2009	450	139	9.54	26 8	28.4	11 9	2.78	185	0.13	6 51	16 3	655	3.11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/25/2010	460	86.3	6 5	28 2	75	33 2	2 52	182	0.13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2010	470	144	7.96	29 5	77.3	32.4	2 93	189	0.14	6 51	21.04	696	4 52	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/24/2011	470	148	10.3	28 5	81.2	30.7	2 84	186	0.138	6 62	18.57	697	1 63	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2011	380(B)	94.6	7.51	21.4	69.1	26 2	2 22	193	0.127	6 36	16.85	638	0.8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2012	390	91.6	8.62	25	84.2	27.4	2.3	190	0.137	6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2012	410	108	12	25 3	87.4(B)	32.7	2.44	211	0.15	6.6	18 2	586	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/14/2013	420	96.6	9.17	24 2	76.7	27 9	n/a	194	n/a	6.5	18 5	674	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	400	116	9.37	17 3	58.8	20.7	n/a	195	n/a	6.6	17.7	614	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	410	98.5	8.91	24 3	83.4(B)	28 3	n/a	156	n/a	6.6	17 3	636	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	440	109	10.6	29 2	99	32	n/a	208	n/a	6.4	17 3	680	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	510	129	9.6(B)	n/a	76	n/a	n/a	n/a	0.14	6.2	18.1	650	7	0.16(J)	0 00166(J)	0 056(B)	<0.001	<0 002	1.1	0 0086(J)	<0 0002	<0.005	0 00258	<0.002	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/28/2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.8	18 9	668	2.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2015	457	93.9	7.73	21.4	79.5	28	n/a	202	n/a	n/a	n/a	n/a	n/a	0.152(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	348	93.3	8 6	21.1	77.7	27 5	n/a	212	n/a	6.5	16 8	506.5	1.5	0.156(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2016	427	79.7	15	17 8	83.1	34 3	n/a	250	n/a	5.8	18	610	1.3	0.106(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/20/2017	382	93.4	9.34	24 2	74.8	26.7	n/a	194	n/a	6.7	23 8	614	1.7	0.147(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/11/2017	401	88.2	19.8	18.1	80.3	32.1	n/a	257	n/a	6.8	19 8	552	1.1	0.101(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
511S	u																																			
	5/28/1997	687	253	11.7	33.1	155(Q)	39.1	1 86	159	0 212	6.7	17.4	804	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/23/1997	568	314	11.3	40	99	32	1.4	198	0.16	6.5	18	928	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/1998	501	237	7 2	46.7	77	26 8	2.4	172	0.21	6.9	16	794	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/15/1998	484	281	9 2	38	71	25	3 37	204	0.141	6.9	17.1	766	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/1999	504	197	9.4	41 5	78	26	2 61	152	0.19	6.6	18.7	746	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/1999	694	356	11.4	58 6	100	37 8	3 96	160	0.175	7	17 9	1007	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/31/2000	713	282	10.8	46.1	102	37 5	3 29	185	0.178	6.8	18.4	805	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2000	649	328	12	57 6	91	35 5	3 37	161	0.162	6.7	18.7	1040	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/23/2001	620	248	9.7	45.4	90	38.4	2.49	157	0.13	6.5	19 2	646	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	9/27/2001	720	322	11.2	56.1	86	37.4	3.16	193	0.175	6.5	17 5	605	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	2/14/2002	675	332	13.8	69.4	72	32.4	3 34	130	0.123	7.1	16.7	664	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	575	259	17.6	52 9	71	30.4	2 64	151	0.137	7	18 6	486	8	0.53	<0.05	0.04	<0.005	<0.02	0.143	<0 01	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	1.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	8/6/2002	704	275	12.6	61 8	95	40 8	2 59	211	0.178	6.8	20 9	836	4.6	0 581	<0.05	0 049	<0.005	<0.02	0.09	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	0 281	2.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/16/2002	776	404	12.9	52	90	37.4	2 53	174	0.16	6.5	17.1	581	4.2	0 666	<0.05	0 045	<0.005	<0.02	0 055	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	2/11/2003	595	368	12.6	54	95.4	41 9	3.16	148	0.174	6.1	17	474	2	0 576	<0.05	0 053	<0.005	<0.02	0.18	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	8.00E-07	0.057	<0 02	<0.02	n/a	0.008
	5/15/2003	601	278	15.1	44	85.7	34 3	2 82	155	0.16	6.7	19 3	590	1	<0.1	<0.05	0.28	<0.005	<0.02	0.48	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	2.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	8/26/2003	650	275	13.1	48 3	100	38 6	2 82	182	0.173	6.7	19 2	585	2	0 299	<0.05	0 049	<0.005	<0.02	0 022	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	2.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/22/2003	610	282	14	47 3	146	52 3	7.48	157	0 331	6.7	18 3	873	1	0 239	<0.05	0 046	<0.005	<0.02	<0 01	<0 01	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	2.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	2/25/2004	610	278	14.8	37 8	95.6	33 3	2 82	170	0.194	6.8	16.7	769	7	0 264	<0.05	0 045	<0.005	<0.02	0 056	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	2.00E-07	<0.04	<0 02	<0.02	n/a	<0 005

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
	5/18/2004	673	273	12.2	47.4	91.1	35 8	2 91	175	0.165	6.3	18 9	837	1	0.472	<0.05	0.05	<0.005	<0.02	0 071	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/20/2004	620	305	13.6	45 5	97.9	38 3	4.41	151	0.171	6.6	17 2	824	1	0 343	<0.05	n/a	n/a	n/a	0 232	0 012	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	5/18/2005	610	326	13.8	40.4	93.5	37 3	3 24	155	0.15	6.6	18 9	888	1	0 265	<0.05	n/a	n/a	n/a	0 012	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	680	283	10.8	49 3	107	37.7	3 91	222	0.176	5.9	24 6	987	10	0 391	<0.05	n/a	n/a	n/a	0 085	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.20E-06	n/a	n/a	n/a	n/a	n/a
	5/8/2006	608	230	11.6	54.7	105	37 3	3 09	226	0.17	6.6	18 5	775	1.1	0 289	<0.01	n/a	n/a	n/a	0 039	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	n/a	n/a
	9/26/2006	682	274	13.3	46 6	97.8	40.4	3 29	188	0.16	6.6	24.86	1018	0.3	0.454	<0.01	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.50E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	612	229	11.9	48.4	97.9	41 3	2 69	163	<0 05	6.8	19.29	858	5.3	0 348	<0.01	n/a	n/a	n/a	0.04	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	633	275	11.7	37 2	95.7	38.7	2 62	173	0.16	6.7	n/a	884	0 69	0 355	<0.01	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	700	284	12.2	43.4	91.1	39.4	2 69	170	0.16	7	n/a	1028	0.2	0 607	<0.01	n/a	n/a	n/a	0.04	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	680(B)	212	11.3	38 2	94.9	38.4	2 95	180(B)	0.16	6.8	n/a	1039	2.4	0.474	<0.01	n/a	n/a	n/a	0.074(B)	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	5/12/2009	620(B)	229	13.4	49 3	91.6(B)	41 6	2.49	220	0.08	6.7	n/a	929	2 37	0.416	<0.01	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2009	640	179	10.9	42.1	45.2	16.1	2 58	260	0.16	6.9	n/a	877	1.48	0.28	<0.0005	n/a	n/a	n/a	<0 01	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.00E-07	n/a	n/a	n/a	<1	n/a
	5/26/2010	570	115	11.6	33.7	73.2	33.4	2 31	190(B)	0.16	6.6	20	803	6.2	0 292	<0.0005	n/a	n/a	<0.02	0.058(B)	<0 01	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2010	550(B)	177	11.6	49 3	114	45 8	2.71(B)	186	0.16	6.79	17.87	794	2 91	0 339	<0.0005	n/a	n/a	<0.01	0 092	0 012	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/25/2011	620	246	8.89	55	88.8	35 6	2 21	184	0.153	6 94	18.72	835	0 03	0 623	<0.0005	n/a	n/a	0 0137	0.0661	<0 01	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	590(B)	223	9.46	43 2	86.5	34.7	1.9	175	0.168	6.8	19.1	871	1	0.496	<0 00025	n/a	n/a	<0.01	<0.035	<0 01	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	510	104	10	37.7	93.1	32 9	2 05	195	0.163	n/a	n/a	n/a	n/a	0 295	<0 00025	n/a	n/a	<0.01	0.0354	<0 01	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
600S	d																																			
	5/21/2002	502	141	10	19.7	77	26.4	4.17	175	0.191	6.5	16 8	502	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	479	104	11.2	18.1	73	23	2 03	200	0.172	6.6	17 2	370	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2003	1430	755	23	23 2	182	64 6	4.76	112	0.451	6.6	18	848	146	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	1000	451	23	47 3	146	52 3	7.48	171	0 337	6.6	18 5	1365	383	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/17/2004	957	373	9.53	33.4	151	43 3	4.43	161	0.24	6.4	18.1	959	244	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	790	312	17.9	31 3	120	41 9	3 99	195	0 271	6.44	17 2	940	389	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	930	258	15.3	35.1	157	46.1	4 31	272	0.28	6 34	17 2	1027	219	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	830	311	17.4	31.1	138	47 5	3 59	228	0 275	6 35	17	729	221	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	1000	474	24.6	52 9	151	47	3.15	212	0 293	6 86	17.1	1167	90	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	1000	464	18.7	51 6	179	66.7	4.71	193	0.35	6.46	17 3	1134	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/3/2007	950	338	34.9	52 5	163	50 2	3 85	218	0.29	6 28	17 6	655	90	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	1500	748	22.5	54 9	204	67.7	2 62	148	0.4	6.5	17.4	1092	96	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	580	118	23.3	44.1	118	36 6	3 89	313	0.24	6.42	18	982	88	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	510	91.4	9.85	45 6	101	30	3 87	298	0 2	6 58	18	994	86	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2009	750(B)	145	28.7	44 8	131	47.1	2 98	400	0 3	6 52	17 8	880	49	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2009	930	371	14.8	67.1	59.7	20 9	3.49	190	0.32	6 54	14.74	1228	8.75	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2010	1100	224	22	84.7	197	57 3	2 69	370	0.38	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2010	1100	454	17	94 3	208	73 6	3 86	192	0.37	6 64	18.39	1326	46 8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/24/2011	870	287	13.7	83.4	149	45 6	3 65	346	0 291	6 98	18.24	1218	4 91	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/4/2011	520(B)	96.7	12.6	48 3	91.2	32 2	2 82	334	0 217	6.72	18.06	865	3.73	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2012	790	109	15.4	64 8	171	47 6	2.9	318	0 334	6.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2012	1200	688	20.3	104	204(B)	64.7	2 59	98	0.481	6.7	19.1	1335	8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/14/2013	1400	684	21.1	110	225	71.4	n/a	134	n/a	6.5	17 2	1749	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	860	320	13.7	62	125	38 5	n/a	342	n/a	6.8	16 8	1186	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	950	253	11.2	81.4	197(B)	57.7	n/a	480	n/a	6.9	19.7	1347	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	710	191	14	73	140	41 8	n/a	306	n/a	6.6	16 9	1029	39	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	730	130	3.4(B)	n/a	149	n/a	n/a	n/a	0 314	6.7	17	1196	6.6	0.449	0 00066(J)	0.0817(B)	<0.001	0 00095(J)	0.126	<0 01	<0 0002	0.00197(J)	0 026	<0.002	<0.002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/28/2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.7	17	1038	5.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2015	627	95.6	9.43	91 2	99.9	36.1	n/a	394	n/a	n/a	n/a	n/a	n/a	0 332	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	661	225	8.12	75 3	119	40 3	n/a	337	n/a	6.7	16 9	1082	6.6	0 569	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2016	536	164	13.2	70 3	102	36 8	n/a	312	n/a	6.5	19 9	832	0.9	0 347	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/18/2017	747	281	11.3	83 6	124	42.4	n/a	319	n/a	6.9	17.4	1063	0.3	0 859	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/10/2017	558	96	11.7	73 8	84	33.7	n/a	392	n/a	6.7	19 3	752	1.2	0 389	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
601S	u																																			
	5/21/2002	310	30.2	7 8	11	50	14 5	2.44	158	0 089	6.4	17.4	304	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2002	278	26.4	7	11 5	52	14.1	1.74	196	0 088	6.5	17.1	277	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/13/2003	429	62.3	12.7	19	70.2	19.1	2 95	200	0.114	6.6	17 8	421	187	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/21/2003	410	60	17.5	27 6	73.8	22 3	3 86	251	0.124	6.6	18	639	130	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/17/2004	323	56.6	3.73	12.1	66.8	16 8	2.18	164	0 084	6.3	18.1	494	180	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/19/2004	440	74.5	13.3	18 5	71.8	23 3	3 64	223	0.125	6.4	16 8	594	89	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/18/2005	480	105	13.2	19 3	89.9	25	2 94	223	0.124	6 24	17 2	652	91 3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2005	390	61.3	6 9	11 9	63.4	18 2	2.41	167	0 093	6.2	16.7	397	99 3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2006	340	58	6.78	10 6	61.6	16 9	1 91	167	0 087	6 62	16.7	459	89.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/5/2006	280	46.2	6.36	9	58.4	18	3.16	162	0.08	6 56	17.1	574	93	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/3/2007	320	31.3	8.69	17	64.7	19	1 84	213	0.09	6.12	17 6	395	74	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/18/2007	290	43.4	7 5	12 8	58.5	17	1.44	173	0.09	6.46	17 3	556	84	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2008	330	30.6	8.26	15 2	67.1	18 8	2 98	190	0.1	6 39	17 6	550	82	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/9/2008	260	23.3	6.53	9 02	56.7	15.4	2 04	163	0.08	6.42	17.7	560	80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/20/2009	270(B)	29	7.91	10 3	65	17.1	2.45	173	0.09	6 36	18	572	57	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2009	240	24.2	8.19	10 9	21.1	6 28	1.5	165	0.09	6 28	16.02	413	9.76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/26/2010	460	66.4	19.9	25.1	82.7	28 5	2 23	252	0.14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/13/2010	360	43.7	12.7	25	104	26 9	2 36	214	0.12	6.43	19.52	564	33.56	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/24/2011	320	47.2	11	16 3	67.7	19.4	1 97	190	0.11	6 52	18.11	509	9 32	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/4/2011	310(B)	42.4	9.38	17.4	65.8	18 2	1 96	192	0.11	6.42	17 9	512	2.76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/15/2012	380	35.1	15.2	27 9	84.6	22	2.12	254	0.132	6.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/23/2012	310	49.8	11.2	21.1	79.1(B)	21.4	2 25	200	0.117	6.4	18 3	471	8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/14/2013	310	44.7	9.47	16 5	72.4	19 3	n/a	183	n/a	6.3	18 3	526	8	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	330	53.6	10.9	20 2	62.1	16 6	n/a	216	n/a	6.4	16 9	539	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	320	41.7	9.57	18 2	75.1(B)	19	n/a	194	n/a	6.4	16.1	506	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	320	38	9.09	23 5	82.4	19 3	n/a	200	n/a	6.3	17 2	525	9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	360	48	15(B)	22	63	18	n/a	210	n/a	6.2	16 6	541	15.4	0.039(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/28/2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.4	17.1	542	4.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/29/2015	332	40	10.1	24.7	66.8	17.7	n/a	190	n/a	n/a	n/a	n/a	n/a	0 0469(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	409	47.6	17.8	39	83.6	23 9	n/a	273	n/a	6.4	16 5	711	2	0 0807(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/12/2016	360	46.3	11.4	33 2	71.1	20 2	n/a	229	n/a	6.3	18 9	567	2.3	0 0705(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/18/2017	361	51	13.6	34 8	74.9	21	n/a	242	n/a	6.6	17 9	597	1.3	0 0478(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/10/2017	355	52.7	15.2	33 6	66.8	19 2	n/a	237	n/a	6.3	18 9	488	2.5	0 0629(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
602S	u																																			
	2/14/2002	338	64.8	29.8	35	96	34	25 5	220	0.44	6.6	15.4	440	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	421	79.1	34.6	39.7	63.5	23	3.72	223	0.17	6.5	14	485	140	<0.1	<0.05	0.119	<0.005	<0.02	12.7	2.08	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 01	<0.02	n/a	0.034
	8/6/2002	443	74.1	30.8	38	64	23 9	2.5	211	0.157	6.5	20.4	612	9.7	<0.1	<0.05	0 026	<0.005	<0.02	0 963	0.24	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	0.018
	10/16/2002	465	58.3	30.8	34 5	66	24.1	2.72	232	0.144	6.5	17.4	390	6.7	<0.1	<0.05	0 045	<0.005	<0.02	3.89	0 695	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	0.018
	2/11/2003	411	45.9	24.1	40 2	63.4	24 8	3.15	246	0.158	6.2	16 5	420	50	<0.1	<0.05	0.06	<0.005	<0.02	6 5	1.09	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	6.00E-07	0.147	<0 02	<0.02	n/a	0 03
	5/19/2003	404	60.6	23.7	58.1	55.9	21 6	3.16	228	0.14	6.9	17 9	457	21	<0.1	<0.05	0 048	<0.005	<0.02	5.21	0 846	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	0.25	1.00E-07	<0.04	<0 01	<0.02	n/a	0.011
	8/26/2003	350	47.5	18.8	39	54.2	21 6	2.43	200	0.129	6.6	18 6	441	26	<0.1	<0.05	0 024	<0.005	<0.02	2.95	0 349	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	0.006
	10/22/2003	390	46.8	17.8	42 6	56.7	22 3	3 26	239	0.124	6.6	18	629	14	<0.1	<0.05	0 024	<0.005	<0.02	2.86	0.37	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 01	<0.02	n/a	0.006
	2/25/2004	360	52.8	19.1	36 3	56.1	21 2	2.72	213	0.154	6.6	16 2	620	38	<0.1	<0.05	0 068	<0.005	<0.02	10.4	1.44	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	0 02
	5/19/2004	370	47.3	20.1	31.7	53.2	21 3	2.46	205	0.124	6.3	17.4	586	54	<0.1	<0.05	0 041	<0.005	<0.02	4.27	0 573	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.008
	10/20/2004	390	52	18.1	49 9	64	24	3 97	250	0.143	6.4	16.7	615	29	<0.1	<0.05	n/a	n/a	n/a	5.84	0 953	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	n/a	n/a
	5/18/2005	380	60.3	24.3	39 8	59.7	24 3	3 02	231	0.132	6.6	18.1	629	30	<0.1	<0.05	n/a	n/a	n/a	1.72	0 331	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	310	60.7	25.4	27 8	54.1	18.1	2.75	183	0.121	6.3	20.4	363	30	<0.1	<0.05	n/a	n/a	n/a	0.183	0.184	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	n/a	n/a
	5/8/2006	308	45.4	18.1	34.7	52.3	18 3	2 63	183	0.124	6.5	18 8	449	13 5	<0.1	<0.01	n/a	n/a	n/a	0 585	0 081	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	n/a	n/a

Table 2
Surface Water Quality Data Summary

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
	9/26/2006	322	44.7	20.7	26	55.9	21 6	5 33	175	0.14	6.8	28.17	555	n/a	0 334(R)	0.061(R)	n/a	n/a	n/a	56 5(R)	8.35(R)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.60E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	352	46	21.2	43 2	61.9	24.1	2.5	238	0.12	6.6	19.41	601	6.3	<0.1	<0.01	n/a	n/a	n/a	0.26	0.05	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	303	41.9	19.7	28 9	54.7	19.1	2 65	178	0.12	6.4	n/a	523	5.3	<0.1	<0.01	n/a	n/a	n/a	0.04	0.07	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	370	49	21.8	43.1	69.9	25.7	3.49	226	0.15	6.7	n/a	680	4	<0.1	<0.01	n/a	n/a	n/a	0.28	0.04	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	340(B)	38.3	17.9	29.4	54.5	20 3	2 65	202(B)	0.13	6.4	n/a	613	4.4	<0.1	<0.01	n/a	n/a	n/a	0.375(B)	0 055	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	<1	n/a
	5/12/2009	310(B)	42.4	19	36	56.1(B)	21 5	2.4	200	0.06	6.4	n/a	556	5 99	<0.1	<0.01	n/a	n/a	n/a	0.157	0 027	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2009	330	35.5	16.2	29 3	23.7	8.2	2 32	194	0.11	6.7	n/a	499	15.56	<0.1	0.001	n/a	n/a	n/a	0.573(B)	0 079	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	5/26/2010	350	30.6	11.7	38 6	50.6	22 3	2.2	250(B)	0.13	6.5	17 8	623	5.5	<0.1	<0.0005	n/a	n/a	<0.02	0.067(B)	0 017	<0 0002	<0 03	0 007	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/13/2010	400(B)	42.6	12.5	50.7	63.4	28.4	2.93(B)	287	0.15	6 65	20.79	687	5 58	<0.1	<0.0005	n/a	n/a	<0.01	0 058	0 012	<0 0002	<0 03	0 011	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/25/2011	310	34.7	17	28 9	51.8	19.4	2.16	184	0.119	6.48	17.95	487	1.16	<0.1	<0.0005	n/a	n/a	<0.01	0.0981	0.0202	<0 0002	<0 03	0.0053	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	330(B)	39.9	16.9	32 3	55.1	20.4	2 35	210	0.136	6.4	17.4	586	5	<0.1	<0 00025	n/a	n/a	<0.01	<0.035	<0 01	<0 0002	<0 03	0 00686	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	410	44.5	24.4	50	73.3	26	2.44	265	0.167	n/a	n/a	n/a	n/a	<0.1	<0 00025	n/a	n/a	<0.01	0.0864	0.0107	<0 0002	<0 03	0 00958	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/11/2017	397	54.4	28.8	42 3	68.2	27 5	n/a	273	n/a	6.5	17.7	569	4.6	0 0508(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
603S	u																																			
	2/14/2002	554	162	42.6	78 5	68	28.4	8 27	200	0.196	6.5	15.1	659	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	628	169	53.9	81 6	73	30.1	4 99	248	0.23	6.6	19	531	160	0.1	<0.05	0 081	<0.005	<0.02	5.23	0 225	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 01	<0.02	n/a	0.025
	8/6/2002	850	257	80.4	127	106	48.7	4 54	293	0 317	6.4	19	1162	9.4	0.113	<0.05	0 083	<0.005	<0.02	0 298	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	0 011	<0 25	4.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/16/2002	904	257	83.8	118(Q)	108	47 6	4.77	299	0 328	6.5	17 2	619	3.8	0.167	<0.05	0 077	<0.005	<0.02	<0 01	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	2/11/2003	702	361	48.6	92.7	89.5	44.7	4.4	274	0 283	6.3	16.4	621	3	0.13	<0.05	0 077	<0.005	<0.02	0 868	0 059	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0 01
	5/15/2003	772	291	42	148	88.3	43 5	5 38	292	0 272	6.7	18 5	728	15	0 304	<0.05	0 098	<0.005	<0.02	1.32	0.104	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	2.00E-07	<0.04	<0 01	<0.02	n/a	0 01
	8/26/2003	860	271	64.4	108	97.6	49 3	3 88	288	0 278	6.6	19 2	742	3	0.176	<0.05	0 079	<0.005	<0.02	0 899	0 053	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	0.007
	10/22/2003	910	325	69.1	111	106	52.1	5.49	296	0 293	6.5	17 8	1247	14	0 211	<0.05	0 091	<0.005	<0.02	2.04	0 086	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 01	<0.02	n/a	0 01
	2/25/2004	580	176	35.9	83.1	76.9	32 9	3 86	244	0 264	6.8	16.4	1024	4	0 307	<0.05	0 055	<0.005	<0.02	0 281	0 015	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0.01	<0 25	2.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	5/18/2004	650	202	46.9	76 3	81.5	39.1	4 02	256	0 247	6.4	17 8	957	18	0 222	<0.05	0 072	<0.005	<0.02	1.25	0 068	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	4.00E-07	<0.04	<0 02	<0.02	n/a	0.008
	10/20/2004	830	268	61.5	93 8	121	56.4	6	332	0 318	6.5	16 8	1161	6	0.147	<0.05	n/a	n/a	n/a	1.72	0 089	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	5/18/2005	620	176	43.4	83.7	74.9	36.1	3 83	307	0 203	6.7	18.7	1008	2	0.139	<0.05	n/a	n/a	n/a	0 052	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	860	455	74	105	101	42 9	5.79	261	0 265	5.7	23.1	1306	53	0 262	<0.05	n/a	n/a	n/a	0 212	0 037	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.90E-06	n/a	n/a	n/a	n/a	n/a
	5/8/2006	808	278	54.6	102	97.6	46.1	4.18	257	0 252	6.6	18 3	1014	9.4	0 206	<0.01	n/a	n/a	n/a	0 297	0 012	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	n/a	n/a
	9/26/2006	742	261	41.5	94 2	92.7	40.1	5.12	258	0.22	6.5	19.7	1207	34	0 302	<0.01	n/a	n/a	n/a	3.21	0.13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.20E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	612	177	30.5	92.1	81.8	38 6	3 32	294	0 2	6.7	19.46	967	4.5	0 218	<0.01	n/a	n/a	n/a	0.05	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	813	288	49.6	70	104	45 8	4 52	245	0.26	6.6	n/a	1195	9 92	0 277	<0.01	n/a	n/a	n/a	0.04	0.01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	610	142	32.9	79 3	90.6	39.7	4 92	300	0 2	6.8	n/a	1071	2.3	0.178	<0.01	n/a	n/a	n/a	0.1	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.60E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	680(B)	141	28.6	69	85.1	41 9	3 89	326(B)	0.23	6.6	n/a	1157	0.45	<0.1	<0.01	n/a	n/a	n/a	0.061(B)	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	5/12/2009	700(B)	204	30.1	108	110(B)	44 5	3 64	112	0.15	6.6	n/a	1125	2 93	0 319	<0.01	n/a	n/a	n/a	0.08	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	1	n/a
	10/14/2009	870	142	42	123	54.8	24.7	5 08	342	0.28	6.6	n/a	1219	9 33	0 283	<0.0005	n/a	n/a	n/a	0.108(B)	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	5/26/2010	680	150	18	113	71.9	38.1	3 33	392(B)	n/a	6.7	18	1110	1	0.38	<0.0005	n/a	n/a	<0.02	0.069(B)	n/a	<0 0002	<0 03	0 006	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2010	890(B)	262	36.6	120	115	54.7	4.26(B)	344	0.28	6 85	17.21	1313	5 27	0 573	<0.0005	n/a	n/a	<0.01	0 231	0 011	<0 0002	<0 03	0 018	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/25/2011	730	203	36.7	104	88.3	42 6	3.3	308	0 248	6.7	19 3	1080	2 94	0 323	<0.0005	n/a	n/a	<0.01	0.104	<0 01	<0 0002	<0 03	0 00916	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	690(B)	179	26.5	72 2	88.4	44 2	2 96	325	0 3	6.6	18 6	1079	9	0 222	0.00145	n/a	n/a	<0.01	1.17	0.175	<0 0002	<0 03	0 00993	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	800	193	20.2	127	102	44 6	2.74	375	0 296	n/a	n/a	n/a	n/a	0 626	<0 00025	n/a	n/a	<0.01	0.113	<0 01	<0 0002	<0 03	0 00467	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.29	n/a
604S	d																																			
	2/14/2002	422	120	45.7	37 8	123	21	3 35	160	0.174	6.3	16 3	510	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	449	107	45.2	31 6	67	23 5	2 36	150	0 211	6.4	17.7	419	60	<0.1	<0.05	0.151	<0.005	<0.02	3.56	0 038	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	0 012	<0 25	4.00E-07	<0.04	<0 01	<0.02	n/a	0.009
	8/6/2002	500	111	68.9	42 3	81	28 6	2 09	165	0 246	6.3	19 9	699	3.8	<0.1	<0.05	0.141	<0.005	<0.02	0.181	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/16/2002	467	116	60.2	38.1(Q)	77	27 3	1 96	148	0 222	6.4	17.1	422	14 3	<0.1	<0.05	0.13	<0.005	<0.02	0 245	<0 02	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	4.00E-07	<0.04	<0 02	<0.02	n/a	0.007
	2/11/2003	458	187	52.2	31.1	70.1	25 5	2 38	320	0 215	5.9	16 3	466	12	<0.1	<0.05	0.139	<0.005	<0.02	1.12	0 027	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	1.30E-06	<0.04	<0 02	<0.02	n/a	0.005
	5/15/2003	390	144	51.2	43 5	72.9	26.1	2.76	144	0 214	6.4	18.1	492	10	<0.1	<0.05	0.143	<0.005	<0.02	0 265	0 021	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	4.00E-07	<0.04	<0 01	<0.02	n/a	0.007
	8/26/2003	480	132	57.1	39.1	78.2	27 9	2.77	140	0 222	6.3	19	502	9	<0.1	<0.05	0.151	<0.005	<0.02	3.36	0 098	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.012
	10/22/2003	560	131	105	40 6	86.4	33.7	2 89	172	0 243	6.3	17 9	905	12	<0.1	<0.05	0.137	<0.005	<0.02	1 2	0 039	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	2/25/2004	490	140	65.8	40.7	81.2	25.4	2 69	150	0 264	6.3	16 8	799	10	<0.1	<0.05	0.122	<0.005	<0.02	1.18	0 033	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.025
	5/18/2004	450	121	52.3	35.7	72.3	25 8	2 52	153	0 207	5.8	18.1	716	38	<0.1	<0.05	0.126	<0.005	<0.02	1.94	0 025	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	1.60E-06	<0.04	<0 02	<0.02	n/a	0.007
	10/20/2004	540	135	97.4	40 6	86.2	34	3.12	160	0 258	6.3	16.7	830	22	<0.1	<0.05	n/a	n/a	n/a	3.24	0.06	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	n/a	n/a
	5/18/2005	530	151	93.2	40.7	85.5	32.7	2.77	166	0 222	6.3	18 5	835	3	<0.1	<0.05	n/a	n/a	n/a	0.149	<0 01	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	530	182	110	35.1	77	26 8	3 04	154	0 203	5.7	23.7	777	47	<0.1	<0.05	n/a	n/a	n/a	0 644	0.09	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-06	n/a	n/a	n/a	n/a	n/a
	5/8/2006	518	125	57.1	44.7	80	28 2	2.79	165	0 212	6.2	17 9	666	22.7	<0.1	<0.01	n/a	n/a	n/a	0 822	0 062	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.00E-07	n/a	n/a	n/a	n/a	n/a
	9/26/2006	502	127	84.5	43 8	83.1	31 5	3 07	159	0 2	6.2	22.36	897	32	<0.1	<0.01	n/a	n/a	n/a	1.38	0.11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.30E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	632	122	64.4	48 2	82	30 3	2.47	157	0.18	6.3	20 8	728	29	<0.1	<0.01	n/a	n/a	n/a	1.08	0.11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	543	137	80.1	41.7	88.3	31 3	3.41	160	0.22	6.1	n/a	862	40 2	<0.1	<0.01	n/a	n/a	n/a	0.19	0.08	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.00E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	520	124	53.6	42.7	83.6	28.4	3 38	156	0.18	6.6	n/a	834	27	<0.1	<0.01	n/a	n/a	n/a	1.62	0.09	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	510(B)	103	54.8	41 8	86.4	28.7	3 68	156(B)	0 2	6.2	n/a	859	110	<0.1	<0.01	n/a	n/a	n/a	3 91(B)	0.19	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.30E-07	n/a	n/a	n/a	1 3	n/a
	5/12/2009	480(B)	151	50.4	43 9	87.5(B)	29.7	2 61	160	0.13	6.2	n/a	801	20.67	0.101	<0.01	n/a	n/a	n/a	1.05	0 068	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.30E-07	n/a	n/a	n/a	<1	n/a
	10/14/2009	540	86.9	45.7	43	34.1	12	3 05	164	0.19	6.3	n/a	765	20.18	<0.1	0 0008	n/a	n/a	n/a	0.875(B)	0 034	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	<1	n/a
	5/27/2010	510	116	55	23 8	45.5	17 3	2 32	165(B)	0.19	6.3	17 6	797	9.5	0.103	<0.0005	n/a	n/a	<0.02	0.188(B)	0 018	<0 0002	<0 03	0 008	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2010	530(B)	160	54.8	50 6	92.8	35.4	3.44(B)	164	0.21	6 36	18.09	816	9 61	0.108	<0.0005	n/a	n/a	<0.01	0.792	0 048	<0 0002	<0 03	0 012	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/25/2011	520	137	57.4	43.7	77.8	28 5	2 37	160	0.181	6 33	18.65	775	9.76	0.102	<0.0005	n/a	n/a	<0.01	0.786	0.0168	<0 0002	<0 03	0 00899	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	560(B)	135	60.4	41	83.5	29 2	2.49	154	0 215	6.1	17 9	859	9	<0.1	<0 00025	n/a	n/a	<0.01	0.122	<0 01	<0 0002	<0 03	0 00698	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	560	107	75	48 9	99.7	32.1	2 31	170	0 235	n/a	n/a	n/a	n/a	<0.1	<0 00025	n/a	n/a	<0.01	0.108	<0 01	<0 0002	<0 03	0.0114	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
605S	d																																			
	2/14/2002	517	184	32	28 8	76	23	3 97	140	0.184	6.4	14 9	540	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	476	142	35.4	24 3	81	25 5	2 37	141	0 218	6.4	17 6	439	25	<0.1	<0.05	0.102	<0.005	<0.02	0 611	0.716	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	0 016	<0 25	4.00E-07	<0.04	<0 01	<0.02	n/a	0.007
	8/6/2002	737	149	42.9	24 3	89	27 5	2 62	154	0 232	6.1	18.7	671	44	<0.1	<0.05	0.12	<0.005	<0.02	5.02	0 505	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	8.00E-07	<0.04	<0 02	<0.02	n/a	0.024
	10/16/2002	519	160	50	15 8	81	24 6	2.14	144	0.198	6.3	17.1	419	40	<0.1	<0.05	0 089	<0.005	<0.02	0 962	0 213	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.006
	2/11/2003	520	247	56.3	21.7	84.6	29.1	3 39	145	0 216	6	16 3	496	89	<0.1	<0.05	0.179	<0.005	<0.02	17.4	0.435	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	1.00E-06	0.042	<0 02	<0.02	n/a	0.048
	5/15/2003	624	185	73.5	30.4	97.6	32 3	3 29	140	0 244	6.3	18 5	555	230	<0.1	<0.05	0.163	<0.005	<0.02	8.91	0 327	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 01	<0.02	n/a	0.031
	8/26/2003	620	149	99.1	31	118	39.4	2.71	148	0 283	6.3	18 8	620	40	<0.1	<0.05	0.121	<0.005	<0.02	2.26	0.124	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.013
	10/22/2003	600	177	84.9	25 9	106	34 3	3.14	151	0 247	6.3	18 3	927	61	<0.1	<0.05	0.115	<0.005	<0.02	4.37	0 261	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 01	<0.02	n/a	0.028
	2/25/2004	600	192	82.5	28 9	110	31 8	3	154	0 307	6.3	16.7	740	40	<0.1	<0.05	0.128	<0.005	<0.02	6.02	1.27	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.031
	5/18/2004	560	174	70.7	28 2	106	33	3 07	155	0 236	6.3	18.1	814	159	0.101	<0.05	0 227	0.006	<0.02	39 3(R)	5.05(R)	<0 0002	n/a	<0.05	n/a	n/a	<0.005	0.018	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.066
	10/20/2004	660	178	146(R)	30 9	141(R)	45 5	3.75	174	0 304	6.3	16 8	1001	80	n/a	n/a	n/a	n/a	n/a	0 627	0.06	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	n/a	n/a
	12/7/2004	n/a	n/a	44.9	n/a	100	n/a	n/a	n/a	n/a	6.3	16 3	542	12	<0.1	<0.05	n/a	n/a	n/a	3.24	0.15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	n/a	n/a
	5/18/2005	620	199	112	26.7	114	41	3.1	169	0.25	6.3	19.1	996	9	<0.1	<0.05	n/a	n/a	n/a	0 648	0.134	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	740	231	226	26.4	124	43.4	3 22	171	0 263	5.7	20	1177	40	<0.1	<0.05	n/a	n/a	n/a	2.64	0 056	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.80E-06	n/a	n/a	n/a	n/a	n/a
	5/8/2006	638	160	93.4	11 9	117	38	2.76	164	0 233	6.2	18 3	841	19 2	<0.1	<0.01	n/a	n/a	n/a	5.64	0.124	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.00E-07	n/a	n/a	n/a	n/a	n/a
	9/26/2006	642	172	140	33 5	128	43 5	2 97	170	0.24	6.2	19.44	1153	31	<0.1	<0.01	n/a	n/a	n/a	2.54	0.05	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.30E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	632	135	132	36.4	123	44 3	2.74	162	0.23	6.3	21 8	968	11	<0.1	<0.01	n/a	n/a	n/a	0.69	0.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	583	190	84.4	25 6	108	37 5	2 56	154	0.22	6.2	n/a	927	16 5	<0.1	<0.01	n/a	n/a	n/a	1.11	0.05	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.30E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	630	163	95.1	30	120	36 3	4 39	156	0 2	6.5	n/a	1033	7.6	<0.1	<0.01	n/a	n/a	n/a	1.49	0.19	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.20E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	610(B)	140	92	30.4	124	38	3 54	152(B)	0.23	6.2	n/a	1049	160	<0.1	<0.01	n/a	n/a	n/a	3 58(B)	0.406	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.30E-07	n/a	n/a	n/a	<1	n/a
	5/12/2009	530(B)	188	38.5	33 9	106(B)	34	2 59	142	0.12	6.3	n/a	844	8 53	0.147	<0.01	n/a	n/a	n/a	0 245	0.131	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2009	610	192	75.4	33	44.4	15.7	3 22	150	0.22	6.3	n/a	892	66.41	0.129	0.007	n/a	n/a	n/a	3 37(B)	0 091	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	<1	n/a
	5/27/2010	980	90.7	133	21 2	82.5	33	3 04	175(B)	0.32	6.2	18	1331	9.6	0.103	0.001	n/a	n/a	<0.02	1 62(B)	0 084	<0 0002	<0 03	0 003	n/a	n/a	n/a	n/a	n/a	n/a	6.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2010	680(B)	94.5	43.8	31 5	157	75 2	1 8(B)	431	0.22	6.76	18.72	1044	8.47	<0.1	<0.0005	n/a	n/a	<0.01	0.468	0 239	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/25/2011	610	184	82.7	32 8	103	34 3	2.74	140	0 212	6 28	20 6	907	9 95	0.132	0.00215	n/a	n/a	<0.01	1.35	0.0307	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	790(B)	172	185	35 5	152	53 8	3 27	182	0 319	6	18.7	1341	7	0.108	0.00175	n/a	n/a	<0.01	1.13	0.0399	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	720	137	165	37.7	162	50 8	2 67	174	0 305	n/a	n/a	n/a	n/a	0.111	<0 00025	n/a	n/a	<0.01	3.24	0.126	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
606S	d																																			
	2/14/2002	557	151	17.9	24 9	81	27.4	8.5	180	0.16	6.5	15 6	514	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/22/2002	553	160	45.2	26.4	86	28.1	4 69	195	0 203	6.5	17 3	451	411	<0.1	<0.05	0.166	<0.005	0.024	14.6	1.37	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	0 014	<0.02	n/a	0.055
	8/6/2002	602	85.8	27.9	23.4	108	51.1	1 66	378	0 217	6.6	18 5	850	29	<0.1	<0.05	0 042	<0.005	<0.02	1.37	0.166	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	0 016	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	0.007
	10/16/2002	626	99.8	33.8	14 2	80	45.4	1.4	374	0.192	6.6	17 3	496	16	<0.1	<0.05	0 038	<0.005	<0.02	0.492	0 047	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005

Table 2
Surface Water Quality Data Summary

		Dissolved Solids (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Sodium (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Potassium (mg/L)	Alkalinity (mg/L)	Strontium (mg/L)	pH (su)	Temperature (C)	Conductivity (umhos)	Turbidity (NTU)	Boron (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Iron (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Molybdenum (mg/L)	Selenium (mg/L)	Antimony (mg/L)	Thallium (mg/L)	Beryllium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Fluoride (mg/L)	Hydrogen (moles/L)	Lead (mg/L)	Nickel (mg/L)	Silver (mg/L)	TOC (mg/L)	Zinc (mg/L)
	2/11/2003	561	201	23.3	23 5	96.5	43 8	2 67	329	0 207	6.4	16 5	555	19	<0.1	<0.05	0 093	<0.005	<0.02	5.84	1.39	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	4.00E-07	<0.04	<0 02	<0.02	n/a	0.029
	5/15/2003	562	115	32.9	28 5	100	47 6	2 03	332	0 204	6.8	18 2	599	12	<0.1	<0.05	0 062	<0.005	<0.02	0.722	0 624	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	2.00E-07	<0.04	<0 01	<0.02	n/a	<0 005
	8/26/2003	500	174	17.4	28	86.9	32.4	2 25	180	0.177	6.6	19	503	8	0.115	<0.05	0.06	<0.005	<0.02	3.27	0 903	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	<0 005
	10/22/2003	580	115	30.9	22 2	103	47 3	2.41	338	0.197	6.7	18.4	933	14	<0.1	<0.05	0 057	<0.005	<0.02	1.47	0 921	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	2.00E-07	<0.04	<0 01	<0.02	n/a	0.007
	2/25/2004	530	223	19.4	30 6	98.6	29 8	3.1	164	0 232	6.6	16 8	833	9	0.143	<0.05	0 084	<0.005	<0.02	0 958	0 563	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	3.00E-07	<0.04	<0 02	<0.02	n/a	0.008
	5/18/2004	520	199	17.2	28 8	92	28 3	2.78	140	0.173	6.3	18 3	723	9.1	0.122	<0.05	0.09	<0.005	<0.02	1.03	0 336	<0 0002	n/a	<0.05	n/a	n/a	<0.005	<0.01	<0 01	<0 25	5.00E-07	<0.04	<0 02	<0.02	n/a	0.006
	10/20/2004	600	56	40.5	21 3	120	59 9	2 28	454	0 229	6.7	16.7	925	9	<0.1	<0.05	n/a	n/a	n/a	2.77	1.03	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	n/a	n/a
	5/18/2005	630	146	29.9	23.4	117	53 3	2 23	379	0.196	6.8	19 3	996	1	<0.1	<0.05	n/a	n/a	n/a	0 023	0.02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	n/a	n/a
	10/4/2005	510	205	17.1	21 5	88.2	30.4	2.8	188	0.169	5.9	21 9	772	13	<0.1	<0.05	n/a	n/a	n/a	2.65	0 322	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.40E-06	n/a	n/a	n/a	n/a	n/a
	5/8/2006	528	193	16.7	29.4	89.2	29 8	2 61	163	0.173	6.3	17.7	627	9 59	0.11	<0.01	n/a	n/a	n/a	0 342	0 067	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	n/a	n/a
	9/26/2006	492	191	16.5	25.1	84.6	29.7	2 88	168	0.16	6.2	19.27	771	2.1	<0.1	<0.01	n/a	n/a	n/a	0.56	0.25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6.30E-07	n/a	n/a	n/a	n/a	n/a
	5/1/2007	592	131	25.7	34	108	53.7	2 25	334	0.18	6.7	20.74	873	9.2	<0.1	<0.01	n/a	n/a	n/a	0.21	0.14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/2/2007	503	200	15.6	26	93.9	30.7	3.13	169	0.18	6.3	n/a	753	2.1	<0.1	<0.01	n/a	n/a	n/a	0.15	0.06	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5.00E-07	n/a	n/a	n/a	<1	n/a
	5/6/2008	540	204	14.3	30 2	106	31 8	3 56	166	0.19	6.6	n/a	870	5.4	<0.1	<0.01	n/a	n/a	n/a	0.59	0.07	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	10/7/2008	570(B)	163	13.4	28.4	103	32 8	3.16	182(B)	0.19	6.4	n/a	887	9.1	<0.1	<0.01	n/a	n/a	n/a	0.364(B)	0 063	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	<1	n/a
	5/12/2009	550(B)	221	15.8	34.1	104(B)	33 5	3	98	0.12	6.4	n/a	819	5 97	0.161	<0.01	n/a	n/a	n/a	0 274	0 055	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2009	590	183	14.5	34 2	41.3(R)	14 3	3.13	183	0.17	6.5	n/a	781	7.46	0.145	<0.0005	n/a	n/a	n/a	0.302(B)	0 061	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3.00E-07	n/a	n/a	n/a	<1	n/a
	5/27/2010	680	103	35.7	28 6	103	56.4	2 05	346(B)	0.22	6.7	18 3	1020	3.6	0.12	<0.0005	n/a	n/a	<0.02	0.147(B)	0 077	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	2.00E-07	n/a	n/a	n/a	<1	n/a
	10/14/2010	1100(B)	195	206	40 9	170	60 6	3.77(B)	190	0.31	6 36	17.95	1470	9 87	<0.1	0.001	n/a	n/a	<0.01	1.4	0 228	<0 0002	<0 03	0 006	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/25/2011	570	202	19.5	29	90.2	30 8	2 85	175	0.178	6.48	18.88	769	4.18	0.147	<0.0005	n/a	n/a	<0.01	0.176	0.0251	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	10/5/2011	590(B)	191	14.8	31 3	104	34 5	2 95	196	0 219	6.3	19.7	875	7	0.131	<0 00025	n/a	n/a	<0.01	0.122	0.0126	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
	5/16/2012	680	127	30	29 9	139	54 2	2 02	372	0 242	n/a	n/a	n/a	n/a	<0.1	<0 00025	n/a	n/a	<0.01	0 208	0.0585	<0 0002	<0 03	<0 002	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	<1	n/a
ASHLF603S	d																																			
	5/19/2015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8.8	30.4	1132	n/a	0.15(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	1950	893	7.63	630	17.7	4 62	n/a	489	n/a	9.7	23 8	2473	n/a	15.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2017	1160	457	3.41	406	8.1	1.18	n/a	385	n/a	10 3	31.1	1198	46 2	8.98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ASHLF604S	d																																			
	4/19/2016	243	1.77(J)	0 281(J)	25.7	37.2	10 6	n/a	185	n/a	7.7	22.4	345	n/a	0.771	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ASHLF605S	d																																			
	4/19/2016	104	<5	0.183(J)	8.12	13.3	3.78	n/a	62.8	n/a	7.3	22 6	130	n/a	0 305	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ASHLF701S	d																																			
	4/20/2017	407	0.991(J)	5.08	14 2	79.9	19.1	n/a	269	n/a	8.7	30 9	494	7.8	0 618	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
ASHLF704S	d																																			
	4/19/2016	1710	754	7.28	576	10.4	0.717(J)	n/a	457	n/a	10 2	21.7	2302	n/a	12	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/20/2017	668	582	7.46	475	11.6	2.41	n/a	402	n/a	9.5	29 8	2028	27 3	9.29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
CoolingTowerSump	d																																			
	5/15/2013	1700	856	34.2	25 5	326	85 6	n/a	92	n/a	8.1	33.1	1789	69	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/16/2013	1400	750	31.2	22 5	191	56 6	n/a	106	n/a	8.1	26 9	1550	46	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	1700	914	37.1	71.4	322(B)	81 8	n/a	85	n/a	7.7	25 8	1898	324	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	1600	746	38.2	36 5	343	96 8	n/a	107	n/a	9.1	30	1834	78	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	1200	598	24(B)	73	160	41	n/a	91	n/a	7.9	29	1385	n/a	0.52	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	1730	1060	33.6	28 3	311	84 5	n/a	89.8	n/a	8.3	27 9	1650	n/a	0.173(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/20/2017	1380	965	33.2	27 9	346	89 8	n/a	108	n/a	8.4	34 2	1912	52 8	0.114(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/11/2017	1610	979	48.7	32.7	303	89.1	n/a	128	n/a	8.4	26 9	1524	53 9	0.131(J)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EastRecyclePond	d																																			
	5/15/2013	1700	955	24.1	193	315	37	n/a	58	n/a	8	28.7	1017	53	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/16/2013	1300	784	19.4	131	191	20 5	n/a	73	n/a	8.6	20 9	1640	17	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	1500	863	25.2	205	256(B)	29.1	n/a	78	n/a	7.8	23 3	1654	99	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	1500	773	27	140	317	34.7	n/a	63	n/a	9.7	18 2	1761	11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	1300	710	24(B)	130	170	35	n/a	92	n/a	8	29 2	1513	n/a	0.72	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	348	175	8.22	32 5	61	13 6	n/a	103	n/a	8.8	20 8	482	n/a	0 597	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/20/2017	614	398	19.9	27 8	158	42	n/a	112	n/a	9.1	26 8	1024	19 2	0 819	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/11/2017	1020	608	29.5	30 2	197	45 5	n/a	108	n/a	8.6	26	1047	12.4	1.11	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EastSurgePond	d																																			
	5/15/2013	520	221	9.73	51.1	90.6	14 9	n/a	87	n/a	7.1	26	536	10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	720	419	12.2	68 8	93.3	13.1	n/a	82	n/a	7.9	20 9	974	83	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	500	219	10.4	58.1	82.6(B)	12 8	n/a	79	n/a	8.2	21 6	728	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	900	429	15.2	102	178	24	n/a	82	n/a	8.6	18 5	1183	34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	540	250	13(B)	49	69	15	n/a	83	n/a	7.8	25.1	691	n/a	0.45	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	347	174	8.02	33.1	65.3	13.7	n/a	102	n/a	8.8	21 9	485	n/a	0 603	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/20/2017	549	266	15.3	37.1	102	28 9	n/a	92.1	n/a	8.8	24 6	797	16.4	0 689	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/11/2017	509	284	17.9	33.1	95.7	24	n/a	108	n/a	8.1	24.4	621	42.4	0.712	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WestRecyclePond	d																																			
	5/15/2013	1700	938	23.9	186	277	35 6	n/a	50	n/a	8.5	29.1	1951	45	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/16/2013	1300	788	18.6	141	183	21.7	n/a	85	n/a	8.5	24.1	1600	21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	1500	842	25	196	240(B)	31 6	n/a	79	n/a	6.6	24 6	1228	65	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	1500	745	30.4	128	294	50.1	n/a	72	n/a	8.1	22 8	1574	21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	1400	726	24(B)	130	170	37	n/a	91	n/a	8.2	29.4	1540	n/a	0.69	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	348	182	8.25	32 3	66	13.7	n/a	101	n/a	8.9	21 2	488	n/a	0 582	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/20/2017	1170	442	21.7	28	166	45 2	n/a	103	n/a	9.1	29 9	1072	34 6	0.73	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/11/2017	1240	595	30.6	30.4	197	44 8	n/a	113	n/a	8.6	26.1	1021	31 3	1.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
WestSurgePond	d																																			
	5/14/2013	520	232	9.49	51 6	91	15	n/a	81	n/a	7.3	27	800	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/15/2013	780	462	12.8	67 9	108	14.4	n/a	82	n/a	7.7	21.1	1043	44	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/29/2014	500	232	12.2	58 5	82.9(B)	12 9	n/a	80	n/a	8.1	21 3	729	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/14/2014	900	442	14.8	105	175	23 6	n/a	81	n/a	8.5	18.4	1175	39	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	5/19/2015	560	250	13(B)	49	70	15	n/a	83	n/a	8.4	27.4	690	n/a	0.44	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/19/2016	358	174	8.11	33	67.2	14.1	n/a	103	n/a	9	21 9	492	n/a	0 594	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	4/20/2017	536	267	16.1	37 8	101	28 6	n/a	88.2	n/a	8.9	25 3	795	10	0 699	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	10/11/2017	561	310	16.2	33.7	98.7	24.7	n/a	104	n/a	7.9	24 6	650	33.1	0.753	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 3
Groundwater Quality Data Summary

		Antimony (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Beryllium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chloride (mg/l)	Chromium (mg/l)	Cobalt (mg/l)	TDS (mg/l)	Fluoride (mg/l)	Lead (mg/l)	Lithium (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Radium (pCi/l)	Radium Error Level (pCi/l)	Selenium (mg/l)	Sulfate (mg/l)	Thallium (mg/l)	pH (su)	Turbidity (NTU)	Temperature (C)	Conductance (umhos)
MW-1	d																									
	10/26/2015	<0 002	0.00097(J)	0 0544	<0.002	0.0947(J)	<0.001	203	331	0.000666(J)	<0.002	1470(B)	0.195	<0.002	0 0147(J)	<0.0002	<0.005	0.504(J)	1.11	0.074	<5	<0.002	6 6	0.7	16.7	2371
MW-10	d																									
	3/7/2017	<0 002	0.000696(J)	0 0973	<0.002	2.09	0.000168(J)	123	54.2	<0.002	0.00115(J)	793	0.3	<0.002	0.0372	<0.0002	<0.005	0.508(J)	0.666	0.00597	237	<0.002	6.7	2.1	18.3	1217
	3/28/2017	<0 002	0 0012(J)	0 0861	<0.002	3.88	<0.001	159	8.57	<0.002	0.00112(J)	1040	0.553	<0.002	0.0674	<0.0002	0.00249(J)	2.33(B)	0.705	<0.002	385	<0.002	7 2	0.1	17.9	1384
	4/18/2017	<0 002	0.00142(J)	0 0863	<0.002	4.35	<0.001	166	9.42	<0.002	0.000723(J)	1150	0.489	<0.002	0.0713	<0.0002	0.00166(J)	0.115(J)	0.672	<0.002	408	<0.002	6 5	0.3	18.2	1380
	5/8/2017	<0 002	0.000478(J)	0.101	<0.002	4.84	<0.001	180	16.2	<0.002	0.000297(J)	1220	0.487	0.000264(BJ)	0.0779	<0.0002	<0.005	0.17(J)	0.642	0 000813(J)	469	<0.002	6 9	0.5	18.5	1604
	5/31/2017	<0 002	0.000485(J)	0 0998	<0.002	5.27	<0.001	180	17.8	<0.002	<0.002	1140	0.471	<0.002	0.0767	<0.0002	<0.005	0.923	0.71	0 000738(J)	528	<0.002	6 9	0.8	18.3	1634
	6/20/2017	<0 002	0.000376(J)	0 0734	<0.002	0.621	0.000247(J)	90.5	71.1	<0.002	<0.002	596	0.165	<0.002	0.0193	<0.0002	<0.005	0.057(BJ)	0.628	0.0092	54.4	<0.002	7 9	1.3	18.6	5612
	7/11/2017	<0 002	0.000629(J)	0 0851	<0.002	3.23	0.000222(J)	149	26.6	<0.002	0.000288(J)	1030	0.417	<0.002	0.0777	<0.0002	0.00181(J)	0.284(BJ)	0.624	0.0026	402	<0.002	6 8	0.4	19.6	1408
	8/2/2017	<0 002	0.000553(J)	0.146	<0.002	4.52	0.000176(J)	177	11.8	<0.002	<0.002	1330	0.544	<0.002	0.0892	<0.0002	0.00187(J)	0.283(BJ)	0.684	0.0009(J)	580	<0.002	6 9	0.9	18.7	1644
	8/23/2017	<0 002	0.000401(J)	0 0714	<0.002	2.72	0.000208(J)	127	30.5	<0.002	<0.002	930	0.349	<0.002	0.0553	<0.0002	<0.005	n/a	n/a	0.00349	350	<0.002	6 8	0.5	19.5	1279
MW-10D	d																									
	3/7/2017	<0 002	0.000809(J)	16.1	<0.002	3.44	<0.001	68.1	1830	0.000658(J)	0.000356(J)	3140	2 03	0.000268(J)	0.677	<0.0002	<0.005	6.45	0.992	<0 002	<5	<0.002	7 8	8.8	16.6	6271
	3/28/2017	<0 002	0.000711(J)	17.4	<0.002	3.23	<0.001	60.6	1910	<0.002	<0.002	3450	2 06	<0.002	0.629	<0.0002	<0.005	6.93(B)	1 04	<0.002	<5	<0.002	8 2	1.4	17.1	681
	4/18/2017	<0 002	0.00065(J)	17.3	<0.002	3.44	<0.001	64.1	1910	<0.002	<0.002	3530	2 23	<0.002	0.697	<0.0002	<0.005	6.4	0.905	<0.002	0.174(J)	<0.002	7 8	1.5	18.6	5952
	5/9/2017	<0 002	0.000293(J)	17.1	<0.002	3.43	<0.001	66.5	1930	<0.002	<0.002	3280	2 34	<0.002	0.741	<0.0002	<0.005	5.19	0.954	<0 002	1.79(J)	<0.002	7 8	0.3	17.5	6461
	5/31/2017	<0 002	0.000341(J)	17.7	<0.002	3.41	<0.001	69.4	1950	<0.002	<0.002	3240	1 94	<0.002	0.623	<0.0002	<0.005	4.69	1 03	<0.002	0.411(J)	<0.002	7 6	1	18.6	6301
	6/20/2017	<0 002	0.000382(J)	16.1	<0.002	3.57	<0.001	68.9	1750	<0.002	<0.002	3230	1 94	<0.002	0.731	<0.0002	<0.005	7.73(B)	1 34	<0.002	1.82(J)	<0.002	6 6	1.6	18.7	1066
	7/12/2017	<0 002	0.000389(J)	17.2	<0.002	3.48	<0.001	67.4	1670	<0.002	<0.002	3380	1.6	<0.002	0.69	<0.0002	<0.005	5.74(B)	0 94	<0.002	0 0937(J)	<0.002	7.7	0.5	19.3	5570
	8/1/2017	<0 002	0.000427(J)	19.3	<0.002	3.39	<0.001	67.1	1960	<0.002	<0.002	3480	2 08	<0.002	0.67	<0.0002	<0.005	4.83	1 06	<0.002	<5	<0.002	7 9	0.5	17.7	5731
	8/25/2017	<0 002	0.000388(J)	18.1	<0.002	3.27	<0.001	64.9	1900	<0.002	<0.002	3470	1 55	<0.002	0.597	<0.0002	<0.005	n/a	n/a	<0.002	<5	<0.002	7 9	0.3	19.2	5593
MW-10M	d																									
	3/7/2017	<0 002	0 0004(J)	0.13	<0.002	0.109(J)	0.000238(J)	87.1	87.3	0.000554(J)	0.00522	576	0.162	<0.002	0 0127(J)	<0.0002	<0.005	0.78(J)	0.632	0.00786	99.5	<0.002	6 3	1.4	17.2	1000
	3/28/2017	<0 002	0.00124(J)	0.125	<0.002	0.108(J)	0.000227(J)	86.1	87.3	<0.002	0.00541	595	0.161	<0.002	0 0124(J)	<0.0002	<0.005	2.1(B)	0 93	0.00631	98.9	<0.002	6 9	1.6	17.1	967
	4/18/2017	<0 002	0.000895(J)	0.112	<0.002	0.0997(J)	0.000191(J)	88.3	88.7	<0.002	0.00294	606	0.176	<0.002	0.00833(J)	<0.0002	<0.005	0(J)	0.627	0.0056	100	<0.002	6 6	2	19.1	969
	5/8/2017	<0 002	0.00178(J)	0.176	<0.002	0.139(J)	<0.001	86.3	89.6	<0.002	0.00461	553	0.194	0.000385(BJ)	0.013(J)	<0.0002	<0.005	0.428(J)	0.953	0.00343	98.1	<0.002	6 6	1.1	17.8	1023
	5/31/2017	<0 002	0.00114(J)	0.189	<0.002	0.141(J)	<0.001	85.7	86.8	<0.002	0.00391	569	0.158	0.000257(J)	0.00963(J)	<0.0002	<0.005	0.628	0.712	0.00261	104	<0.002	6.7	4	18.8	971
	6/20/2017	<0 002	0.000646(J)	0.116	<0.002	0.137(J)	<0.001	84.5	81.9	<0.002	0.00129(J)	553	0.118	<0.002	0 0138(J)	<0.0002	<0.005	0.034(BJ)	0.574	0.00594	167	<0.002	6 6	2.2	18.6	946
	7/11/2017	<0 002	<0.002	0.083	<0.002	0.124(J)	<0.001	77.3	75.5	<0.002	0.000358(J)	521	0.123	<0.002	0 0115(J)	<0.0002	<0.005	0.104(BJ)	0.632	0.00854	99.3	<0.002	6 6	0.9	20.1	864
	8/2/2017	<0 002	<0.002	0.076	<0.002	0.116(J)	<0.001	72.3	70.6	<0.002	<0.002	511	0.135	<0.002	0.00878(J)	<0.0002	<0.005	0.363(J)	0 63	0.00793	90	<0.002	6 6	0	18	767
	8/23/2017	<0 002	<0.002	0 0803	<0.002	0.123(BJ)	0.000161(J)	76.8	72.3	<0.002	0.000397(J)	487	0.132	<0.002	0 0055(J)	<0.0002	<0.005	n/a	n/a	0.00516	98.2	<0.002	6 5	0.5	18.8	807
MW-11	d																									
	3/7/2017	<0 002	0.000996(J)	0 0898	<0.002	0.123(J)	<0.001	59.3	26.4	0 00106(J)	0.00167(J)	280	0.191	0.000515(J)	0 0121(J)	<0.0002	<0.005	0.18(J)	0.713	<0.002	26.5	<0.002	6 8	8.8	18.1	504
	3/28/2017	<0 002	0.00056(J)	0 0605	<0.002	0.133(J)	<0.001	56.8	37.8	<0.002	0.000794(J)	348	0.175	<0.002	0.00665(J)	<0.0002	<0.005	1.42	0.793	0.00291	44.3	<0.002	6	5.7	18.3	541
	4/19/2017	<0 002	0.000536(J)	0 0382	<0.002	0.0997(J)	<0.001	50.3	17.3	<0.002	<0.002	264	0.187	<0.002	0.00729(J)	<0.0002	<0.005	0.786(J)	0.837	0 000569(J)	21.7	<0.002	6.7	9.3	21.4	419
	5/9/2017	<0 002	0.000632(J)	0 0293	<0.002	0.101(J)	<0.001	49	15.7	<0.002	<0.002	258	0.207	0.000501(BJ)	0 0117(J)	<0.0002	<0.005	0(J)	0.653	0.00127(J)	25	<0.002	6 8	5.2	17.9	397.6
	5/31/2017	<0 002	0.000587(J)	0 0292	<0.002	0.0922(J)	<0.001	46.5	13.4	<0.002	<0.002	232	0.17	<0.002	0.00698(J)	<0.0002	<0.005	0.057(J)	0.741	0 000427(J)	16.6	<0.002	6 8	9	19.7	388
	6/20/2017	<0 002	0.000978(J)	0 0665	<0.002	0.103(J)	<0.001	85.3	81.5	0.000597(J)	<0.002	505	0.141	<0.002	0.0205	<0.0002	<0.005	0(J)	0.659	0.00221	56.6	<0.002	6 6	8.6	18.5	783
	7/11/2017	<0 002	0.00126(J)	0 0746	<0.002	0.107(J)	<0.001	86.3	87	0.000901(J)	<0.002	477	0.186	<0.002	0.0207	<0.0002	<0.005	0.508(J)	0.614	0.00152(J)	59.1	<0.002	6 8	20.4	18	849
	8/1/2017	<0 002	0.000779(J)	0.063	<0.002	0.114(J)	<0.001	103	137	0.000823(J)	<0.002	673	0.261	<0.002	0.0193	<0.0002	<0.005	1.44	0 809	0.00194(J)	83	<0.002	6 9	9.3	19.6	948
	8/24/2017	<0 002	0.00148(J)	0.112	<0.002	0.215	0.000173(J)	80.2	65.4	0.000826(J)	0.00245	496	0.161	<0.002	0.00735(J)	<0.0002	<0.005	n/a	n/a	0.00347	84.7	<0.002	6 6	44.3	18	752
	11/20/2017	n/a	n/a	n/a	n/a	0.259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	6 6	9.4	17.1	704
MW-13	u																									
	1/26/2016	0 000429(J)	0.000962(J)	0 0674	<0.002	0.0728(J)	<0.001	60.1	26.3	0.000658(J)	<0.002	320(B)	0.0955(J)	<0.002	<0.015	<0.0002	<0.005	0.067(J)	0.422	0.00626	46.7	<0.002	6 6	1.2	14.4	629
	4/18/2016	<0 002	0.000323(J)	0 0634	<0.002	0.238	<0.001	71.8	18.1	0.000668(J)	<0.002	1320	0.177	<0.002	0.00607(J)	<0.0002	<0.005	0.104(J)	0.913	0.00596	62.3	<0.002	6 5	0.9	17.3	665
	7/26/2016	0.00155(BJ)	0.00129(J)	0 0694	<0.002	0.26	<0.001	77.6	17.8	0.000597(J)	<0.002	444(B)	0.201	<0.002	0 0117(J)	<0.0002	<0.005	0.612(J)	0.899	0.00583	87.3	<0.002	6 8	2.4	18.4	677
	10/11/2016	<0 002	0.000267(J)	0 0504	<0.002	0.335	<0.001	75.7	10.1	0.00301	<0.002	425(B)	0.281	<0.002	0 0146(J)	<0.0002	0.0018(J)	0.404(J)	1 37	0.00522	86.3	<0.002	7	1.4	16.6	656
	1/16/2017	<0 002	0.000259(J)	0 0515	<0.002	0.301	<0.001	66.6	10.2	<0.002	<0.002	430(B)	0 23	<0.002	0.00989(J)	<0.0002	<0.005	1.16	0 58	0.0035	81.2	<0.002	6 8	0.4	16.2	667
	3/7/2017	<0 002	0.000321(J)	0 0637	<0.002	0.337	<0.001	72.5	11.1	<0.002	<0.002	425	0.242	<0.002	0.014(J)	<0.0002	<0.005	0.71(BJ)	0.759	0.00385	81.3	<0.002	7	0.5	16	677
	5/9/2017	<0 002	<0.002	0 0596	<0.002	0.0749(J)	<0.001	57.6	19.2	<0.002	<0.002	328	0.151	<0.002	0.00662(J)	<0.0002	<0.005	0.166(J)	0 88	0.00537	43.1	<0.002	6 6	0	17.2	543.2
	7/11/2017	<0 002	0.000302(J)	0 0567	<0.002	0.294	<0.001	74.4	13.6	0.000882(J)	<0.002	410	0.188	<0.002	0 0143(J)	<0.0002	<0.005	0.879(BJ)	0.629	0.00651	70.7	<0.002	6 9	1.7	20.4	673
	8/23/2017	<0 002	0.000329(J)	0 0515	<0.002	0.379	<0.001	75.9	9	<0.002	<0.002	409	0.217	<0.002	0.00956(J)	<0.0002	<0.005	n/a	n/a	0.00551	94.1	<0.002	6 9	0.2	18.3	690
MW-17	u																									
	1/26/2016	0 000349(J)	0.00158(J)	0 0529	<0.002	0.169(J)	<0.001	21.3	0.903(J)	0.00234	<0.002	171(B)	0.099(J)	<0.002	0 0114(J)	<0.0002	<0.005	0.186(J)	0.708	0.00845	16.6	<0.002	6.4	1.4	14.9	221
	4/18/2016	<0 002	0.000432(J)	0 0443	<0.002	0.109(J)	<0.001	46.2	5.99	0 00107(J)	<0.002	216(B)	0.0879(J)	<0.002	<0.015	<0.0002	<0.005	1.17(J)	1.15	0.00173(J)	19.9	<0.002	6 3	2	17.4	349
	7/26/2016	0.00169(BJ)	0.00154(J)	0 0317	<0.002	0.0939(J)	<0.001	41.8	4.32	0 00186(J)	<0.002	195(B)	0.0678(J)	<0.002	0.00876(J)	<0.0002	<0.005	2.16	0.977	0.00298	17.9	<0.002	6.1	5.9	20.2	305
	10/11/2016	<0 002	0.00033(J)	0 0345	<0.002	0.0594(J)	<0.001	54.8	6.16	<0.002	<0.002	222(B)	0.0689(J)	<0.002	0.00553(J)	<0.0002	<0.005	2 5	1 23	0.00164(J)	18.9	<0.002	5 2	1.5	17	374
	1/16/2017	<0 002	0.000323(J)	0 0334	<0.002	0.0668(J)	<0.001	48.2	5.79	<0.002	<0.002	195	0.0649(J)	<0.002	<0.015	<0.0002	<0.005	0.684	0.526	0.0018(J)	18.5	<0.002	6.4	0.9	16.3	334
	3/7/2017	<0 002	0.000329(J)	0 0376	<0.002	0.0878(J)	<0.001	48.8	5.09	0.000563(J)	<0.002	206	0.0876(J)	<0.002	0.00543(J)	<0.0002	<0.005	0.242(BJ)	0.508	0.00298	18.4	<0.002	6 3	1.1	16.6	336
	5/8/2017	<0 002	0.000461(J)	0.049	<0.002	0.0903(J)	<0.001	40.3	4.08	0.000998(J)	<0.002	195	0.0964(J)	<0.002	0.00565(J)	<0.0002	<0.005	0.632(J)	0.989	0.00485	17.8	<0.002	6 3	0.3	17.1	292.5
	7/10/2017	<0 002	0.000474(J)	0 0448	<0.002	0.12(J)	<0.001	31.6	2.52	0 00104(J)	<0.002	190(B)	0.115	<0.002	0.011(J)	<0.0002	<0.005	0.36(BJ)	0.559	0.00576	17.7	<0.002	5 9	1.1	19.2	257
	8/22/2017	<0 002	0.000356(J)	0 0385	<0.002	0.0633(BJ)	<0.001	48.4	5.64	<0.002	<0.002	211	0.0941(J)	<0.002	<0.015	<0.0002	<0.005	n/a	n/a	0.00189(J)	17.1	<0.002	6 3	0.6	19.2	315
MW-18	u																									
	1/26/2016	0 000324(J)	0.000985(J)	0 0363	<0.002	0.0666(J)	<0.001	56.1	5.68	<0.002	<0.002	233(B)	0.075(J)	<0.002	<0.015	<0.0002	<0.005	0.091(J)	0.445	0.00208	23.6	<0.002	6.7	1	15.2	405
	4/18/2016	<0 002	<0.002	0 0424	<0.002	0.0909(J)	<0.001	59	5.84	0.000777(J)	<0.002	253	0.0803(J)	<0.002	<0.015	<0.0002	<0.005	0.016(J)	0.847	0.0024	26.3	<0.002	6.4	0.8	18	456
	7/26/2016	0.00215(B)	0.00149(J)	0 0533	<0.002	0.0608(J)	<0.001	79.1	6.98	0 00148(J)	<0.002	332(B)	0.0626(J)	0.000376(J)	<0.015	<0.0002	<0.005	1.58	0.773	0.0026	44.9	<0.002	6 3	5.5	20.8	526
	10/11/2016	<0 002	0.000406(J)	0 0443	<0.002	0.0605(J)	<0.001	69.9	5.58	0 00103(J)	0.000445(J)	268(B)	0.0659(J)	0.000313(J)	<0.015	<0.0002	<0.005	0.327(J)	0.681	0.00274	31.1	<0.002	6 5	2.9	17	509
	1/16/2017	<0 002	<0.002	0 0564	<0.002	0.0658(J)	<0.001	79.2	7	<0.002	<0.002	359(B)	0.0704(J)	<0.002	<0.015	<0.0002	<0.005	0.532(J)	0.523	0.0036	52.3	<0.002	6.4	0.5	16.5	601
	3/7/2017	<0 002	0.000355(J)	0 0682	<0.002	0.0649(J)	<0.001	87.5	7.27	0 00176(J)	0.000265(J)	383	0.0932(J)	0.000298(J)	<0.015	<0.0002	<0.005	0(BJ)	0.539	0.00407	53.5	<0.002	6.4	5.4	16.8	613
	5/9/2017	<0 002	<0.002	0 0447	<0.002	0.0512(J)	<0.001	59.2	6.07	<0.002	<0.002	247	0.0907(J)	0.000255(BJ)	<0.015	<0.0002	<0.005	0.544(J)	1.11	0.00237	24.5	<0.002	6 9	0.2	16.7	406.8
	7/11/2017	<0 002	<0.002	0 0405	<0.002	0.0469(J)	<0.001	56.9	5.58	<0.002	<0.002	256	0.0646(J)	<0.002	<0.015	<0.0002	<0.005	1.26(B)	0.609	0.0023	25	<0.002	6 5	0.8	20.3	408
	8/22/2017	<0 002	<0.002	0 0385	<0.002	0.0546(J)	<0.001	60.2	5.33	<0.002	<0.002	249	0.0834(J)	<0.002	<0.015	<0.0002	<0.005	n/a	n/a	0.00229	28.4	<0.002	6.4	0.5	20.3	364
MW-1D	d																									
	3/7/2017	<0 002	0.000772(J)	17.3	<0.002	3.7	<0.001	82.9	2100	0.000968(J)	<0.002	3580	1 89	<0.002	0.691	<0.0002	<0.005	9.08	1 28	<0 002	3.03(J)	<0.002	7 5	8.4	17.2	6699
	3/28/2017	<0 002	0.000404(J)	19.8	<0.002	3.42	<0.001	76.4	2220	0.000712(J)	<0.002	3720	2.12	<0.002	0.643	<0.0002	<0.005	9.78	1 08	<0 002	0.494(J)	<0.002	7.4	3.4	17.2	7003
	4/19/2017	<0 002	<0.002	21.3	<0.002	3.74	<0.001	74.6	2010	<0.002	<0.002	3670	2.14	<0.002	0.725	0.000128(J)	<0.005	11.7	1 21	<0.002	5.12	<0.002	7 5	3.5	21.1	6527
	5/9/2017	<0 002	<0.002	17.6	<0.002	3.54	<0.001	73.7	1900	<0.002	<0.002	3140	2 03	0.000851(BJ)	0.724	<0.0002	<0.005	8.19	1 29	<0 002	8.95	<0.002	7 5	0	19.1	6295
	5/31/2017	<0 002	<0.002	18.2	<0.002	3.44	<0.001	71.6	1940	<0.002	<0.002	3540	1 94	<0.002	0.6	<0.0002	<0.005	11.3	1 39	<0 002	0.926(J)	<0.002	7 5	1.6	19.6	6326
	6/20/2017	<0 002	<0.002	21.4	<0.002	3.73	<0.001	75.8	2130	<0.002	<0.002	2590	2 32	<0.002	0.751	<0.0002	<0.005	7.99	0.976	<0 002	22.3	<0.002	7 6	0.6	18.3	6403
	7/12/2017	<0 002	<0.002	19.5	<0.002	3.68	<0.001	75.7	1920	<0.002	<0.002	3230	1 97	<0.002	0.703	<0.0002	<0.005	10.3(B)	1 21	<0.002	1.84(J)	<0.002	7 5	1.2	20.3	6034
	8/2/2017	<0 002	<0.002	18.2	0.000177(BJ)	3.65	<0.001	75.5	2050	<0.002	<0.002	3750	1 95	<0.002	0.694	<0.0002	<0.005	8.12	1.13	<0.002	4.05(J)	<0.002	7 5	0.2	18.4	6180

Table 3
Groundwater Quality Data Summary

		Antimony (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Beryllium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chloride (mg/l)	Chromium (mg/l)	Cobalt (mg/l)	TDS (mg/l)	Fluoride (mg/l)	Lead (mg/l)	Lithium (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Radium (pCi/l)	Radium Error Level (pCi/l)	Selenium (mg/l)	Sulfate (mg/l)	Thallium (mg/l)	pH (su)	Turbidity (NTU)	Temperature (C)	Conductance (umhos)
	8/24/2017	<0 002	<0.002	20.7	<0.002	3.55	<0.001	74.6	2100	<0.002	<0.002	3900	1.9	<0.002	0.635	<0.0002	<0.005	n/a	n/a	<0 002	0.409(J)	<0.002	7 5	0.3	19.3	6209
MW-1M	d																									
	3/7/2017	<0 002	<0.002	0.107	<0.002	0.14(J)	0.000188(J)	73.2	67.7	0.00258	0.00133(J)	439	0.131	<0.002	0 0138(J)	<0.0002	<0.005	0.435(BJ)	0.841	0.00726	97.9	<0.002	6 3	7.7	17.7	769
	3/28/2017	<0 002	<0.002	0 0886	<0.002	0.121(J)	0.00017(J)	71.1	68.8	<0.002	0.00048(J)	469	0.118	<0.002	0 0122(J)	<0.0002	<0.005	1.05	0.619	0.0061	95.2	<0.002	6 3	0.1	17.1	807
	4/19/2017	<0 002	0.00031(J)	0 0968	<0.002	0.121(J)	0.000182(J)	72.9	70.2	<0.002	0.000893(J)	483	0.136	<0.002	0 0109(J)	<0.0002	<0.005	0(J)	1 01	0.00509	93.7	<0.002	6.4	1.8	20.7	780
	5/9/2017	<0 002	<0.002	0 0974	<0.002	0.13(J)	0.000256(J)	72.8	71.3	<0.002	<0.002	494	0.131	0.000602(BJ)	0 0107(J)	<0.0002	<0.005	0.931	0.563	0.00921	97.2	<0.002	6 3	0	18.4	781
	5/31/2017	<0 002	<0.002	0 0939	<0.002	0.11(J)	0.000211(J)	74.4	76.6	<0.002	0.000459(J)	463	0.111	<0.002	0.00961(J)	<0.0002	<0.005	0.163(J)	0.948	0.00858	99.8	<0.002	6 3	0.9	19.9	742
	6/20/2017	<0 002	<0.002	0 0915	<0.002	0.117(J)	<0.001	71	67.8	<0.002	<0.002	434	0.147	<0.002	0 0135(J)	<0.0002	<0.005	0.808	0.77	0.00928	103	<0.002	6 3	0.3	18.4	720
	7/11/2017	<0 002	<0.002	0 0889	<0.002	0.12(J)	0.000171(J)	68.3	63.6	<0.002	<0.002	466	0.0972(J)	<0.002	0.0154	<0.0002	<0.005	0.937	0.527	0.0095	96	<0.002	6 3	0	19.9	829
	8/2/2017	<0 002	<0.002	0 0902	<0.002	0.125(J)	<0.001	68.8	62.5	<0.002	<0.002	466	0.111	<0.002	0.00963(J)	<0.0002	<0.005	0.127(J)	0.682	0.00926	97.7	<0.002	6.4	0	18.1	677
	8/24/2017	<0 002	<0.002	0 0857	<0.002	0.131(BJ)	<0.001	68.3	61.3	<0.002	<0.002	457	0.108	<0.002	0.00897(J)	<0.0002	<0.005	n/a	n/a	0.00909	97.5	<0.002	6.4	0.9	19.6	686
MW-1R	d																									
	2/4/2016	0 000247(J)	0.000673(J)	0 0275	<0.002	0.09(J)	<0.001	149	219	<0.002	0.000344(J)	998(B)	0.142	<0.002	0.00954(J)	<0.0002	<0.005	0.027(J)	0.589	0.0286	227	<0.002	6 9	3.8	15.8	1592
	4/18/2016	0.00023(J)	<0.002	0 0197	<0.002	0.128(J)	<0.001	136	191	<0.002	0.00034(J)	922	0.126	<0.002	0 0107(J)	<0.0002	<0.005	0.065(J)	1.11	0.0266	193	<0.002	6 5	2.2	19	1454
	7/27/2016	0.0016(BJ)	0.00121(J)	0 0254	<0.002	0.456	<0.001	800	211	0.000659(J)	<0.002	1120(B)	0.123	<0.002	0.00937(J)	<0.0002	<0.005	0.15(J)	0.729	0.0408	203	<0.002	6 5	6.1	20.4	2100
	10/11/2016	<0 002	0.00031(J)	0 0268	<0.002	0.111(J)	<0.001	120	162	0 00139(J)	0.000302(J)	829(B)	0.116	0.000274(J)	0 0112(J)	<0.0002	<0.005	0.656(J)	1 05	0.0234	172	<0.002	6 6	9.4	22.1	1395
	1/17/2017	<0 002	<0.002	0 0219	<0.002	0.117(J)	<0.001	125	201	<0.002	<0.002	886(B)	0.125	<0.002	0.00628(J)	<0.0002	<0.005	0.264(J)	0.779	0.0288	201	<0.002	6.1	2.3	16.6	1558
	3/8/2017	<0 002	0.000291(J)	0 0257	<0.002	0.123(J)	<0.001	123	169	0.000824(J)	<0.002	768	0.15	<0.002	0.00768(J)	<0.0002	<0.005	0.671(BJ)	0.712	0.026	176	<0.002	6 6	3.8	18.6	1304
	5/9/2017	<0 002	<0.002	0 0494	<0.002	0.127(J)	<0.001	93.7	109	<0.002	<0.002	655	0.141	0.000558(BJ)	0.00674(J)	<0.0002	<0.005	0.439(J)	0 52	0.0176	136	<0.002	6.4	2.6	18.1	1023
	7/11/2017	<0 002	<0.002	0 0241	<0.002	0.109(J)	<0.001	121	172	<0.002	<0.002	797	0.112	<0.002	0 0149(J)	<0.0002	<0.005	0(J)	0.45	0.0254	186	<0.002	6 5	0.7	19.1	1493
	8/24/2017	<0 002	<0.002	0.026	<0.002	0.113(BJ)	<0.001	103	133	<0.002	<0.002	720	0.124	<0.002	0.00569(J)	<0.0002	<0.005	n/a	n/a	0.0192	164	<0.002	6 5	1	18.3	1049
MW-1R2	d																									
	3/7/2017	<0 002	<0.002	0 0248	<0.002	0.112(J)	<0.001	144	190	<0.002	<0.002	1000	0.165	<0.002	<0.015	<0.0002	<0.005	0.138(BJ)	0.666	0.0341	281	<0.002	6 6	0.9	17.8	1536
	3/28/2017	<0 002	<0.002	0.00953	<0.002	0.119(J)	<0.001	99.7	128	<0.002	<0.002	695	0.135	<0.002	0.00784(J)	<0.0002	<0.005	0.478(BJ)	0.752	0.0204	158	<0.002	6 8	0.5	17.9	1141
	4/19/2017	<0 002	<0.002	0 0186	<0.002	0.105(J)	<0.001	113	145	<0.002	<0.002	839	0.157	<0.002	0.00675(J)	<0.0002	<0.005	0.117(J)	0.663	0.0257	187	<0.002	6.4	0.3	18.9	1210
	5/9/2017	<0 002	<0.002	0 0885	<0.002	0.113(J)	<0.001	110	143	<0.002	<0.002	851	0.153	0.00119(BJ)	0 0102(J)	<0.0002	<0.005	1.02	0.675	0.0277	195	<0.002	6.4	0	18.6	1227
	5/31/2017	<0 002	<0.002	0.08	<0.002	0.105(J)	<0.001	111	146	<0.002	<0.002	772	0.133	<0.002	0.00786(J)	<0.0002	<0.005	0.431(J)	0.676	0.0246	195	<0.002	6.4	0.8	18.9	1143
	6/19/2017	<0 002	<0.002	0 0412	<0.002	0.137(J)	<0.001	130	171	<0.002	<0.002	2860	0.171(B)	<0.002	0 0136(J)	<0.0002	<0.005	0.009(J)	0.709	0.0363	246	<0.002	6 6	0.4	18.4	1413
	7/11/2017	<0 002	<0.002	0.038	<0.002	0.219	<0.001	129	143	<0.002	<0.002	988	0.152	<0.002	0 0142(J)	<0.0002	<0.005	0.837	0.593	0.0353	324	<0.002	6 6	0.2	18.3	1607
	8/1/2017	<0 002	0.00045(J)	0 0311	0.000201(BJ)	0.2(J)	0.000264(J)	168	237	0.000721(J)	0.00032(J)	1360	0.181	<0.002	0.00889(J)	<0.0002	<0.005	3.12	0.895	0.0515	382	<0.002	6.7	0.1	18.7	1786
	8/24/2017	<0 002	<0.002	0 0259	<0.002	0.113(BJ)	<0.001	106	136	<0.002	<0.002	800	0.135	<0.002	0.00618(J)	<0.0002	<0.005	n/a	n/a	0.0232	179	<0.002	6 5	0.6	18.9	1111
MW-3	d																									
	10/22/2015	<0 002	0.000864(J)	0.125	<0.002	0.382	<0.001	66.2	44	<0.002	<0.002	636(B)	0.132	0.000299(J)	0.00795(J)	<0.0002	<0.005	0.011(J)	0.689	0.00796	96.8	<0.002	6.4	1.3	17.3	822
	1/26/2016	<0 002	0.000944(J)	0.121	<0.002	2.09	<0.001	81.3	35.2	0.000703(J)	<0.002	736(B)	0.173	<0.002	0.00674(J)	<0.0002	<0.005	0.072(BJ)	0.782	0.00971	237	<0.002	6.7	7.8	16.2	1183
	4/18/2016	<0 002	0.000437(J)	0 0945	<0.002	0.566	<0.001	81	48	<0.002	<0.002	631(B)	0.199	<0.002	0.00707(J)	<0.0002	<0.005	0.129(J)	0.945	0.00962	136	<0.002	6 6	1.7	17.5	1045
	7/27/2016	0.00117(BJ)	0.00152(J)	0.107	<0.002	0.489	<0.001	71.5	52.4	0.000797(J)	<0.002	633(B)	0.186	<0.002	0.00639(J)	<0.0002	<0.005	0.37(J)	0.963	0.0108	111	<0.002	6 5	4	19	1101
	10/11/2016	<0 002	0.000258(J)	0.101	<0.002	0.349	<0.001	74.6	50.3	<0.002	<0.002	527(B)	0.138	<0.002	0.00926(J)	<0.0002	<0.005	0.567(J)	0.572	0.00958	104	<0.002	6.7	1.1	17.5	870
	1/17/2017	<0 002	0.000255(J)	0.106	<0.002	0.14(J)	<0.001	65.9	49.3	<0.002	<0.002	501(B)	0.119	<0.002	<0.015	<0.0002	<0.005	0.079(J)	0.708	0.00819	91.5	<0.002	6	0.6	15.9	850
	3/27/2017	<0 002	0.000411(J)	0.126	<0.002	0.13(J)	<0.001	60.6	50	<0.002	<0.002	445	0.117	<0.002	0.00708(J)	<0.0002	<0.005	1.89(B)	0 88	0.00844	77.9	<0.002	6 5	1.2	16.8	780
	6/20/2017	<0 002	0.000283(J)	0.101	<0.002	1.22	<0.001	79.7	43.1	<0.002	<0.002	627	0.212	<0.002	0 0113(J)	<0.0002	<0.005	1 3	0.78	0.00878	206	<0.002	6 6	0	17.7	957
	8/23/2017	<0 002	<0.002	0.124	<0.002	0.722	<0.001	71.1	46.6	<0.002	<0.002	552	0.121	<0.002	<0.015	<0.0002	<0.005	n/a	n/a	0.00825	147	<0.002	6 5	0.3	18.7	800
MW-3D	d																									
	3/6/2017	<0 002	0.000576(J)	8.23	<0.002	2.99	<0.001	53.4	1280	0.00964	<0.002	2520	1.8	0.000336(J)	0.426	<0.0002	<0.005	3.67	1.12	<0 002	<5	<0.002	7 5	8.7	18.1	4686
	3/28/2017	<0 002	0.000596(J)	7.65	<0.002	2.69	<0.001	47.9	1380	0.000664(J)	<0.002	2400	1.74	0.000317(J)	0.387	<0.0002	0.00192(J)	3.5(B)	1 07	<0.002	<5	<0.002	7.7	3.8	17.4	4390
	4/18/2017	<0 002	0.000408(J)	8.52	<0.002	2.88	<0.001	46.3	1370	<0.002	<0.002	2620	2 53	<0.002	0.459	<0.0002	0.00336(J)	4 5	0.859	<0.002	<5	<0.002	7.7	2.9	18.8	4469
	5/8/2017	<0 002	<0.002	11.9	<0.002	3.55	<0.001	57.1	1630	<0.002	<0.002	2230	2 61	0.000809(BJ)	0.618	<0.0002	<0.005	3.37	1 01	<0 002	<5	<0.002	7 6	4.3	17.5	792
	5/31/2017	<0 002	<0.002	12.5	<0.002	3.38	<0.001	57.6	1690	<0.002	<0.002	2780	2 22	<0.002	0.501	<0.0002	0.00236(BJ)	4.83	0.968	<0.002	<5	<0.002	7 6	0.9	18	5235
	6/19/2017	<0 002	<0.002	9.92	<0.002	3.34	<0.001	51.8	1430	<0.002	<0.002	2470	2.41	<0.002	0.544	<0.0002	<0.005	3.1	1 03	<0 002	<5	<0.002	7 9	0.2	18.1	5134
	7/11/2017	<0 002	0.00027(J)	9.92	<0.002	3.08	<0.001	45.5	1300	<0.002	<0.002	2550	2 09	<0.002	0.461	<0.0002	<0.005	4.74(B)	0.886	<0.002	<5	<0.002	7 6	1.4	21.8	4486
	8/2/2017	<0 002	0.000278(J)	9.16	<0.002	2.91	<0.001	50.2	1230	<0.002	<0.002	2390	1 63	<0.002	0.425	<0.0002	<0.005	2.69(B)	0.912	<0.002	<5	<0.002	7.4	0.7	19.3	4509
	8/23/2017	<0 002	0.000305(J)	9.51	<0.002	2.85	<0.001	50.6	1260	<0.002	<0.002	2680	1 85	<0.002	0.399	<0.0002	<0.005	n/a	n/a	<0.002	<5	<0.002	7.4	1.2	20.2	4324
MW-3M	d																									
	3/6/2017	<0 002	<0.002	0.142	<0.002	0.124(J)	<0.001	63.5	42.6	<0.002	<0.002	358	0.13	<0.002	0.011(J)	<0.0002	<0.005	0.193(J)	0 92	0.00604	48.9	<0.002	6 6	1.6	18	636
	3/28/2017	<0 002	<0.002	0.124	<0.002	0.124(J)	<0.001	56.9	44	<0.002	<0.002	369	0.109	<0.002	0.00986(J)	<0.0002	<0.005	0.259(BJ)	0.868	0.00587	50.1	<0.002	6.7	2	17.3	602
	4/18/2017	<0 002	<0.002	0.124	<0.002	0.1(J)	<0.001	64.1	42.6	<0.002	<0.002	366	0.129	<0.002	0.00828(J)	<0.0002	<0.005	4.14	1 65	0.00615	49.1	<0.002	6 5	0.6	19.5	607
	5/8/2017	<0 002	<0.002	0.168	<0.002	0.156(J)	<0.001	92.5	57.6	<0.002	<0.002	449	0.159	0.000551(BJ)	0.0159	<0.0002	<0.005	0.09(J)	0.724	0.00603	51.3	<0.002	6 8	0.7	17.8	809
	5/31/2017	<0 002	<0.002	0.146	<0.002	0.135(J)	<0.001	80.1	56.6	<0.002	<0.002	426	0.13	<0.002	0 0112(J)	<0.0002	<0.005	1.66	0.824	0.00549	52.1	<0.002	6 6	1.3	18.6	691
	6/19/2017	<0 002	<0.002	0.116	<0.002	0.125(J)	<0.001	60.2	44.9	<0.002	<0.002	361	0.123(B)	<0.002	0 0141(J)	<0.0002	<0.005	0.771	0.779	0.00612	58.4	<0.002	6.4	1.8	18	590
	7/11/2017	<0 002	<0.002	0.112	<0.002	0.118(J)	<0.001	53.5	42.8	<0.002	<0.002	361	0.0915(J)	<0.002	0 0136(J)	<0.0002	<0.005	0.33(BJ)	0.604	0.00647	52.6	<0.002	6 3	1.6	20.7	559
	8/2/2017	<0 002	<0.002	0.107	<0.002	0.126(J)	<0.001	54.6	42.7	<0.002	<0.002	349	0.105	<0.002	0.00964(J)	<0.0002	<0.005	1.58(B)	0.665	0.00638	50.8	<0.002	6 2	0.9	18.9	588
	8/23/2017	<0 002	<0.002	0.102	<0.002	0.114(BJ)	<0.001	54.3	41.9	<0.002	<0.002	345	0.102	<0.002	0.00668(J)	<0.0002	<0.005	n/a	n/a	0.00524	52.6	<0.002	6.4	0.9	18.9	529
MW-4	d																									
	10/22/2015	<0 002	0.00111(J)	0.115	<0.002	7.18	<0.001	223	7.08	<0.002	<0.002	1400(B)	0.294	<0.002	0.0494	<0.0002	<0.005	1.49	0.788	<0 002	644	<0.002	6 8	3	18.9	1870
	1/26/2016	0 000367(J)	0.00117(J)	0 0919	<0.002	8.65	<0.001	242	8.11	<0.002	0.000288(J)	1430(B)	0 26	<0.002	0.0535	<0.0002	0.00198(J)	0.044(J)	0.949	0 000483(J)	685	<0.002	7	0.9	15.9	2037
	4/18/2016	0 000227(J)	0.00111(J)	0 0805	<0.002	8 6	<0.001	241	7.9	<0.002	<0.002	1340	0.275	<0.002	0.0556	<0.0002	0.00161(J)	1.62	1 01	<0.002	<5(R)	<0.002	6 9	1	19.7	1982
	7/27/2016	0.00111(BJ)	0.00164(J)	0 0717	<0.002	7 8	<0.001	221	7.64	0.000559(J)	<0.002	1590(B)	0 22	<0.002	0.0488	<0.0002	0.00185(J)	0.727(J)	0.786	0 000516(J)	696	<0.002	6 8	1.6	18.9	2153
	10/11/2016	<0 002	0.000622(J)	0 0603	<0.002	8.43	<0.001	220	7.59	<0.002	<0.002	1480(B)	0.286	<0.002	0.0526	<0.0002	0.00225(J)	1.11	0.734	0 000383(J)	711	<0.002	6 8	1.2	19	1726
	1/17/2017	<0 002	0.000501(J)	0 0616	<0.002	8.98	<0.001	211	7.81	<0.002	<0.002	1650	0.248	<0.002	0.0442	<0.0002	0.00179(J)	0.191(J)	0.644	<0.002	739	<0.002	7	0.4	16.6	2017
	3/27/2017	<0 002	0.000544(J)	0 0641	<0.002	9.64	<0.001	218	9.08	0.00435	0.000273(J)	1550	0.292	<0.002	0.0461	<0.0002	0.00249(J)	1.48	0.691	0.00039(J)	755	<0.002	6.7	0.8	17.9	2009
	6/20/2017	<0 002	0.00056(J)	0 0609	<0.002	10.9	<0.001	227	9.15	<0.002	<0.002	1540	0.298	<0.002	0.059	<0.0002	0.00166(J)	0(J)	0.596	0 000487(J)	792	<0.002	7 2	0.5	18.2	1928
	8/24/2017	<0 002	0.000583(J)	0.058	<0.002	10.1	<0.001	216	8.75	<0.002	0.00034(J)	1630	0.254	<0.002	0.0439	<0.0002	0.00191(J)	n/a	n/a	0 000451(J)	741	<0.002	6 8	0.2	17.7	1833
	11/20/2017	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	563	n/a	6.7	0.6	17.4	1533
MW-52D	u																									
	3/8/2017	<0 002	<0.002	0 0362	<0.002	0.0632(J)	<0.001	49.7	4.92	<0.002	<0.002	176	0.0724(J)	<0.002	<0.015	<0.0002	<0.005	1.11(BJ)	0.788	0.0015(J)	9.34	<0.002	6 5	0.6	16	319
	3/28/2017	<0 002	<0.002	0 0334	<0.002	0.0582(J)	<0.001	45.4	5.31	<0.002	<0.002	193	0.0526(J)	<0.002	<0.015	<0.0002	<0.005	1.96	0.715	0.00139(J)	10.1	<0.002	6	0.8	16.9	331
	4/18/2017	<0 002	<0.002	0 0327	<0.002	0.0516(J)	<0.001	50.7	5.64	<0.002	<0.002	206	0.0607(J)	<0.002	<0.015	<0.0002	<0.005	0.216(J)	1 03	0.00149(J)	9.88	<0.002	6.4	0	17.3	324.8
	5/8/2017	<0 002	<0.002	0 0338	<0.002	0.0348(J)	<0.001	51.2	5.46	<0.002	<0.002	195	0.0768(J)	0.000268(BJ)	<0.015	<0.0002	<0.005	0.769(J)	1 08	0.00136(J)	9.4	<0.002	6.4	0.3	17.1	320.8
	5/30/2017	<0 002	<0.002	0 0324	<0.002	0.0466(J)	<0.001	51.6	5.26	<0.002	<0.002	193	0.0643(J)	<0.002	<0.015	<0.0002	<0.005	0.263(J)	0.608	0.00158(J)	9.48	<0.002	6 5	1.2	17.1	313.1
	6/19/2017	<0 002	<0.002	0 0313	<0.002	0.0466(J)	<0.001	51.7	5.35	<0.002	<0.002	202	0.072(BJ)	<0.002	0.00559(J)	<0.0002	<0.005	0.095(J)	0.606	0.00161(J)	9.81	<0.002	6.7	0.6	18.7	327.1
	7/11/2017	<0 002	<0.002	0.033	<0.002	0.0505(J)	<0.001	47.9	5.18	<0.002	<0.002	189(B)	0.0544(J)	<0.002	0 0059(J)	<0.0002	<0.005	0.042(BJ)	0.497	0.00159(J)	9.34	<0.002	6 3	0.6	18.8	325
	8/1/2017	<0 002	<0.002	0 0339	<0.002	0.0563(J)	<0.001	50	5.12	<0.002	<0.002	198	0.0522(J)	<0.002	<0.015	<0.0002	<0.005	1.75(B)	1 06	0.00135(J)	9.36	<0.002	6 3	0.6	19.4	334
	8/22/2017	<0 002	<0.002	0 0294	<0.002	0.0485(J)	<0.001	49.6	4.7	<0.002	<0.002	179	0.073(J)	<0.002	<0.015	<0.0002	<0.005	n/a	n/a	0.00123(J)	9.11	<0.002	6 3	0.3	19	280

Table 3
Groundwater Quality Data Summary

		Antimony (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Beryllium (mg/l)	Boron (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chloride (mg/l)	Chromium (mg/l)	Cobalt (mg/l)	TDS (mg/l)	Fluoride (mg/l)	Lead (mg/l)	Lithium (mg/l)	Mercury (mg/l)	Molybdenum (mg/l)	Radium (pCi/l)	Radium Error Level (pCi/l)	Selenium (mg/l)	Sulfate (mg/l)	Thallium (mg/l)	pH (su)	Turbidity (NTU)	Temperature (C)	Conductance (umhos)
MW-58D	u																									
	3/6/2017	<0 002	<0.002	0 0365	<0.002	0.0644(J)	<0.001	38.3	7.61	<0.002	<0.002	159	0.069(J)	0.000605(J)	<0.015	<0.0002	<0.005	1.26(B)	0.694	0.00164(J)	11.7	0.000265(J)	5 9	2	16.7	280
	3/27/2017	<0 002	<0.002	0 0379	<0.002	0.0791(J)	<0.001	36.1	17.5	<0.002	<0.002	175(Q)	0.0263(J)	<0.002	<0.015	<0.0002	<0.005	1.28(B)	0.863	0.00194(J)	12.3	<0.002	6 3	0.5	18.1	329.1
	4/18/2017	<0 002	<0.002	0 0542	<0.002	0.0613(J)	<0.001	43.5	33.5	<0.002	<0.002	236	0.0701(J)	<0.002	<0.015	<0.0002	<0.005	0.984(J)	1.18	0.00174(J)	10.8	<0.002	6 3	0	16.2	387.2
	5/8/2017	<0 002	<0.002	0.103	<0.002	0.047(J)	<0.001	47	43.4	0.000545(J)	<0.002	253	0.0859(J)	0.00113(BJ)	<0.015	<0.0002	<0.005	0(J)	0.726	0.00187(J)	10.9	<0.002	6.4	0.2	17.5	428.3
	5/31/2017	<0 002	<0.002	0.295	<0.002	0.0647(J)	<0.001	48.5	53.7	<0.002	<0.002	275	0.0784(J)	<0.002	0.00566(J)	<0.0002	<0.005	1.01	0.79	0.00149(J)	11	<0.002	6.4	0.3	16.2	460.3
	6/19/2017	<0 002	<0.002	0.612	<0.002	0.107(J)	<0.001	56.8	94.8	<0.002	<0.002	360	0.0948(BJ)	<0.002	0.0161	<0.0002	<0.005	0.605(BJ)	0.636	0.00138(J)	10.3	<0.002	6.4	0.4	18.1	594
	7/10/2017	<0 002	<0.002	0.497	<0.002	0.11(J)	<0.001	54.6	101	<0.002	<0.002	384	0.0925(J)	<0.002	0 0149(J)	<0.0002	<0.005	1.5(B)	0.672	0.00134(J)	9.43	<0.002	6 2	3.8	19.6	878
	8/1/2017	<0 002	<0.002	0.572	<0.002	0.118(J)	<0.001	57.1	120	<0.002	<0.002	433	0.0813(J)	<0.002	0 0132(J)	<0.0002	<0.005	0.787(BJ)	0.722	0.00152(J)	8.42	<0.002	6.4	1.4	18.9	821
	8/22/2017	<0 002	<0.002	0 0392	<0.002	0.0434(J)	<0.001	37.8	6.71	<0.002	<0.002	157	0.0714(J)	<0.002	<0.015	<0.0002	<0.005	n/a	n/a	0.00159(J)	12.7	<0.002	6.1	0.2	19.9	275
MW-59D	u																									
	3/6/2017	<0 002	0.000518(J)	0.425	<0.002	0.0813(J)	<0.001	54.3	24.1	<0.002	<0.002	237	0.103	<0.002	0 0066(J)	<0.0002	<0.005	0 933(B)	0.669	0 000981(J)	10.3	<0.002	6 3	0.7	16.9	337
	3/27/2017	<0 002	0.000454(J)	0.409	<0.002	0.101(J)	<0.001	45.7	36.3	<0.002	<0.002	244	0.0379(J)	<0.002	0.00764(J)	<0.0002	<0.005	1.14(B)	0.769	0.00127(J)	9.83	<0.002	6 5	0.3	17.2	448.3
	4/18/2017	<0 002	0.000415(J)	0.503	<0.002	0.103(J)	<0.001	50.6	44.2	<0.002	<0.002	276	0.0802(J)	<0.002	0.00567(J)	<0.0002	<0.005	0(J)	0.803	0.00121(J)	8.28	<0.002	6.4	0.3	17.1	456.6
	5/8/2017	<0 002	<0.002	0.74	<0.002	0.121(J)	<0.001	54.4	51.2	<0.002	<0.002	278	0.0867(J)	0.000508(BJ)	0 0104(J)	<0.0002	<0.005	1.72	1 01	0.00112(J)	9.12	<0.002	6 5	0.3	18.6	483.2
	5/31/2017	<0 002	0.000282(J)	0.622	<0.002	0.0832(J)	<0.001	53.6	46.5	<0.002	<0.002	263	0.061(J)	<0.002	0.00818(J)	<0.0002	<0.005	1.29	0.765	0.00123(J)	10.3	<0.002	6.4	0.8	17.4	426.9
	6/19/2017	<0 002	0.000303(J)	0.559	<0.002	0.0968(J)	<0.001	50.4	43.3	<0.002	<0.002	275	0.0812(BJ)	<0.002	0 0125(J)	<0.0002	<0.005	1.06(B)	0.786	0.00111(J)	11.5	<0.002	6.4	0.8	18.7	474.3
	7/10/2017	<0 002	<0.002	0.617	<0.002	0.0918(J)	<0.001	49.9	47.2	<0.002	<0.002	266	0.0982(J)	<0.002	0 0134(J)	<0.0002	<0.005	0 896(B)	0.724	0.00124(J)	10.6	<0.002	6.4	0.5	21.7	447
	8/1/2017	<0 002	<0.002	0.634	<0.002	0.103(J)	<0.001	53.5	49	<0.002	<0.002	282	0.0647(J)	<0.002	0.00939(J)	<0.0002	<0.005	1.13(B)	0.803	0.00093(J)	10.2	<0.002	6 5	0.6	20.6	532
	8/22/2017	<0 002	<0.002	0.625	<0.002	0.0989(J)	<0.001	52.3	47.2	<0.002	<0.002	265	0.0753(J)	<0.002	0 0104(J)	<0.0002	<0.005	n/a	n/a	0.00101(J)	10.3	<0.002	6 5	0.3	22.3	429
MW-6	d																									
	10/22/2015	<0 002	0.000664(J)	0 0776	<0.002	0.0907(J)	<0.001	72.2	38.8	<0.002	<0.002	449(B)	0.0782(J)	<0.002	0.00646(J)	<0.0002	<0.005	0.64(J)	0.742	0.00879	111	<0.002	6 2	1.9	16.9	723
	1/26/2016	0 000299(J)	0.000694(J)	0 0731	<0.002	0.13(J)	<0.001	72	32.4	<0.002	<0.002	456(B)	0.107	0.000302(J)	0.00577(J)	<0.0002	<0.005	1.24	0.995	0.00764	131	<0.002	6 5	1	15.2	747
	4/18/2016	0 000353(J)	0.000275(J)	0 0753	<0.002	0.137(J)	<0.001	69.7	37	<0.002	<0.002	427(B)	0.0924(J)	<0.002	0.00652(J)	<0.0002	<0.005	0.048(J)	1 03	0.00819	103	<0.002	6 3	0.8	17.8	706
	7/27/2016	0.000906(BJ	0.00113(J)	0 0836	<0.002	0.0968(J)	<0.001	68.9	35	0.000676(J)	<0.002	496(B)	0.075(J)	<0.002	0 0075(J)	<0.0002	<0.005	0.029(J)	0.852	0.00801	101	<0.002	6.1	1.8	20.2	681
	10/11/2016	<0 002	<0.002	0 0721	<0.002	0.109(J)	<0.001	71.4	35.5	<0.002	<0.002	445(B)	0.0854(J)	<0.002	0 0109(J)	<0.0002	<0.005	0.269(J)	0.543	0.00865	103	<0.002	5 5	0.5	17.3	678
	1/17/2017	<0 002	<0.002	0 0686	<0.002	0.103(J)	<0.001	61.7	34.1	0.000542(J)	<0.002	443(B)	0.0938(J)	<0.002	<0.015	<0.0002	<0.005	0.12(J)	0.683	0.00745	96.1	<0.002	5 8	0.2	16.1	706
	3/27/2017	<0 002	<0.002	0 0701	<0.002	0.111(J)	<0.001	57.8	34.6	<0.002	<0.002	389	0.103	<0.002	0.00652(J)	<0.0002	<0.005	0.59(BJ)	0.701	0.00753	87	<0.002	6.4	0.3	16.9	678
	6/20/2017	<0 002	<0.002	0 0767	<0.002	0.114(J)	<0.001	70.8	35.7	<0.002	<0.002	400	0.0975(J)	<0.002	0 0125(J)	<0.0002	<0.005	0.458(J)	0.552	0.00833	105	<0.002	6.7	0.5	17.3	644
	8/23/2017	<0 002	<0.002	0 0736	<0.002	0.0995(BJ)	<0.001	66.1	32.6	<0.002	<0.002	388	0.0936(J)	<0.002	<0.015	<0.0002	<0.005	n/a	n/a	0.00785	99.9	<0.002	6 2	0.2	17.5	591
MW-7	d																									
	10/26/2015	<0 002	0.00103(J)	0 0166	<0.002	0.0918(J)	<0.001	72.4	71.4	0.000758(J)	<0.002	700(B)	0.558	<0.002	0.00708(J)	<0.0002	<0.005	0.054(J)	0.865	0.00504	99.1	<0.002	7.1	1	17.1	1205
	1/27/2016	0 000238(J)	0.000842(J)	0 0182	<0.002	0.11(J)	<0.001	61.2	41.4	0 00185(J)	<0.002	637(B)	0 66	<0.002	0.00602(J)	<0.0002	<0.005	1.14(B)	0.901	0.00547	90	<0.002	7 2	0.8	15.1	966
	4/18/2016	0 000262(J)	0.000341(J)	0 0201	<0.002	0.132(J)	<0.001	65.2	47.3	0 00194(J)	<0.002	595	0.618	<0.002	0.00861(J)	<0.0002	<0.005	0.044(J)	0.978	0.00576	81.2	<0.002	6 8	2.5	17.7	1008
	7/27/2016	0.000897(BJ	0.00118(J)	0 0139	<0.002	0.0957(J)	<0.001	61.7	36.1	0 00122(J)	<0.002	545(B)	0.438	<0.002	<0.015	<0.0002	<0.005	0.459(J)	0.872	0.00551	67.5	<0.002	7.1	1.8	19.8	968
	10/11/2016	<0 002	0.000297(J)	0 0142	<0.002	0.0952(J)	<0.001	52.2	24.4	0 00129(J)	<0.002	526(B)	0.611	<0.002	0.00768(J)	<0.0002	<0.005	0.882(J)	0.72	0.00717	61.9	<0.002	6 6	2.9	18.1	851
	1/17/2017	<0 002	0.000282(J)	0 0128	<0.002	0.106(J)	<0.001	48.5	22.7	0 00124(J)	<0.002	549	0.575	<0.002	<0.015	<0.0002	<0.005	0.318(J)	1.11	0.00564	59.5	<0.002	7.4	0.3	16.5	934
	3/27/2017	<0 002	0.000306(J)	0 0154	<0.002	0.083(J)	<0.001	47.2	18	0.0014(J)	<0.002	584	0.701	<0.002	0 0102(J)	<0.0002	<0.005	1.14	0.609	0.00622	66.8	<0.002	7 2	0	17.3	978
	6/20/2017	<0 002	0.000272(J)	0 0195	<0.002	0.0891(J)	<0.001	61.3	43.7	0 00134(J)	<0.002	613	0.687	<0.002	0.00861(J)	<0.0002	<0.005	0.012(J)	0.711	0.0059	76.6	<0.002	7.1	0.4	18.5	1035
	8/24/2017	<0 002	0 0003(J)	0 0201	<0.002	0.109(BJ)	<0.001	70.3	99.4	0.00203	<0.002	728	0.562	<0.002	0 0149(J)	<0.0002	<0.005	n/a	n/a	0.00457	91	<0.002	7 3	0.4	18.7	1139
	11/20/2017	n/a	n/a	n/a	n/a	n/a	n/a	n/a	105	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7	0.6	17.5	1110
MW-8	d																									
	10/26/2015	<0 002	0.000918(J)	0 0315	<0.002	0.217	<0.001	107	97.2	<0.002	<0.002	724(B)	0.138	<0.002	0.02	<0.0002	<0.005	0.082(J)	1.16	0.0155	204	<0.002	6 5	1.3	18.3	1203
	1/27/2016	0 000212(J)	0.000739(J)	0 0202	<0.002	0.282	<0.001	88.4	65.5	<0.002	<0.002	582(B)	0.155	<0.002	0 0136(J)	<0.0002	<0.005	0.687(BJ)	0.586	0.0107	170	<0.002	6 8	0.6	16.3	851
	4/18/2016	0 000262(J)	0.000359(J)	0 0292	<0.002	0.257	<0.001	109	98.8	0.000576(J)	<0.002	724(B)	0.157	<0.002	0 0137(J)	<0.0002	<0.005	0.177(J)	1 37	0.0141	203	<0.002	6.4	1.4	18.1	1150
	7/27/2016	0.000754(BJ	<0.002	0 0333	<0.002	0.201	<0.001	108	100	<0.002	<0.002	741(B)	0.136	<0.002	0 0144(J)	<0.0002	<0.005	0.047(J)	0.881	0.0139	207	<0.002	6.4	1.8	19	277
	10/11/2016	<0 002	<0.002	0 0266	<0.002	0.265	<0.001	103	83.8	<0.002	<0.002	711(B)	0.18	<0.002	0.0157	<0.0002	<0.005	1.06	0.71	0.013	201	<0.002	6.4	0.6	20.3	990
	1/17/2017	<0 002	0.000345(J)	0 0311	<0.002	0.187(J)	<0.001	101	108	<0.002	<0.002	775(B)	0.15	0.000353(BJ)	0 0126(J)	<0.0002	<0.005	0.783(J)	1.1	0.0149	208	<0.002	6.1	2.4	16.9	1232
	3/28/2017	<0 002	0.00026(J)	0 0254	<0.002	0.289	<0.001	94.9	68.4	0.000617(J)	<0.002	644	0.157	<0.002	0 0147(J)	<0.0002	<0.005	0.961	0.686	0.0111	184	<0.002	6.4	1.5	17.7	1046
	6/20/2017	<0 002	0.000252(J)	0 0283	<0.002	0.259	<0.001	107	98.3	<0.002	<0.002	687	0.192	<0.002	0.0211	<0.0002	<0.005	0.065(J)	0.71	0.0141	242	<0.002	6.4	0.5	19	1095
	8/24/2017	<0 002	<0.002	0 0271	<0.002	0.275	<0.001	96.6	75.6	<0.002	<0.002	660	0.146	<0.002	0 0126(J)	<0.0002	<0.005	n/a	n/a	0.0123	205	<0.002	6 5	0.3	19.2	978
MW-9	d																									
	10/26/2015	<0 002	0.00101(J)	0 0525	<0.002	0.286	<0.001	88.8	52.2	<0.002	<0.002	598(B)	0.119	<0.002	0.0156	<0.0002	<0.005	0.017(J)	0.911	0.0129	186	<0.002	6 5	1.8	17.9	993
	1/27/2016	<0 002	0.000833(J)	0 0567	<0.002	0.266	<0.001	94.9	57.1	0.000547(J)	<0.002	608(B)	0.139	<0.002	0.015	<0.0002	<0.005	0.485(BJ)	0.624	0.0151	223	<0.002	6 9	0.6	16.5	887
	4/18/2016	<0 002	0.000378(J)	0.064	<0.002	0.45	<0.001	111	61.2	0.000664(J)	<0.002	783(B)	0.135	<0.002	0 0111(J)	<0.0002	<0.005	0.797(J)	1.2	0.0216	270	<0.002	6.4	1.5	17.6	1175
	7/27/2016	<0 002	0.00126(J)	0 0598	<0.002	0.331	<0.001	93.3	55.4	<0.002	<0.002	668(B)	0.101	<0.002	0.00924(J)	<0.0002	<0.005	0.038(J)	0 98	0.0136	204	<0.002	6 3	3.6	18.5	1101
	10/11/2016	<0 002	<0.002	0 0606	<0.002	0.427	<0.001	102	51.3	<0.002	<0.002	688(B)	0.121	<0.002	0 0103(J)	<0.0002	<0.005	1.08	0.6	0.0173	244	<0.002	6.1	0.6	19.1	1058
	1/17/2017	<0.01	0.000265(J)	0 0607	<0.01	0.534	<0.001	110	58.3	<0.002	<0.002	897	0.143	<0.002	0.00649(J)	<0.0002	<0.005	0.221(J)	0.688	0.0249	342	<0.002	6 5	0.4	16.5	1346
	3/28/2017	<0 002	0.000269(J)	0 0592	<0.002	0.645	<0.001	121	59.1	<0.002	<0.002	943	0.157	<0.002	0.0157	<0.0002	<0.005	1.59	0 668	0.0236	369	<0.002	6.4	0.6	17.8	1379
	6/20/2017	<0 002	0.000342(J)	0.055	<0.002	0.389	<0.001	98.1	58.7	<0.002	<0.002	632	0.141	<0.002	0 0142(J)	<0.0002	<0.005	0.777	0.679	0.0179	258	<0.002	6 5	0	18.2	980
	8/25/2017	<0 002	<0.002	0 0513	<0.002	0.334	<0.001	91.2	54	<0.002	<0.002	652	0.119	<0.002	0.00569(J)	<0.0002	<0.005	n/a	n/a	0.0147	224	<0.002	6 3	0.2	18.7	918
MW-9D	d																									
	3/8/2017	<0 002	0.000958(J)	9.18	<0.002	3 5	<0.001	59.4	1700	<0.002	<0.002	3000	1.9	<0.002	0.516	<0.0002	0.00595	5 5	1 09	<0.002	0.108(J)	<0.002	7 3	0.4	17.8	5637
	3/28/2017	<0 002	0.000527(J)	8.64	<0.002	3.13	<0.001	52.4	1720	<0.002	<0.002	3100	1.74	<0.002	0.463	<0.0002	0.0041(J)	6.19	0.966	<0.002	<5	<0.002	7 8	3.2	18.2	5918
	4/20/2017	<0 002	0.000428(J)	9.1	<0.002	3.53	<0.001	59	1690	<0.002	<0.002	1860	1 86	<0.002	0.537	<0.0002	0.00366(J)	6.65	0.933	<0.002	1.09(J)	<0.002	7 9	0.6	18.7	5853
	5/9/2017	<0 002	0.000682(J)	8.45	<0.002	3.37	<0.001	62.1	1650	<0.002	<0.002	2870	1 88	0.000266(BJ)	0.546	<0.0002	0.00238(J)	5.38	0.968	<0.002	0.252(J)	<0.002	7 9	2.6	18.2	5650
	5/31/2017	<0 002	0.000406(J)	8.64	<0.002	3.39	<0.001	65.1	1650	<0.002	<0.002	2760	1.48	<0.002	0.46	<0.0002	<0.005	5.26	1 02	<0.002	0.398(J)	<0.002	7 8	0.7	19.8	5094
	6/20/2017	<0 002	0.000588(J)	8.73	<0.002	3.58	<0.001	64	1700	<0.002	<0.002	3020	1 82	<0.002	0.55	<0.0002	<0.005	5.4	0.739	<0.002	2.31(J)	<0.002	7 8	0	19	5435
	7/11/2017	<0 002	0.000444(J)	9.51	<0.002	3.45	<0.001	58.8	1570	<0.002	<0.002	3160	1.3	<0.002	0.51	<0.0002	0.00199(J)	5.04	0.852	<0.002	0.378(J)	<0.002	7 8	9.3	20.1	6184
	8/2/2017	<0 002	0.000455(J)	9.19	<0.002	3.39	<0.001	62.2	1520	<0.002	<0.002	2600	1.8	<0.002	0.499	<0.0002	0.00176(J)	5.08	1 07	<0.002	0.596(J)	<0.002	7 8	1.3	18.9	4825
	8/25/2017	<0 002	0.000481(J)	9.29	<0.002	3.32	<0.001	60.6	1680	<0.002	<0.002	3150	1 22	<0.002	0.455	<0.0002	0.00237(J)	n/a	n/a	<0.002	<5	<0.002	7.7	0.5	19.1	4929
MW-9M	d																									
	3/8/2017	<0 002	<0.002	0.064	<0.002	0.151(J)	<0.001	67.3	41.6	<0.002	<0.002	383	0.115	<0.002	0 0123(J)	<0.0002	<0.005	0.545(J)	0.637	0.00763	90.5	<0.002	5 8	0.4	18	656
	3/28/2017	<0 002	<0.002	0 0584	<0.002	0.14(J)	<0.001	58.4	42.3	<0.002	<0.002	400	0.0926(J)	<0.002	0 0115(J)	<0.0002	<0.005	1.97	0.757	0.00757	97	<0.002	6 2	1.1	17.7	672
	4/20/2017	<0 002	<0.002	0 0604	<0.002	0.146(J)	<0.001	68.1	43	<0.002	<0.002	417	0.113	<0.002	0.00764(J)	<0.0002	<0.005	0.302(J)	0.722	0.0087	97.7	<0.002	6 8	0.9	18.6	1917
	5/9/2017	<0 002	<0.002	0 0615	<0.002	0.246	<0.001	78.6	42.8	<0.002	<0.002	515	0.125	0.000596(BJ)	0.00816(J)	<0.0002	<0.005	0.009(J)	0.801	0.0108	159	<0.002	6.4	1.9	18.2	794
	5/31/2017	<0 002	<0.002	0 0585	<0.002	0.238	<0.001	81.8	42.8	<0.002	<0.002	524	0.107	<0.002	0.00713(J)	<0.0002	<0.005	0.022(J)	0.756	0.00942	170	<0.002	6 3	0.9	18.9	738
	6/20/2017	<0 002	<0.002	0 0592	<0.002	0.19(J)	<0.001	77.8	42.2	<0.002	<0.002	479	0.0993(J)	<0.002	0 0137(J)	<0.0002	<0.005	1.93	0.806	0.00833	165	<0.002	6 5	0.1	18.2	697
	7/11/2017	<0 002	<0.002	0.059	<0.002	0.245	<0.001	79.9	41.2	<0.002	<0.002	520	0.0908(J)	<0.002	0 0146(J)	<0.0002	<0.005	0(J)	0.547	0.00946	173	<0.002	6 3	0	19.5	870
	8/2/2017	<0 002	<0.002	0.109	<0.002	0.259	<0.001	81.6	41.8	<0.002	<0.002	551	0.105	<0.002	0.00903(J)	<0.0002	<0.005	0.524(J)	0.757	0.00901	187	<0.002	6.4	0	18.1	739
	8/25/2017	<0 002	<0.002	0 0563	<0.002	0.191(J)	<0.001	76.2	37.7	<0.002	<0.002	469	0.0868(J)	<0.002	0.00625(J)	<0.0002	<0.005	n/a	n/a	0.00735	160	<0.002	6 3	0.2	19.2	674
	11/20/2017	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	124	n/a	6 3	1.1	17.4	633

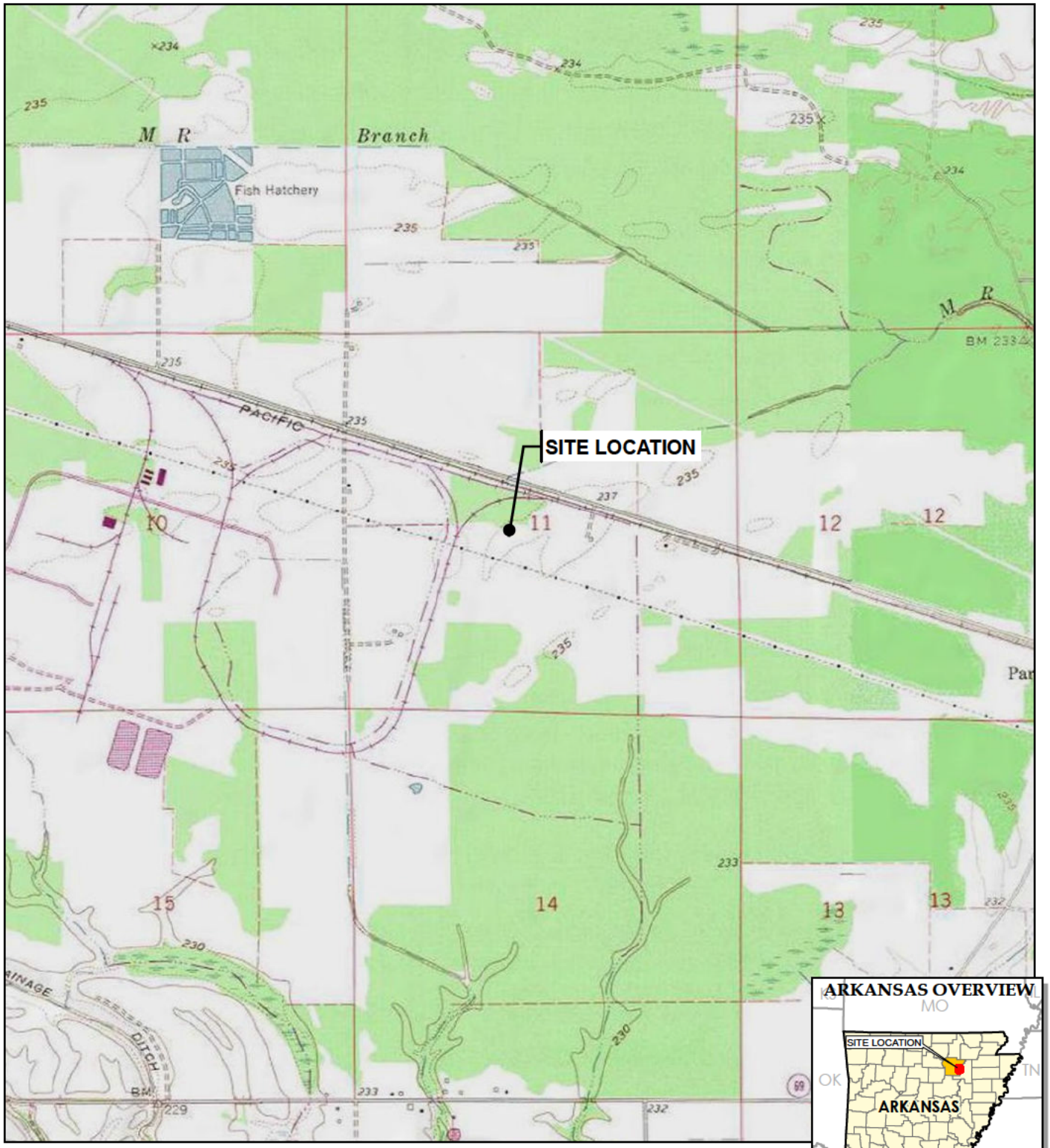
Table 4
Groundwater Vertical Gradients and Flux Calculation

EPA WELL ID	SCREENED INTERVAL ELEVATION (ft MSL)	MIDPOINT SCREEN ELEVATION (ft MSL)	VERTICAL DISTANCE FROM SHALLOW TO DEEP WELLS	GRADIENT FROM:	3/6/2017	3/27/2017	4/17/2017	5/8/2017	5/29/2017	6/19/2017	7/10/2017	7/31/2017	8/21/2017	UPWARD	TOTAL	AVERAGE UPWARD GRADIENT
MW-1R	203.7-193.7	198.70		MW-1R -> MW-1M	0	0	-0.0005	0.0011	0.0011	0.0011	0	0.0011	0.0011	5	9	0.0011
MW-1M	185.3-175.3	180.30		MW-1M -> MW-1D	0.0004	0.0193	0.0000	-0.0012	-0.0006	0.0008	0	0.0004	0.0002	6	9	0.0035
MW-1D	133.6-123.6	128.60	70.10													
MW-3	206.4-196.4	201.40		MW-3 -> MW-3M	0.0009	0.0014	0.0018	0	0.0005	0.0014	0.0005	0.0005	-0.0005	7	9	0.0010
MW-3M	184.2-174.2	179.20		MW-3M -> MW-3D	-0.0018	-0.0018	0.0107	-0.0022	-0.0027	-0.0018	-0.0018	-0.0013	0.0000	2	9	0.0053
MW-3D	161.7-151.7	156.70	44.70													
MW-9	201.3-191.3	196.30		MW-9 -> MW-9M	0.0008	0	-0.0008	-0.0016	-0.0016	0.0032	0	-0.0032	0	2	9	0.0020
MW-9M	188.9-178.9	183.90		MW-9M -> MW-9D	0.0000	0.0000	0.0002	-0.0002	0.0002	-0.0004	0.0000	0.000	-0.0002	2	9	0.0002
MW-9D	133.5-123.5	128.50	67.80												0	
MW-10	202.3-192.3	197.30		MW-10 -> MW-10M	0	0.0005	0.0010	-0.0005	0.0010	0	0.0005	0.0005	0.0005	6	9	0.0007
MW-10M	182.8-172.8	177.80		MW-10M -> MW-10D	0	-0.0003	-0.0003	0	-0.0006	-0.0003	-0.0006	0.0026	0	1	9	0.0026
MW-10D	147.6-137.6	142.60	54.70													
		Average	59.33										Average Upward Gradient			0.0020
													Average Upward Velocity (ft/day)			1.16

Note:
Positive values are upward vertical gradients, and are highlighted.

Vertical Migration Rate		
Vertical Hydraulic Conductivity	170	ft/day
Porosity	0.3	
Average upward gradient	0.0020	ft/ft
Average Upward Velocity	1.16	ft/day
Average Distance from Deep to Shallow Wells	60	ft
Average Linear Travel Time, from deep to shallow wells	52	days

Prepared by K. Barber 1/26/2018
Checked by K. Quinn 1/27/2018
Updated by: K. Barber 1/31/2018
Checked by L. Auner 2/1/2018



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.

N

1" = 2,000'
1:24,000

0 2,000 4,000 FEET

TRC

Two United Plaza
8550 United Plaza Blvd., Suite 502
Baton Rouge, LA
Phone: 734.971.7080

TRC - GIS

PROJECT:

ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:

SITE LOCATION MAP

DRAWN BY:	B. DEEGAN
CHECKED BY:	K. BARBER
APPROVED BY:	J. HOUSE
DATE:	MARCH 2018
PROJ. NO.:	270853
FILE:	270853-001slmIND.mxd

FIGURE 1

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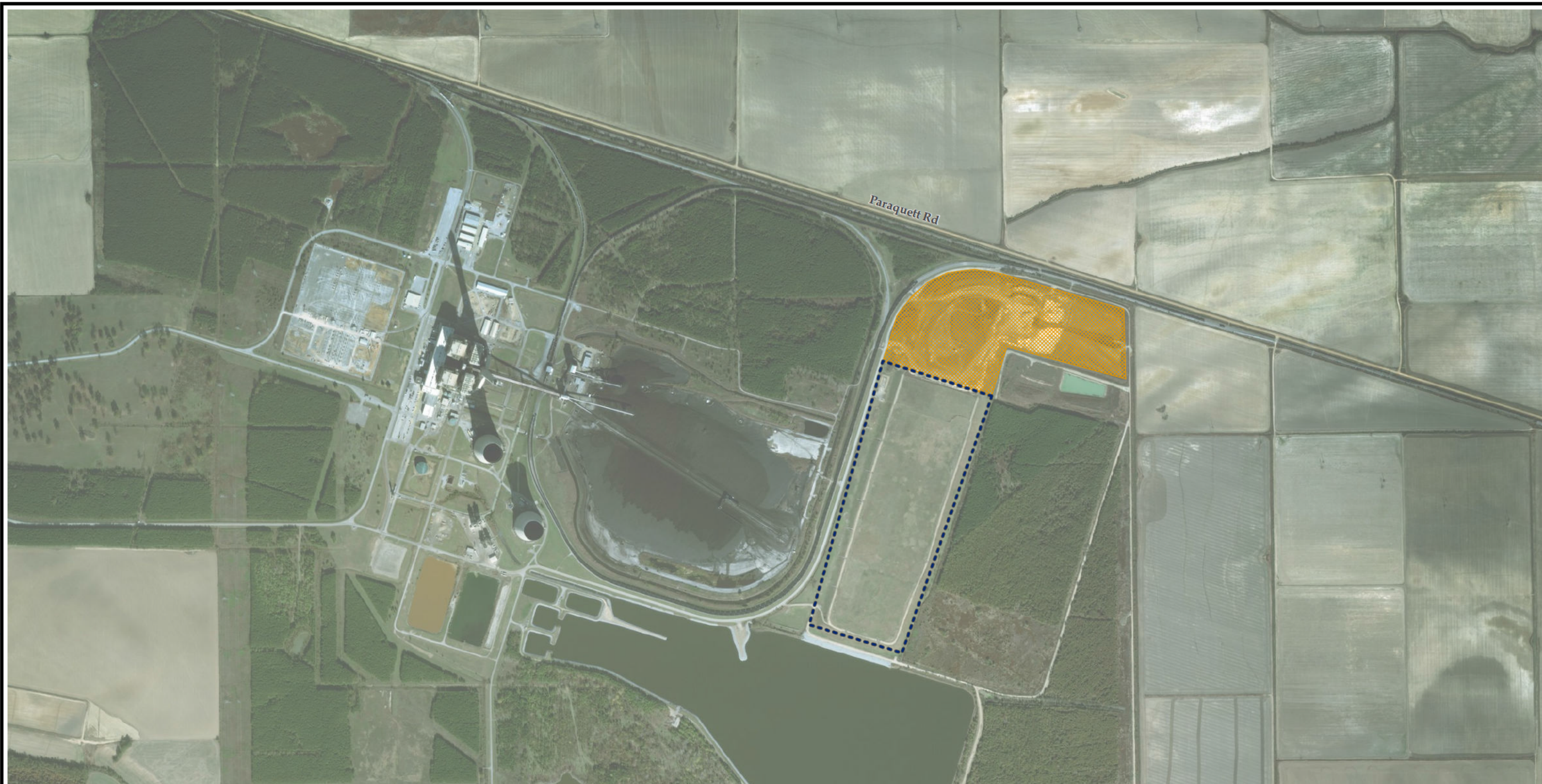

LEGEND

- CLOSED COAL COMBUSTION RESIDUAL LANDFILL
- ACTIVE COAL COMBUSTION RESIDUAL LANDFILL

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.

N

0 1,000 2,000 Feet

1 " = 1,000 '

1:12,000

PROJECT:

ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:

INDEPENDENCE PLANT FACILITY MAP

DRAWN BY:	B. DEEGAN	PROJ. NO.:	270853
CHECKED BY:	K. BARBER		
APPROVED BY:	J. HOUSE		**FIGURE 2**
DATE:	MARCH 2018		

TRC

Two United Plaza
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Baton Rouge, LA
Phone: 734.971.7080

FILE NO.: 270853-002IND.mxd

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Coordinate System: NAD 1983 StatePlane Arkansas North F PS 0301 Feet (Foot US)
Map Rotation: 0

TRC - GIS

LEGEND

CADL MONITORING WELLS

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.

0 1,000 2,000 Feet

1 " = 1,000 '

1:12,000

PROJECT:

ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:

MONITORING WELL LOCATIONS FOR CCR GROUNDWATER MONITORING NETWORK

DRAWN BY:	B. DEEGAN	PROJ. NO.:	270853
CHECKED BY:	K. BARBER		
APPROVED BY:	J. HOUSE		**FIGURE 3**
DATE:	MARCH 2018		

TRC

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Baton Rouge, LA
Phone: 734.971.7080

FILE NO.: 270853-003IND.mxd

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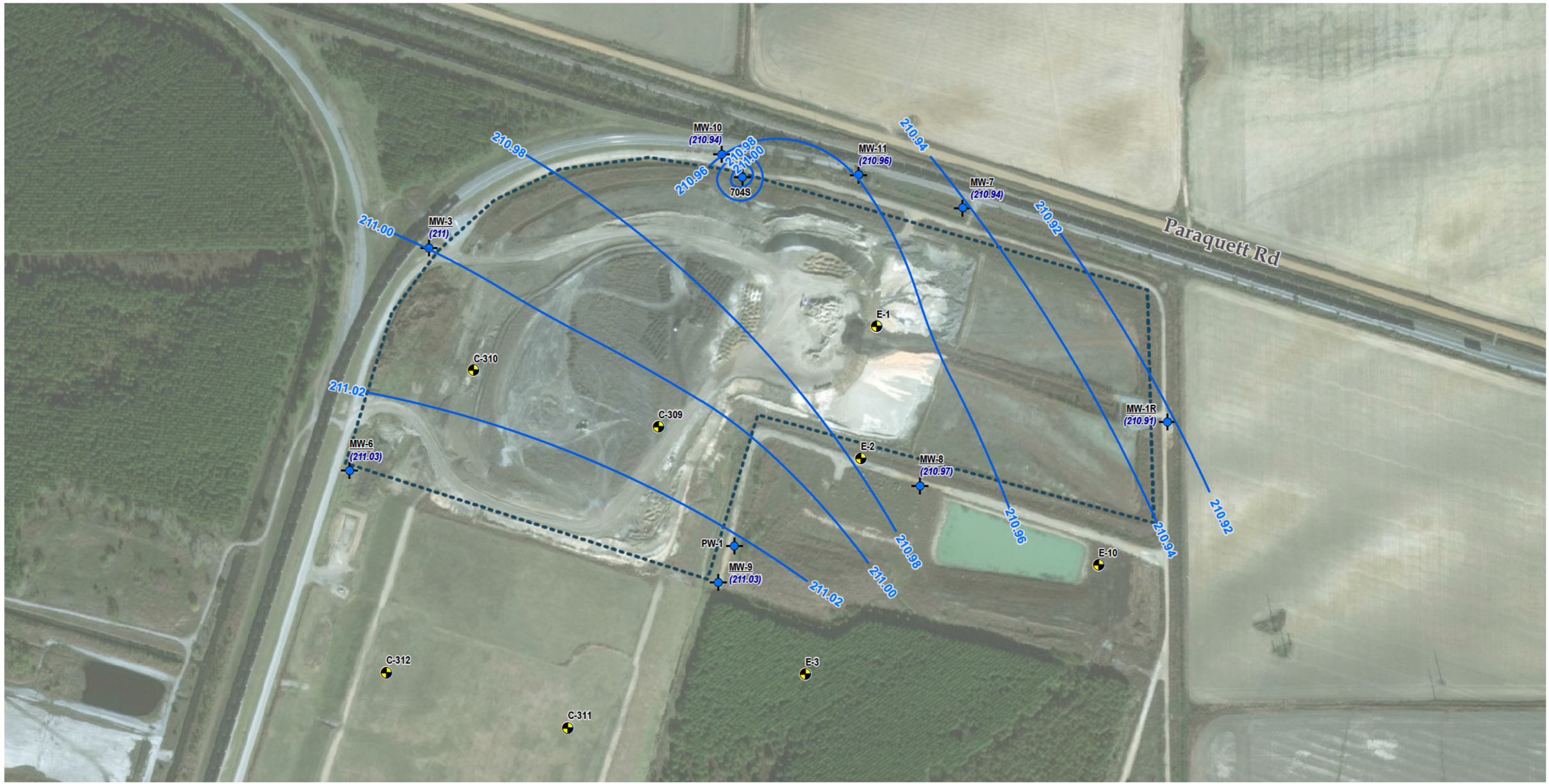
Map Rotation: 0

TRC - GIS



LEGEND

- CADL MONITORING WELL
- CADL PERMIT INVESTIGATION BORING
- GROUNDWATER CONTOURS (AUGUST 21, 2017)
- LIMITS OF CCR DISPOSAL UNITS

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.

N

0 300 600 Feet

1" = 300'

1:3,600

PROJECT:

ENTERGY INDEPENDENCE PLANT
555 POINT FERRY ROAD
NEWARK, ARKANSAS

TITLE:

POTENTIONMETRIC MAP
AUGUST 21, 2017

DRAWN BY:	B. DEEGAN	PROJ. NO.:	270853
CHECKED BY:	K. BARBER		
APPROVED BY:	J. HOUSE		**FIGURE 4**
DATE:	MARCH 2018		

TRC

Two United Plaza
8550 United Plaza Blvd., Suite 502
Baton Rouge, LA
Phone: 734.971.7080

FILE NO.: 270853-004IND.mxd

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TRC - GIS

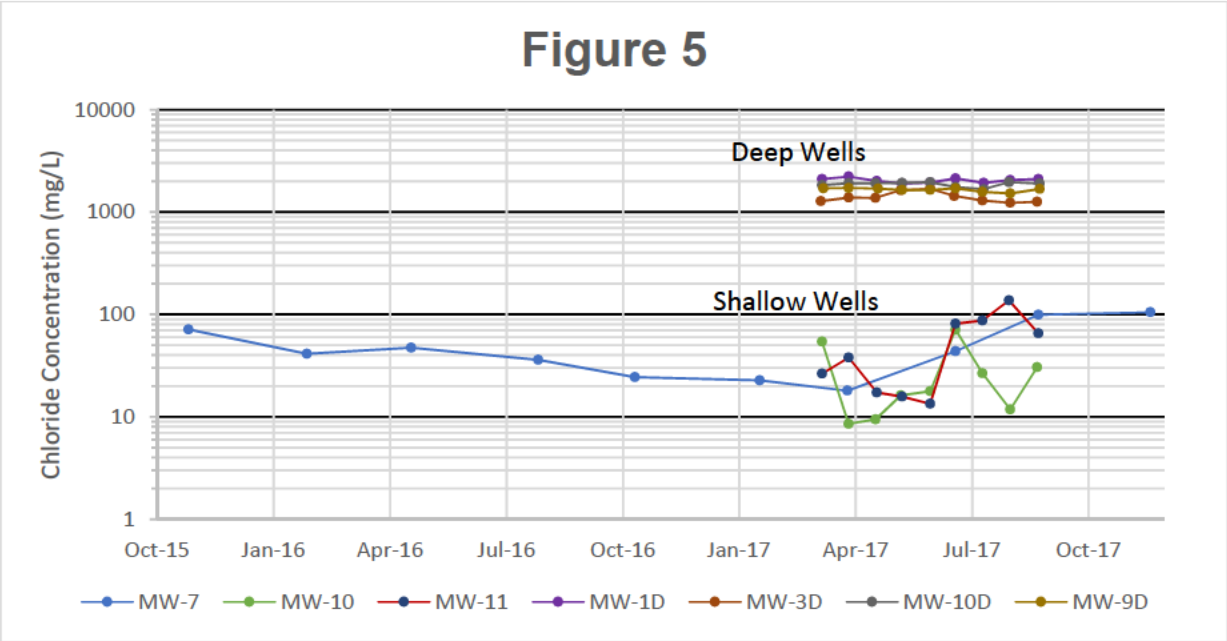


Figure 5
Chloride Time Concentration Graph

Prepared by: K. Barber 1/26/2018
Checked by: L. Auner 2/1/2018

Appendix A
Nature and Extent Investigation Report (FTN, 2017)

ftn Associates Ltd.
water resources / environmental consultants
3 Innwood Circle, Suite 220 • Little Rock, AR 72211 • (501) 225-7779 • Fax (501) 225-6738

TECHNICAL MEMORANDUM

DATE: **January 12, 2018**

TO: **Charles Johnson, PG**
Office of Land Resources, Arkansas Department of Environmental Quality

FROM: **Paul Crawford, PE, PG** PWC
FTN Associates, Ltd.

SUBJECT: Nature and Extent Investigation Report, Entergy Independence, Class 3N Landfill, Permit No. 0200-S3N-R2, AFIN: 32-000420
FTN No. R07920-1661-001

On behalf of Entergy Services, Inc. (Entergy), FTN Associates, Ltd. (FTN) is providing this memorandum report for the Entergy Independence Class 3N Landfill in Newark, Arkansas. This memorandum presents a summary of field activities associated with the Nature and Extent Investigation (NEI) of elevated boron levels measured at well 704S, as required by Arkansas Pollution and Control and Ecology Commission (APCEC) Regulation No. 22, §22.1205.

1.0 BACKGROUND

In accordance with §22.1103(f), Entergy submitted a work plan to the Arkansas Department of Environmental Quality (ADEQ) for the proposed NEI at the landfill facility (ADEQ document identification number [DIN] 72326). The purpose of the NEI field work was to) determine the onsite areal extent of elevated boron concentrations observed at well 704S using temporary well points (TWPs) ADEQ gave conditional approval of the work plan on August 9, 2017 (DIN 72352).

The proposed field work included the following components:

- The borings were to be advanced using direct-push technology (DPT), and the TWPs were to be constructed using 1-inch, Schedule 40 polyvinyl chloride riser and 10-ft-long pre-packed well screens.
- The well screens were to be located within the same zone monitored by the existing landfill monitoring wells: in the upper 10 to 12 ft of the coarse-grained, saturated aquifer

materials (screened approximately 35 to 45 ft below ground surface [bgs]). The proposed TWP depths could be adjusted based on observed lithology in the field.

- A geologist or engineer would be on site to document drilling, well placement, and abandonment per APCEC Regulation No. 22, §22.1103(f).
- Soils encountered during drilling would be observed and classified according to the Unified Soil Classification System.
- One round of groundwater samples was to be collected from each TWP using a peristaltic pump. Samples would be field-analyzed for boron, pH, turbidity, conductance, oxidation-reduction potential (ORP), dissolved oxygen (DO), and temperature. Boron was to be analyzed in the field using a Hach spectrophotometer and Hach Method 8015 (the carmine method).
- At the completion of the sampling activities, each TWP would be abandoned.
- A report summarizing the field activities would be submitted to ADEQ.

2.0 FIELD ACTIVITIES

Field activities associated with the NEI were conducted October 23 through October 31, 2017. Walker-Hill Environmental, Inc. (WHE), an Arkansas-licensed driller, performed the drilling, TWP installation, and well abandonment tasks.

Each TWP boring was advanced using DPT drilling techniques. Soils from each borehole were continuously sampled using a four-foot long, 1-1/2-inch diameter plastic sleeve. An FTN geologist was onsite to document the work. Soils for each well boring were described and classified according to the Unified Soil Classification System by the onsite geologist.

A total of 13 TWPs were installed as shown on Figure 1 in Attachment 1. The locations and number of the TWPs varied from the ADEQ-approved work plan for the project due to physical restrictions (railroad spurs, drainage ditches, and site utilities) and because results of field analysis of groundwater samples indicated that the areal extent of the boron was close to 704S and 710S and remained onsite. Each TWP location was recorded using a hand-held GPS device by the onsite FTN geologist and is included in the soil logs in Attachment 2.

Temporary well construction and abandonment procedures adhered to methods described in the *Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells* (US Environmental Protection Agency 1991) and as required by the Arkansas Water Well Construction Commission. Each TWP was constructed using 1-inch-diameter, flush-threaded, solid Schedule 40 polyvinyl chloride riser and pre-packed, 10-ft, 0.010-inch slotted, flush-threaded well screen and end cap. The annulus above the well screen was filled with sand to the top of the aquifer and with a minimum of 5 ft of bentonite pellet to ground surface. The

depth of the TWPs ranged between 42 to 48 ft bgs. Boring logs and well construction details are included in Attachment 2.

Groundwater samples were obtained from each of the 13 TWPs as described in Section 3.0 below. Upon completion of the groundwater sampling activities, the TWPs were removed and the boreholes plugged with cement-bentonite grout to ground surface.

3.0 GROUNDWATER SAMPLING AND ANALYSIS

One round of groundwater samples was collected from each TWP using a peristaltic pump and linear low-density natural polyethylene tubing. Samples were field-analyzed for boron, pH, turbidity, conductance, oxidation-reduction potential, dissolved oxygen, and temperature. Boron was analyzed in the field using a Hach spectrophotometer and Hach Method 8015 (the carmine method). Field parameters were recorded using a multiprobe system with a flow-through cell and a hand-held turbidity meter. Copies of the field sampling forms are included in Attachment 3.

The field screening using the Hach spectrometer was done for field decisions in support of determining the nature and extent of boron concentrations during the investigation. Split samples of the groundwater samples were submitted to ESC Lab Sciences of Mount Juliet, TN for verification of the field analyses. Table 1 below presents a summary of the field and laboratory results from each TWP.

Table 1. Summary of field and laboratory results of NEI and select monitoring well groundwater samples.

TWP ID	Date Sampled	Boron, mg/L	
		Field Screening	Laboratory Analysis
DPT-1	10/24/2017	0.9	0.98
DPT-2	10/24/2017	0.2	0.15
DPT-3	10/24/2017	0.4	0.43
DPT-4	10/25/2017	0.5	0.10
DPT-5	10/25/2017	0.5	0.10
DPT-6	10/26/2017	0.5	0.10
DPT-7	10/26/2017	0.4	0.10
DPT-8	10/26/2017	0.4	0.10
DPT-9	10/27/2017	0.5	0.25
DPT-10	10/27/2017	0.4	0.19

TWP ID	Date Sampled	Boron, mg/L	
		Field Screening	Laboratory Analysis
DPT-11	10/29/2017	0.5	0.13
DPT-12	10/29/2017	0.4	0.13
DPT-13	10/30/2017	0.5	0.13
704S	08/24/2017	NA	10.1
710S	08/23/2017	NA	2.72
711S	10/12/2017	NA	0.35

Boron results from nearby monitoring wells in August (704S and 710S) and October (711S) are considered to be comparable to the October analyses from the DPT borings because the trends in water quality data at the monitoring wells do not suggest there would be substantial changes in the time frames between when the monitoring wells were sampled and when the DPT samples were collected.

Results from the DPT and monitoring well analyses shows that:

- There is a distinct, and very small source of boron in the 10 mg/L range in the vicinity of 704S. This is not consistent with a source of boron from the active CCR disposal area, as boron from the landfill would occur over a larger area rather than an isolated in a relatively small area.
- There is limited migration from the area of 704S, as shown on Figure 1 in Attachment 1:
  - Migration to 710S results in a three-fold decrease in boron concentration (10 mg/L to 2.7 mg/L).
  - Migration to the northeast (DPT-1 and DPT-3) and north of 704S (DPT-9 and DPT-10) results in a 10-fold or greater decrease in boron concentration (10 mg/L to 0.2 mg/L).
  - This limited migration demonstrates that the source of the boron is a relatively small, but a high concentration.

4.0 MONITORING WELL 704S

Monitoring well 704S was installed in 2013 and has elevated levels of boron as compared to other monitoring wells located at the Independence Landfill. It is located immediately adjacent to a perimeter drainage ditch that collects runoff from the landfill area. Based on an inspection of the well during the NEI field activities, the well seal has been compromised, as it is very loose. Since

it is loose, the grout no longer provides an adequate seal and stormwater from the adjacent ditch has seeped into the borehole and migrated downward into the upper porous zones of silt and the underlying aquifer.

5.0 CONCLUSION AND RECOMMENDATION

The source of boron at well 704S and in areas surrounding this well originate from surface leakage through the compromised seal for well 704S and not from leakage from the base of the active CCR disposal area. This is based on:

- The presence of boron in surface water in direct contact with a compromised well seal; and
- The presence of boron at concentrations in excess of 0.5 mg/L in a very small area with very little migration away from this area, indicating the source is of small areal extent and small volume.

Since 704S is believed to be compromised and resulting in impact on groundwater quality, Entergy recommends removal and replacement with a new well located in the vicinity of DPT-1.

If you have any questions regarding this technical memorandum, or require any additional information, please do not hesitate to contact me at (501) 225-7779 or Dana Derrington, PE, PG, at (501) 920-9642.

PWC/dlc

Attachments

CC: Mr. Tracy Johnson; Entergy Services, Inc. (with attachments)
Mr. Trip Gentry; Entergy Services, Inc. (with attachments)
Mr. Andy Wilson, Entergy Services, Inc. (with attachments)

R:\WP_FILES\07920-1661-001\CORRESPONDENCE\TM-C JOHNSON NATURE REPORT\TM-C JOHNSON NATURE REPORT 2018-01-12 DOCX

6.0 PROFESSIONAL GEOLOGIST'S CERTIFICATION

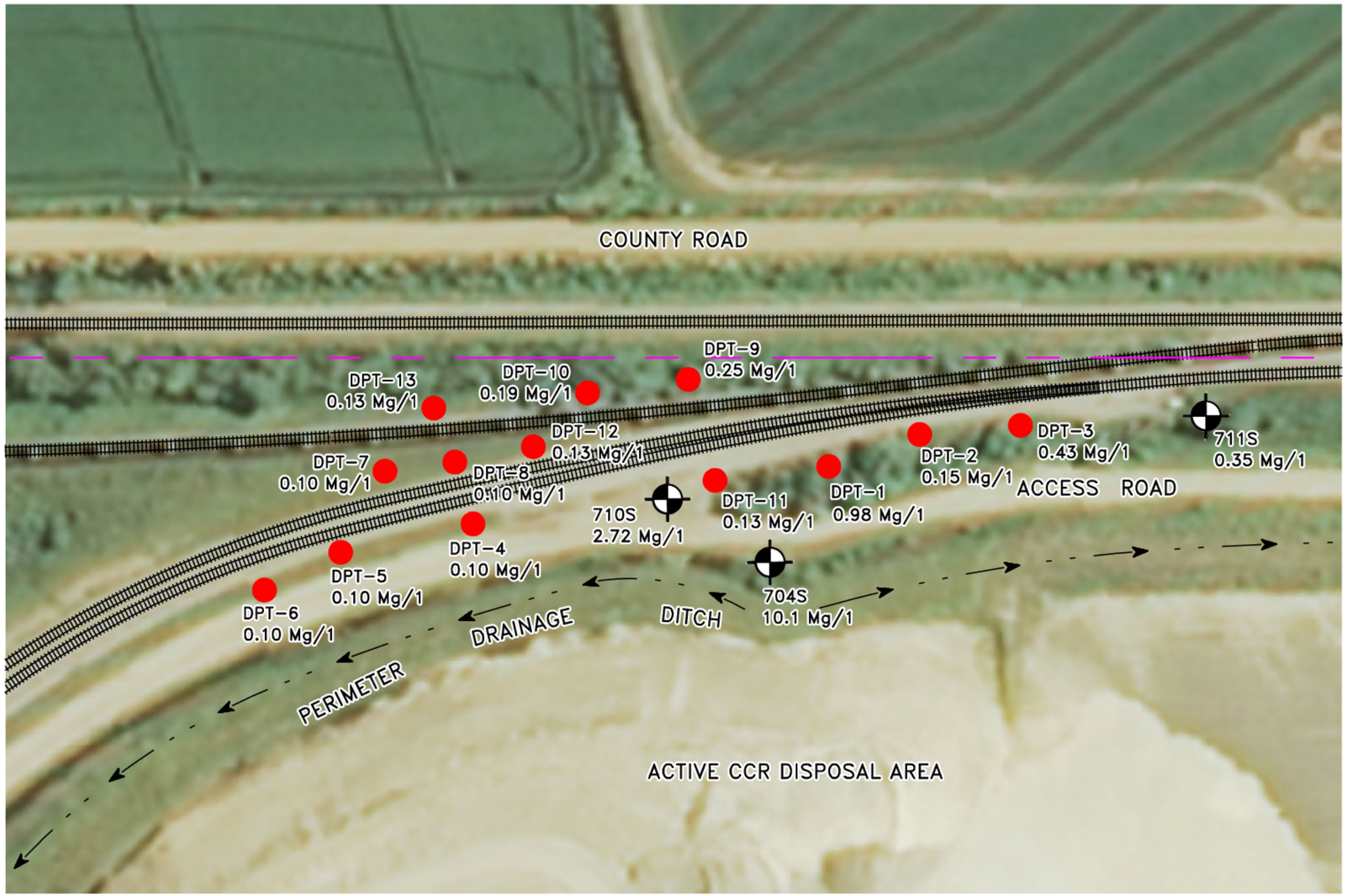
This technical memorandum and the nature and extent investigation activities it describes were prepared under the direction and supervision of a qualified, Arkansas-registered professional geologist. Mr. Paul Crawford, PE, PG, of FTN Associates, Ltd., was responsible for the overall preparation of this technical memorandum.

Paul Crawford, PG #1779

JANUARY 12, 2018
Date

ATTACHMENT 1

Figures



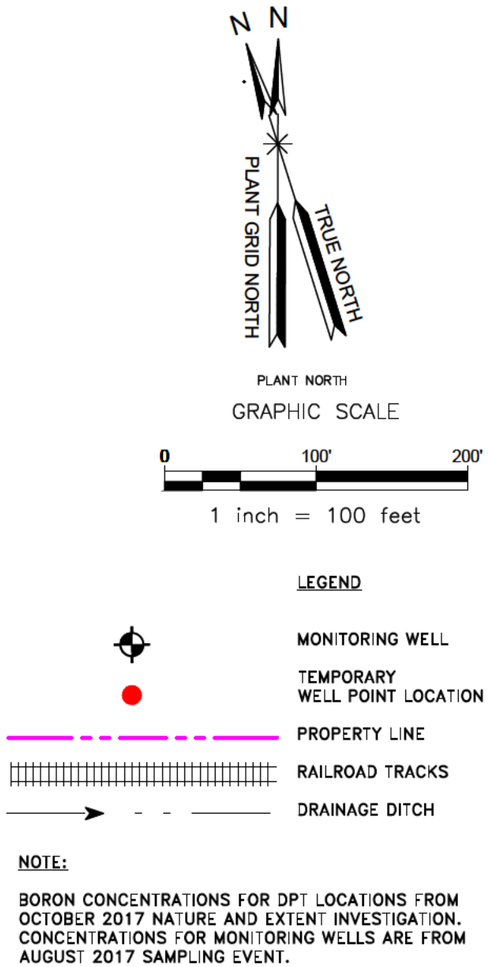


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Figure 1. Temporary well point locations.