FREEPORT-McMoRan

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March 30, 2015

Ms. Mindi Cross
Water Quality Compliance Section
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

RE: 2014 Annual Groundwater Monitoring Report
Mitigation Order on Consent No. P-121-07

Dear Ms. Cross:

Freeport Minerals Corporation, Copper Queen Branch (CQB) submits the following document to the Arizona Department of Environmental Quality (ADEQ).

- Annual Groundwater Monitoring Report. Mitigation Order On Consent, Docket No. P-121-07, dated March 26, 2015.

Currently CQB is proceeding under conditional approval with respect to the annual groundwater monitoring report and groundwater monitoring provisions of the Mitigation Plan until formal approval is granted by ADEQ. This annual groundwater monitoring report provides the results of groundwater monitoring conducted for the Mitigation Order in calendar year 2014 by CQB.

If you have any questions regarding this letter or the document listed above, please contact me at (520) 432-6206.

Sincerely,

William S Hart

William Hart
Sr. Environmental Scientist
Freeport Minerals Corporation

Enclosure

cc: Robert Quintanar/Freeport Minerals Corporation, Copper Queen Branch
Stu Brown/Freeport-McMoRan Corporation
Sheila Deely/Freeport-McMoRan Corporation
Madeline Keller/ADEQ
Julian Stewart/ADEQ
Jim Norris/Clear Creek Associates

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2014 ANNUAL GROUNDWATER MONITORING REPORT

MITIGATION ORDER ON CONSENT DOCKET NO. P-121-07
COCHISE COUNTY, ARIZONA

Prepared for:

FREEPORT MINERALS CORPORATION
COPPER QUEEN BRANCH
36 West Highway 92
Bisbee, Arizona 85603

Prepared by:

CLEAR CREEK ASSOCIATES, P.L.C.
221 North Court Avenue, Suite 101
Tucson, Arizona 85701

March 26, 2015

2014 ANNUAL
GROUNDWATER MONITORING REPORT

MITIGATION ORDER ON CONSENT DOCKET NO. P-121-07
COCHISE COUNTY, ARIZONA

Prepared for:

FREEPORT MINERALS CORPORATION
COPPER QUEEN BRANCH
36 West Highway 92
Bisbee, Arizona 85603

Approved by:

James R. Norris
Arizona Registered Geologist No. 30842

March 26, 2015

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APPENDICES

1. INTRODUCTION

This annual groundwater monitoring report is a requirement of the Mitigation Plan (Clear Creek Associates, 2015b) submitted to Arizona Department of Environmental Quality (ADEQ) in March 2015. The Mitigation Plan was submitted pursuant to the Mitigation Order on Consent Docket No. P-121-07 (ADEQ, 2007) between ADEQ and Freeport Minerals Corporation Copper Queen Branch (CQB) (previously known as Freeport-McMoRan Corporation). This annual groundwater monitoring report provides the results of groundwater monitoring conducted for the Mitigation Order in calendar year 2014 by CQB. ADEQ agreed to move forward with a conditional approval of the annual groundwater monitoring report and groundwater monitoring provisions of the Mitigation Plan while the plan is in review (ADEQ, 2015).

1.1 Mitigation Plan

The Mitigation Plan describes the process that will be followed to implement the mitigation action[1] for a groundwater plume of sulfate in the vicinity of the Concentrator Tailing Storage Area (CTSA) near Naco, south of Bisbee, Arizona (Figure 1). The mitigation action addresses potential affects[2] to existing drinking water supplies. Drinking water supplies in the vicinity of the plume do not exceed the sulfate action level of 250 milligrams per liter (mg/L) at this time because CQB mitigated previously affected supplies (CQB, 2013) under a separate plan (Clear Creek Associates, 2012) approved by ADEQ (ADEQ, 2012).

The mitigation action being implemented by CQB is Alternative 1C, which was identified as the recommended alternative by a Feasibility Study (Clear Creek Associates, 2014b) submitted to and approved by ADEQ (ADEQ, 2014). The mitigation action contains the following components:

- a water supply study to identify a potential alternate groundwater source for public water supply mitigation, if needed,

[1] The term mitigation action encompasses all actions implemented under the Mitigation Plan. If a contingent mitigation measure is implemented or the implemented measures are changed due to adaptive management, then the term mitigation action encompasses the contingency or change.

[2] The terms "affect" and "affected", with reference to a drinking water supply, are defined for the purpose of the Mitigation Plan as indicating a water supply with an average sulfate concentration exceeding 250 milligrams per liter due to sulfate originating from the Concentrator Tailing Storage Area.

- expanded groundwater monitoring to track plume migration in the vicinity of the Arizona Water Company (AWC) wellfield and Naco Water Company (NWC) Naco area water supply and to monitor sulfate concentrations at the leading edge of the plume for the purposes of establishing sentinel wells with action levels that, if exceeded, would trigger a contingent mitigation action at a public supply, if needed,

- long term plume monitoring to monitor sulfate at public and private drinking water supplies and to describe the large scale geometry of the plume over time, and

- annual review of Arizona Department of Water Resources (ADWR) well registry records for wells within a mile of the plume to identify new drinking water supply wells for sampling.

This annual groundwater monitoring report provides the results of groundwater monitoring, the review of ADWR well registry records, and expanded groundwater monitoring in 2014. The water supply study will be reported separately according to the schedule in the Mitigation Plan.

1.2 Scope of Annual Groundwater Monitoring Report

The Mitigation Plan describes the scope of the annual groundwater monitoring report as follows:

> *"Groundwater monitoring reports will provide the water quality and water level data collected under the expanded groundwater monitoring … and long term plume monitoring … programs. The results of well drilling, installation, testing, and monitoring for expanded groundwater monitoring will be incorporated into the groundwater monitoring report as the wells are installed and data become available. The annual ADWR well records review … will also be provided in the groundwater monitoring report. The reporting period will be a calendar year (i.e., January 1 through December 31). The groundwater monitoring report will be submitted by March 31 of the year following the reporting period."*

As described by the Mitigation Plan, the annual groundwater monitoring reports will transmit data to ADEQ with little interpretation. Analysis and evaluation of the monitoring data would be provided in mitigation performance review reports to be submitted to ADEQ under the Mitigation Plan.

This is the first annual groundwater monitoring report prepared for the Mitigation Order. The groundwater monitoring information presented in this report has been previously reported (Clear Creek Associates, 2014a, 2014d, 2014e, and 2015a) because this first annual report covers the transition between prior monitoring requirements and annual reporting agreed to by ADEQ. The

review of ADWR well records described herein was also previously reported (Clear Creek Associates, 2014c).

1.3 Groundwater Monitoring

The long term plume monitoring program monitors the sulfate concentration at public and private drinking water supplies, and monitors water levels and sulfate levels at monitoring wells over time to track the large scale geometry and concentration of the plume. The objectives of long term plume monitoring are:

- determination of the sulfate concentration in drinking water supplies within a one-mile radius of the outer edge of the sulfate plume (i.e., the 250 mg/L sulfate concentration contour),
- identification of the plume margin for ongoing delineation of the plume extent and assessment of plume migration (plume edge monitoring),
- documentation of the sulfate concentrations in the plume and areas distal to the plume to monitor long term concentration trends (regional monitoring), and
- measurement of water levels in the vicinity of the plume to document potentiometric conditions.

Long term plume monitoring is being conducted in conjunction with the expanded groundwater monitoring program (Section 1.5).

Groundwater sampling and water level measurement for long term plume monitoring were conducted by CQB and Clear Creek Associates personnel. Table 1 provides the groundwater monitoring schedule in place during 2014, prior to ADEQ's agreement to conditionally approve the annual reporting and groundwater monitoring provisions of the Mitigation Plan. Table 2 is the monitoring schedule for the long term plume monitoring program after that agreement. The long term plume monitoring schedule is being implemented in 2015. The groundwater sampling and analysis methods for both the previous groundwater monitoring plan and the long term plume monitoring program are described in the Quality Assurance Project Plan (QAPP) contained in Appendix F of the Work Plan (HGC, 2008). Dissolved sulfate is the only constituent monitored.

Figure 2 is a geologic map (Hayes and Landis, 1964) showing the monitoring area and identifying wells where data reported herein have been collected. The well locations are

identified by name on Figure 3. The results of groundwater monitoring in 2014 are given in Section 2.1.

1.4 ADWR Well Records Review

The purpose of the ADWR well records review is to identify new existing wells that are installed within one mile of the edge of the plume. CQB offers to sample a new drinking water supply well within a mile of the edge of the plume and adds the well to the long term plume monitoring schedule. The results of the ADWR well records review submitted to ADEQ in 2014 are described in Section 2.2

1.5 Expanded Groundwater Monitoring Program

The expanded groundwater monitoring program monitors the position of the plume in the immediate vicinity of the existing AWC and NWC public water supplies near Naco for the purpose of identifying sentinel well locations and sentinel well sulfate action levels that would, if exceeded, initiate a contingent mitigation.

The expanded groundwater monitoring program was initiated in September 2014 and is still in progress. The scope of the expanded groundwater monitoring program is described in the Mitigation Plan and a Work Plan submitted to ADEQ in 2015 (Clear Creek Associates, 2015b and 2015c). Work completed in 2014 consisted of borehole installation and construction of wells BMO-2014-1BU, BMO-2014-1BL, BMO-2014-2BU, BMO-2014-2BL, BMO-2014-3BU, and BMO-2014-3BL. The locations of these wells are shown on Figure 4. Hydraulic testing and initial well sampling were conducted at wells BMO-2014-1BU, BMO-2014-1BL, BMO-2014-2BU, and BMO-2014-2BL during 2014. Information from the expanded groundwater monitoring program will be reported in the annual groundwater monitoring report as it becomes available (see Section 1.2).

2. GROUNDWATER MONITORING RESULTS

2.1 Groundwater Monitoring

The results of groundwater monitoring were reported in quarterly groundwater monitoring reports prepared by Clear Creek Associates (2014a, 2014d, 2014e, and 2015a). The data tables and some illustrations from these reports are included in this report. The data verification reports, analytical laboratory reports, and groundwater sampling forms for 2014 provided in the previously submitted reports are not reproduced here. Subsequent annual groundwater monitoring reports (e.g., 2015, etc.) will contain the data verification reports, analytical laboratory reports, and groundwater sampling forms for the annual monitoring period (January 1 through December 31).

2.1.1 Sulfate and Water Level Data

Analytical results and groundwater elevation data for 2014 are tabulated in Tables 3 and 4, respectively, along with the results of previous monitoring under the Mitigation Order. Historical sulfate concentration data are available in this and previous groundwater monitoring reports, and in the Aquifer Characterization Report (Clear Creek, 2010).

Figures 5, 6, 7, and 8 are concentration contour maps for dissolved sulfate for quarters 1 through 4 of 2014, respectively. The highest sulfate concentration measured at co-located wells was used for concentration contouring. The extent of the sulfate plume and the sulfate contours drawn on these figures is based on both historical and 2014 sulfate concentration data.

Figure 9 shows sulfate concentrations through time at public drinking water supply wells. The sulfate concentration at the AWC wells were all less than 70 mg/L in 2014, and less than the 150 mg/L temporary sulfate action level for the AWC wellfield set by the Mitigation Plan. The NWC wells NWC-02 and NWC-06 had sulfate concentrations less than 10 mg/L in 2014. Sulfate concentrations at NWC-04, which is believed to be at the receding edge of the plume, ranged between 163 and 197 mg/L in 2014.

Figures 10, 11, 12, and 13 show groundwater elevation contour maps for quarters 1 through 4 of 2014, respectively. Groundwater elevations were calculated using depth to water measurements made under static (non-pumping) conditions whenever possible. The most recent measuring point elevation data for each well was used to calculate groundwater elevations in Table 4. At

wells with multiple samples or water levels during the fourth quarter 2014, the most recent data are shown on the figures.

Figures 14 and 15 show groundwater elevations over time for BMO monitor wells with screened intervals in basin fill and bedrock, respectively. Groundwater elevations in BMO monitor wells screened in basin fill have decreased over time. Groundwater elevations in BMO monitoring wells screened in most bedrock also decreased over time, although there are bedrock wells in the east half of the monitoring area that have increased in water elevation.

2.1.2 Quality Assurance/Quality Control

Data verification reports are prepared for quality assurance and quality control purposes. The data verification reports evaluate laboratory and field quality assurance data for acceptability in the context of data quality objectives for groundwater monitoring identified in the QAPP. The data verification reports for 2014 concluded that the analytical results for samples collected in 2014 are of acceptable quality for use in monitoring activities conducted pursuant to the Mitigation Order (Clear Creek Associates, 2014a, 2014d, 2014e, and 2015a).

2.2 ADWR Well Records Review

Groundwater wells installed in Arizona are required to be registered with ADWR. A review of records on file with ADWR for wells within one mile of the leading edge of the sulfate plume was conducted and reported to ADEQ in 2014. The well inventory was conducted in the following steps:

- Identify registered wells within one mile of the sulfate plume using ADWR's Program 55 Well Registry Database and information from groundwater monitoring.
- Categorize wells based on water use to identify potential drinking water sources.
- Verify well status and usage through well owner interviews for wells that cannot be placed in a usage category using available sources.

Clear Creek Associates (2014c) provides a detailed description of the methods and findings of the ADWR well records review.

The ADWR well records review identified 254 wells within a mile of the plume. Forty-one of the 254 wells were identified as currently used for drinking water based on well records and interviews with well owners. Two wells that were not part of the groundwater monitoring

program were verified as drinking water wells and added to the groundwater monitoring schedule.

2.3 Expanded Groundwater Monitoring Program

Figures 16, 17, and 18 summarize the geology and well construction for BMO-2014-1BU, BMO-2014-1BL, BMO-2014-2BU, and BMO-2014-2BL installed for the expanded groundwater monitoring program. Geologic logs, laboratory reports for water quality analyses of the initial water samples collected from these wells, and drawdown plots for hydraulic tests are in Appendix A. Field work and data processing for the expanded groundwater monitoring program are ongoing.

2.4 Errata

The Fourth Quarter 2014 Groundwater Monitoring Report (Clear Creek Associates, 2015a) was inadvertently sent out with a January 27, 2014 production date. The correct date for the report is January 27, 2015.

3. REFERENCES

Arizona Department of Environmental Quality (ADEQ). 2007. Mitigation Order on Consent Docket No. P-121-07, In the Matter of: Phelps Dodge Corporation, Copper Queen Branch, located at 36 West Highway 92, Bisbee, Arizona, ADEQ Identification Number 100531. November 14, 2007.

ADEQ. 2012. Correspondence from Mindi Cross, ADEQ, to Rebecca Sawyer, CQB, Re: Seventeenth Status Report for Mitigation Order on Consent No. P-121-07; Freeport-McMoRan Corporation, Copper Queen Branch August 17, 2012 response letter for travel time analysis for the sulfate plume and proposed schedule for the Feasibility Study and Mitigation Plan; and Feasibility Study and Mitigation Plan for Drinking Water Supplies Affected By Sulfate Mitigation on Consent Docket No. 121-07, prepared by Clear Creek Associates, P.L.C., dated March 28, 2012. October 10, 2012.

ADEQ. 2014. Correspondence from Mindi Cross, ADEQ, to Stuart Brown, Freeport-McMoRan Copper & Gold, Re: Review of Feasibility Study Report, Mitigation Order on Consent Docket No. P-121-07, Arizona, dated July 30, 2013, prepared by Clear Creek Associates, P.L.C. April 2, 2014.

ADEQ. 2015. Email correspondence from Madeline Keller, ADEQ, to William Hart, CQB. Re: Mitigation Order on Consent No. P-127-07. March 11, 2015.

Clear Creek Associates. 2010. Revision I Aquifer Characterization Report, Task 4.0 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona, Volumes I and II. December 15, 2010.

Clear Creek Associates. 2012. Feasibility Study and Mitigation Plan for Drinking Water Supplies Affected by Sulfate, Mitigation Order on Consent No. P-121-07. March 28, 2012.

Clear Creek Associates. 2014a. First Quarter 2014 Groundwater Monitoring Report, Tasks 1.0 and 2.2 of Aquifer Characterization Plan Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. April 9, 2014.

Clear Creek Associates. 2014b. Feasibility Study for Drinking Water Supplies that may be Affected by Sulfate in the Future, Mitigation Order on Consent Docket No. P-121-07. May 28, 2014.

Clear Creek Associates. 2014c. Well Inventory Update, Task 1 of Aquifer Characterization Plan for Mitigation Order on Consent No. P-121-07. June 30, 2014.

Clear Creek Associates. 2014d. Second Quarter 2014 Groundwater Monitoring Report, Tasks 1.0 and 2.2 of Aquifer Characterization Plan Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. July 9, 2014.

Clear Creek Associates. 2014e. Third Quarter 2014 Groundwater Monitoring Report, Tasks 1.0 and 2.2 of Aquifer Characterization Plan Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. October 22, 2014.

Clear Creek Associates. 2015a. Fourth Quarter 2014 Groundwater Monitoring Report, Tasks 1.0 and 2.2 of Aquifer Characterization Plan Mitigation Order on Consent Docket No. P-121-07, Cochise County, Arizona. January 27, 2015.

Clear Creek Associates. 2015b. Mitigation Plan for Sulfate with Respect to Drinking Water Supplies, Mitigation Order on Consent Docket No. P-121-07. March 6, 2015.

Clear Creek Associates. 2015c. Field Work Plan for Monitor Well Installation for Expanded Groundwater Monitoring, Mitigation Order on Consent Docket No. P-121-07. March 6, 2015.

Copper Queen Branch (CQB). 2013. Correspondence from Rebecca A. Sawyer, CQB, to Mindi Cross, ADEQ, Re: Mitigation Order on Consent No. P-121-07, Private Well Mitigation. March 7, 2013.

Hayes, P.T. and E.R. Landis. 1964. Geologic Map of the Southern Part of the Mule Mountains, Arizona. United States Geological Survey Miscellaneous Geologic Investigations Map-418.

Hydro Geo Chem, Inc. (HGC). 2008. Revision 1, Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Concentrator Tailing Storage Area, Cochise County, Arizona. July 3, 2008.

TABLES

TABLE 1
2014 Schedule for Water Quality Sampling and Water Level Monitoring

Well Name	ADWR 55 Registry Number	Semiannual Sampling First Quarter	Quarterly Sampling Second Quarter	Annual Sampling Third Quarter	Quarterly Sampling Fourth Quarter
ANDERSON 396	613396	✓	✓	✓	✓
ANDERSON 458	221458	✓	✓	✓	✓
AWC-02	616586	✓	✓	✓	✓
AWC-03	616585	✓	✓	✓	✓
AWC-04	616584	✓	✓	✓	✓
AWC-05	590620	✓	✓	✓	✓
BANKS 986	647986	✓	✓	✓	✓
BANKS 987	647987	WLO		WLO	
BARTON 919	644919	WLO		WLO	
BF-01	539783			✓	
BIMA	577927	✓	✓	✓	✓
BMO-2008-1G	909474	✓		✓	
BMO-2008-3B	909147	✓		✓	
BMO-2008-4B	910096	✓		✓	
BMO-2008-5B	909653	✓	✓	✓	✓
BMO-2008-5M	909552	✓	✓	✓	✓
BMO-2008-6B	909146	✓	✓	✓	✓
BMO-2008-6M	909019	✓	✓	✓	✓
BMO-2008-7M	908794	✓		✓	
BMO-2008-8B	910097			✓	
BMO-2008-8M	909711	✓		✓	
BMO-2008-9M	909255	✓		✓	
BMO-2008-10GL	909435			✓	
BMO-2008-10GU	909272			✓	
BMO-2008-11G	909434	✓		✓	
BMO-2008-13B	909551			✓	
BMO-2008-13M	909760			✓	
BMO-2010-1M	219957	✓	✓	✓	✓
BMO-2010-2M	219958	✓	✓	✓	✓
BMO-2010-3B	219970	✓	✓	✓	✓
BMO-2010-3M	219969	✓	✓	✓	✓
BMO-2012-1M	221388	✓	✓	✓	✓
BOOTH	914931	✓	✓	✓	✓
BURKE	212268	✓	✓	✓	✓
CHAMBERS	629807	✓	✓	✓	✓
COB MW-1	903992			✓	
COB MW-2	903984	✓		✓	
COB MW-3	906823			✓	
COB WL	593116			✓	

TABLE 1
2014 Schedule for Water Quality Sampling and Water Level Monitoring

Well Name	ADWR 55 Registry Number	Semiannual Sampling First Quarter	Quarterly Sampling Second Quarter	Annual Sampling Third Quarter	Quarterly Sampling Fourth Quarter
COOPER	623564	✓	✓	✓	✓
COOPER C	637069	✓	✓	✓	✓
DODSON	644927	✓	✓	✓	✓
DOUGLASS 791	592791	WLO		WLO	
DOUGLASS 792	592792	WLO		WLO	
DURAZO	NR	✓	✓	✓	✓
EAST	599796	✓	✓	✓	✓
ECHAVE	219449	✓	✓	✓	✓
EPPELE 641	805641	✓	✓	✓	✓
FLEMING	218386	WLO		WLO	
FRANCO 101	500101	✓	✓	✓	✓
FRANCO 383	221383	✓	✓	✓	✓
FULTZ	212447	✓	✓	✓	✓
GARNER 557	558557	WLO		WLO	
GARNER 635	587635	✓	✓	✓	✓
GGOOSE 547	628547	✓		✓	
GOAR RANCH	610695	WLO		WLO	
HOBAN	805290	✓	✓	✓	✓
HOWARD 312	221312	✓	✓	✓	✓
HOWARD NR	NR	✓	✓	✓	✓
KEEFER	209744	✓	✓	✓	✓
MARCELL	NR	✓	✓	✓	✓
MCCONNELL 265	539265	✓	✓	✓	✓
MCCONNELL 459	221459	✓	✓	✓	✓
METZLER	35-71891	✓	✓	✓	✓
MOORE	538847	✓	✓	✓	✓
NESS	509127	✓		✓	
NOTEMAN	212483	✓	✓	✓	✓
NWC-02	562944	✓	✓	✓	✓
NWC-03	203321	✓	✓	✓	✓
NWC-03 CAP	627684	WLO		WLO	
NWC-04	551849	✓	✓	✓	✓
NWC-06	575700	✓	✓	✓	✓
OSBORN	643436	✓		✓	
PALMER	578819	✓	✓	✓	✓
PANAGAKOS	35-76413			✓	
PARRA	576415	✓	✓	✓	✓
PIONKE 395	613395	✓	✓	✓	✓
PIONKE 517	221517	✓	✓	✓	✓

TABLE 1
2014 Schedule for Water Quality Sampling and Water Level Monitoring

Well Name	ADWR 55 Registry Number	Semiannual Sampling First Quarter	Quarterly Sampling Second Quarter	Annual Sampling Third Quarter	Quarterly Sampling Fourth Quarter
POOL	509518	✓	✓	✓	✓
POWER 639	222639	✓	✓	✓	✓
RAMIREZ	216425	✓	✓	✓	✓
RAY	803772	✓	✓	✓	✓
ROGERS 596	573596	✓	✓	✓	✓
ROGERS 803	641803	✓	✓	✓	✓
ROGERS E	216018	✓	✓	✓	✓
RUIZ	531770	✓	✓	✓	✓
SCHWARTZ	210865	✓	✓	✓	✓
STEPHENS	808560	WLO		WLO	
SUNBELT	201531	WLO		WLO	
SWAN	NR	✓		✓	
THOMPSON 151	612151	WLO		WLO	
THOMPSON 341	218341	✓	✓	✓	✓
TM-02A	522574	✓		✓	
TM-06 MILLER	522695			✓	
TM-07	522576	✓		✓	
TM-15 MILLER	522699			✓	
TM-16	522578			✓	
TM-19A	522580	✓		✓	
TM-42	562554			✓	
TVI 236	802236			✓	
TVI 713	567713	WLO		WLO	
TVI 875	568875	✓	✓	✓	✓
WEED	544535	✓	✓	✓	✓
WEISKOPF 802	641802	✓	✓	✓	✓
WEISKOPF 897	221897	✓	✓	✓	✓
ZANDER	205126	✓	✓	✓	✓

Notes:
35-71891 = ADWR 35 Database
ADWR = Arizona Department of Water Resources
NR = No Record
WLO = Water Level Only

TABLE 2
Mitigation Plan Schedule for Long Term Plume Monitoring

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter
ANDERSON 396	613396	PNDW	RM	WLO	WLO	✓
ANDERSON 458	221458	PDWS	DWS (Mit)		✓	
ASLD 435	616435	STOCK	RM	WLO	WLO	
AWC-02	616586	PWS	DWS (>2000)	✓	✓	
AWC-03	616585	PWS	DWS (>2000)	✓	✓	
AWC-04	616584	PWS	DWS (>2000)	✓	✓	
AWC-05	590620	PWS	DWS (>2000)	✓	✓	
BANKS 986	647986	PDWS	DWS (>2000)		✓	
BANKS 987	647987	PNDW	RM	WLO	WLO	
BARTON 919	644919	PNDW	RM	WLO	WLO	
BIMA	577927	PNDW	RM			✓
BMO-2008-1G	909474	MW	PE (Lateral)	✓	✓	
BMO-2008-3B	909147	MW	PE (Lateral)	✓	✓	
BMO-2008-4B	910096	IRR	PE (Below)	WLO	✓	
BMO-2008-5B	909653	PDWS	DWS (<2000)	✓	✓	
BMO-2008-5M	909552	MW	PE (Lateral)	✓	✓	
BMO-2008-6B	909146	MW	PE (Lateral)	✓	✓	
BMO-2008-6M	909019	MW	PE (Lateral)	✓	✓	
BMO-2008-7M	908794	MW	PE (Below)	WLO	✓	
BMO-2008-8B	910097	MW	RM	WLO	WLO	✓
BMO-2008-8M	909711	MW	PE (Below)	WLO	✓	
BMO-2008-9M	909255	MW	PE (Below)	WLO	✓	
BMO-2008-10GL	909435	MW	RM	WLO	WLO	✓
BMO-2008-10GU	909272	MW	RM	WLO	WLO	✓
BMO-2008-11G	909434	MW	PE (Lateral)	✓	✓	
BMO-2008-13B	909551	MW	RM	WLO	WLO	✓
BMO-2008-13M	909760	MW	RM	WLO	WLO	✓
BMO-2010-1M	219957	MW	PE (Below)	WLO	✓	
BMO-2010-2M	219958	MW	RM	WLO	WLO	✓
BMO-2010-3B	219970	MW	PE (Lateral)	✓	✓	
BMO-2010-3M	219969	MW	PE (Lateral)	✓	✓	
BMO-2012-1M	221388	MW	PE (Lateral)	✓	✓	
BOOTH	914931	PDWS	DWS (<2000)	✓	✓	
BURKE	212268	PDWS	DWS (>2000)		✓	
CHAMBERS	629807	PDWS	DWS (>2000)		✓	
COB MW-1	903992	MW	RM	WLO	WLO	✓
COB MW-2	903984	MW	PE (Lateral)	✓	✓	
COB MW-3	906823	MW	RM	WLO	✓	
COB WL	593116	MW	PE (Lateral)	✓	✓	
COOPER	623564	PDWS	DWS (<2000)	✓	✓	
COOPER C	637069	MW	RM		✓	
DODSON	644927	PDWS	DWS (<2000)	✓	✓	
DOUGLASS 791	592791	PNDW	RM		WLO	
DOUGLASS 792	592792	PNDW	RM		WLO	
EAST	599796	PDWS	DWS (>2000)		✓	

TABLE 2
Mitigation Plan Schedule for Long Term Plume Monitoring

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter
ECHAVE	219449	PDWS	DWS (>2000)		✓	
EPPELE 641	805641	PDWS	DWS (>2000)		✓	
FRANCO 383	221383	PDWS	DWS (Mit)		✓	
FULTZ	212447	PDWS	RM		✓	
GARNER 557	558557	PNDW	RM	WLO	WLO	
GARNER 635	587635	PDWS	DWS (Mit)		✓	
GOAR RANCH	610695	PNDW	RM	WLO	WLO	
HOBAN	805290	MW	RM	WLO	✓	
HOWARD NR	NR	PNDW	RM	WLO	WLO	✓
HOWARD 312	221312	PDWS	DWS (Mit)		✓	
KEEFER	209744	PDWS	DWS (>2000)		✓	
LADD 251	520251	PNDW	RM	WLO	WLO	
LADD 538	505538	PNDW	RM	WLO	WLO	
LADD 837	519837	PNDW	RM	WLO	WLO	
LADD 977	642977	STOCK	RM	WLO	WLO	
MARCELL	NR	PNDW	RM			✓
MCCONNELL 265	539265	PNDW	RM	WLO	WLO	✓
MCCONNELL 459	221459	PDWS	DWS (Mit)		✓	
METZLER	35-71891	PNDW	RM	WLO	WLO	
MOORE	538847	PDWS	DWS (>2000)		✓	
NESS	509127	PDWS	DWS (>2000)		✓	
NOTEMAN	212483	PNDW	RM			✓
NSD-02	527587	MW	RM	WLO	WLO	
NSD-03	527586	MW	RM	WLO	WLO	
NWC-02	562944	PWS	DWS (>2000)	✓	✓	
NWC-03 CAP	627684	PNDW	RM	WLO	WLO	
NWC-04	551849	PWS	DWS (<2000)	Quarterly		
NWC-06	575700	PWS	DWS (>2000)	✓	✓	
OSBORN	643436	PDWS	DWS (>2000)		✓	
PALMER	578819	PDWS	DWS (>2000)		✓	
PANAGAKOS	35-76413	PDWS	PE (Lateral)	✓	✓	
PARRA	576415	PNDW	RM			✓
PIONKE 395	613395	PNDW	RM	WLO	WLO	✓
PIONKE 517	221517	PDWS	DWS (Mit)		✓	
POOL	509518	PDWS	DWS (>2000)		✓	
POWER 639	222639	PDWS	DWS (<2000)	✓	✓	
RAMIREZ	216425	PDWS	DWS (>2000)	WLO	✓	
RAY	803772	PDWS	DWS (>2000)		✓	
ROGERS 596	573596	PNDW	RM	WLO	WLO	
ROGERS 803	641803	PDWS	DWS (<2000)	✓	✓	
ROGERS E	216018	PDWS	DWS (>2000)		✓	
RUIZ	531770	PDWS	DWS (<2000)	✓	✓	
SCHWARTZ	210865	PDWS	DWS (<2000)	✓	✓	
STEPHENS	808560	PNDW	RM	WLO	WLO	
SWAN	NR	PDWS	DWS (>2000)		✓	

TABLE 2
Mitigation Plan Schedule for Long Term Plume Monitoring

Well Name	ADWR 55 Registry Number	Well Use	Monitoring Purpose	Semiannual Sampling First Quarter	Annual Sampling Third Quarter	Biennial Sampling Third Quarter
THOMPSON 151	612151	PNDW	RM	WLO	WLO	
THOMPSON 341	218341	PDWS	DWS (>2000)		✓	
TM-02A	522574	MW	RM	WLO	WLO	✓
TM-06 MILLER	522695	MW	RM	WLO	WLO	✓
TM-07	522576	MW	PE (Lateral)	✓	✓	
TM-10 USBP	522696	MW	RM	✓	✓	
TM-15 MILLER	522699	MW	RM		✓	
TM-16	522578	MW	RM	WLO	WLO	✓
TM-19A	522580	MW	RM		✓	
TM-42	562554	MW	RM	WLO	WLO	✓
TVI 236	802236	IRR	PE (Lateral)	✓	✓	
TVI 713	567713	PNDW	RM	WLO	WLO	
TVI 875	568875	IRR	RM		✓	
WEED	544535	PDWS	DWS (<2000)	✓	✓	
WEISKOPF 802	641802	PNDW	RM	WLO	WLO	✓
WEISKOPF 897	221897	PDWS	DWS (Mit)		✓	
ZANDER	205126	PDWS	DWS	WLO	✓	

Notes:

35-71891	ADWR 35 Database
ADWR	Arizona Department of Water Resources
NR	No Record

Well Use

PWS	Public Water Supply
PDWS	Private Drinking Water Supply
PNDW	Private Non-Drinking Water
IRR	Irrigation
MW	Monitoring Well
STOCK	Stock-Wildlife Watering

Monitoring Purpose

DWS (<2000)	Drinking Water Supply, Greater than 2000 feet from the plume
DWS (>2000)	Drinking Water Supply, Less than 2000 feet from the plume
DWS (Mit)	Drinking Water Supply, Mitigation well installed below plume
PE (Lateral)	Plume Edge Monitoring, Lateral to plume
PE (Below)	Plume Edge Monitoring, Below plume
RM	Regional Monitoring
WLO	Water Level Only

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
ANDERSON 396	613396	3/20/08	7.25	21.1	1176	431
		5/5/08	7.03	21.8	1231	452
		7/14/08	7.11	21.6	1260	472
		10/15/08	7.10	21.3	1252	475
		1/27/09	7.27	21.0	965	488
		4/14/09	7.12	21.8	1229	534
		7/14/09	7.03	22.2	1372	550
		10/12/09	6.98	21.5	1375	510
		1/27/10	7.93	20.1	1449	523
		4/21/10	7.40	20.7	1439	627
		7/19/10	6.93	24.1	1420	648
		10/19/10	7.03	20.6	1229	416
		1/17/11	7.02	20.6	1334	562
		4/11/11	6.92	15.1	1485	609
		7/14/11	7.23	24.4	1451	678
		10/11/11	6.65	21.2	1230	543
		2/1/12	7.28	11.8	1360	551
		4/25/12	7.10	23.9	1380	657
		7/12/12	6.89	24.9	1520	667
		10/10/12	7.40	24.0	1414	574
		4/7/14	7.06	17.4	1057	175
		7/11/14	7.35	21.4	1033	272
		10/6/14	7.13	27.5	974	99.0
		10/6/14 DUP	7.13	27.5	974	102
ANDERSON 458	221458	9/9/12	8.34	25.9	406.3	31
		10/10/12	8.13	23.8	412.3	30.3
		1/17/13	8.06	23.7	416.0	30.9
		4/15/13	8.19	23.5	402.7	32.3
		7/18/13	8.18	24.3	401.9	23
		10/16/13	8.10	23.8	400.1	25.2
		1/9/14	8.15	22.9	399.3	26.2
		1/9/14 DUP	8.15	22.9	399.3	26.2
		4/7/14	8.16	24.0	401.6	27.5
		7/11/14	8.13	24.5	396.7	25.3
		10/6/14	8.06	25.6	384	26.0
AWC-02	616586	1/7/08	ND	ND	ND	14
		3/3/08	ND	ND	ND	16
		5/5/08	ND	ND	ND	13.3
		8/12/08	7.01	22.3	630	14.3
		10/23/08	7.31	23.1	464	15.9
		3/11/09	7.19	21.8	420	15.5
		4/22/09	7.17	22.6	430	14.7
		7/22/09	7.24	22.7	444	14.2
		10/21/09	7.19	21.3	468	16.8
		2/3/10	7.44	19.7	449	18.6
		4/23/10	7.56	19.7	526	18.3
		7/20/10	7.27	23.9	450	18.2
		11/4/10	7.72	21.3	465.9	18.8
		1/19/11	7.84	19.0	500	18.4
		4/7/11	7.27	20.3	488.5	17.3
		7/13/11	5.93	23.9	431.5	12.9
		10/13/11	6.72	25.1	464.6	17.4
		10/13/11 DUP	6.72	25.1	464.6	17.4
		2/2/12	7.20	20.8	479.5	19.4
		4/24/12	7.23	23.0	430	15.5
		7/5/12	7.25	22.1	437.1	10.1
		10/18/12	7.48	21.6	473.6	13.0
		2/5/13	7.54	19.3	448.9	18.0
		4/11/13	7.53	22.1	471.3	17.2
		7/25/13	7.35	22.1	460.5	14.7
		10/9/13	7.53	21.2	476.4	15.5
		1/7/14	7.45	20.3	503.7	18.8
		1/7/14 DUP	7.45	20.3	503.7	18.9
		5/14/14	7.34	21.0	508.4	19.2
		7/16/14	7.54	21.8	499.5	19.2
		10/15/14	7.26	23.2	520	18.9

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
AWC-03	616585	1/7/08	ND	ND	ND	41
		3/3/08	ND	ND	ND	38
		5/5/08	ND	ND	ND	37.3
		8/12/08	7.28	22.4	469	38.8
		10/23/08	7.48	21.0	462	41.8
		3/11/09	7.25	21.2	445	64.2
		4/22/09	7.30	21.4	452	42.4
		7/22/09	7.39	22.6	456	41.8
		10/21/09	7.48	21.3	540	50.5
		2/3/10	7.44	19.7	449	42.0
		4/23/10	7.57	19.7	468	44.4
		7/20/10	7.29	23.8	460	46.7
		11/4/10	7.80	20.8	452.3	46.3
		1/19/11	7.07	19.6	560	49
		4/7/11	7.28	19.9	469.8	46.8
		7/13/11	6.33	23.1	458.8	47.6
		7/13/11 DUP	6.33	23.1	458.8	46.2
		10/13/11	6.69	23.8	463.6	48.8
		2/2/12	7.39	20.7	504.8	47.7
		4/24/12	7.28	22.1	450	51.8
		7/5/12	7.32	21.7	474.3	50.7
		10/18/12	7.44	21.3	477.4	51.3
		2/5/13	7.73	19.2	481.2	55
		4/11/13	7.51	22.2	486.4	66.1
		7/16/13	7.61	21.5	489.6	63.6
		10/9/13	7.57	20.5	485.8	49.4
		10/9/13 DUP	7.57	20.5	485.8	51
		1/7/14	7.62	20.4	486.3	56.6
		5/14/14	7.64	20.5	493.0	61.1
		7/16/14	7.68	21.4	506.9	69.1
		10/15/14	7.38	22.2	506	63.4
AWC-04	616584	2/4/08	ND	ND	ND	18
		4/7/08	ND	ND	ND	18
		6/2/08	ND	ND	ND	14.3
		8/12/08	7.08	22.5	458	21.6
		10/23/08	6.91	22.2	616	24
		3/11/09	7.02	21.3	539	27.2
		4/22/09	6.93	22.1	560	26.1
		7/22/09	7.13	22.5	587	26.2
		10/21/09	7.00	21.2	607	25.7
		2/3/10	7.35	19.3	438	16.3
		4/23/10	7.14	19.2	625	27.4
		7/20/10	7.02	24.1	600	26.6
		11/4/10	7.41	20.3	593.2	24
		1/19/11	8.15	20.5	690	26.2
		4/7/11	7.00	20.4	637.2	25.8
		7/13/11	6.88	20.4	610.1	25.7
		10/13/11	6.38	24.0	619.7	27.6
		2/2/12	6.97	20.1	637.6	27.2
		4/24/12	7.10	22.1	570	25.2
		7/5/12	7.03	21.6	568.0	28.2
		7/5/12 DUP	7.03	21.6	568.0	28.1
		10/18/12	7.20	20.8	606.7	26.6
		2/5/13	7.29	19.7	616.8	26.9
		4/11/13	7.38	21.7	595.4	26.2
		7/16/13	7.30	21.0	585.7	27.0
		10/9/13	7.36	20.4	588.6	24.6
		1/7/14	7.36	19.7	651.4	23.7
		5/14/14	7.38	19.8	674.2	22.7
		7/16/14	7.32	20.7	632.2	24.1
		7/16/14 DUP	7.32	20.7	632.2	22.9
		10/15/14	7.01	21.9	688	21.4

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
AWC-05	590620	2/4/08	ND	ND	ND	13
		4/7/08	ND	ND	ND	14
		6/2/08	ND	ND	ND	14.3
		8/12/08	6.74	23.3	425	14.9
		10/23/08	7.45	21.0	422	15.4
		3/11/09	7.31	22.1	398	16.5
		6/3/09	7.33	22.0	418	12.1
		7/22/09	7.49	24.4	423	14.1
		10/21/09	7.37	21.1	433	16.5
		2/3/10	7.35	19.3	438	16.3
		4/23/10	7.62	18.9	443	17.6
		7/20/10	7.62	24.2	440	19.1
		11/4/10	7.92	20.7	427.1	18.4
		1/19/11	7.64	20.3	420	17
		4/7/11	7.22	20.8	438.3	17.6
		7/13/11	6.52	22.9	419.8	17.9
		10/13/11	6.82	26.0	427.5	19
		2/2/12	7.35	21.4	427.9	19.5
		4/24/12	7.18	21.4	430	15.4
		7/5/12	7.24	22.6	432.1	19.1
		10/18/12	7.66	22.6	436.1	20.1
		2/5/13	7.57	20.2	437.7	20.1
		4/11/13	7.54	21.2	444.5	20.3
		7/16/13	7.56	21.3	454.5	18.0
		7/16/13 DUP	7.56	21.3	454.5	17.7
		10/9/13	7.58	21.3	455.3	15.4
		5/14/14	7.54	21.2	442.3	19.8
		7/16/14	7.60	22.6	470.9	20.3
		10/15/14	7.38	23.0	452	20.8
BANKS 986	647986	2/27/08	7.53	21.8	980	44
		5/12/08	7.40	22.1	1021	65.2
		7/21/08	7.43	22.9	1034	82.2
		10/13/08	7.28	21.7	980	53
		1/21/09	7.66	21.6	872	164
		4/8/09	7.56	22.7	933	47
		7/9/09	7.59	23.1	871	70.9
		10/7/09	7.50	22.2	838	67.7
		2/25/10	7.56	21.1	1020	50.5
		4/20/10	7.71	22.8	1013	53.9
		7/20/10	7.70	23.2	828.3	71.5
		10/20/10	7.60	22.4	948.7	73.4
		1/17/11	7.73	20.6	1038	53.5
		4/5/11	7.66	21.5	965.0	64.5
		7/11/11	7.72	25.4	890.0	68.8
		10/12/11	7.88	21.2	1551	172
		1/31/12	7.69	20.2	1017	64.3
		1/31/12 DUP	7.69	20.2	1017	64.9
		4/11/12	7.77	22.0	1025	64.0
		7/6/12	7.66	23.7	940	78.6
		7/6/12 DUP	7.66	23.7	940	77.9
		10/4/12	7.73	22.0	845.4	62.6
		1/18/13	7.82	21.9	832.4	70.5
		4/8/13	7.87	20.7	861.7	62.9
		7/9/13	8.04	22.9	769.1	67.9
		10/15/13	7.59	21.7	1158	79.6
		1/14/14	7.77	20.9	967.4	75.2
		4/8/14	7.47	21.4	1337	113
		7/8/14	7.58	22.3	1175	107
		7/8/14 DUP	7.58	22.3	1175	110
		10/21/14	7.37	22.7	1158	91.3

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BF-01	539783	5/23/08	6.41	18.3	2698	1450
		8/5/08	6.11	22.4	3095	1330
		11/5/08	6.33	19.9	3027	1490
		2/20/09	6.42	19.2	1477	1330
		5/6/09	5.98	23.9	2632	1280
		8/17/09	6.21	29.7	2948	1250
		11/4/09	6.24	23.0	2846	1280
		3/1/10	6.34	21.1	2945	1260
		4/7/10	5.83	20.4	1853	1450
		7/6/10	5.93	22.6	1403	1310
		7/13/11	6.26	21.3	2960	1350
		2/1/12	6.18	19.8	2910	1480
		8/14/12	6.00	21.5	3000	1500
BIMA	577927	2/6/08	6.69	22.2	1335	210
		4/25/08[1]	6.37	23.1	1521	190
		5/13/08[1]	6.58	22.7	1489	195
		6/23/08[1]	6.30	23.3	1572	225
		6/23/08 DUP	6.30	23.3	1572	196
		7/29/08[1]	6.44	23.0	1647	204
		8/28/08[1]	M	23.0	1776	256
		9/23/08[1]	6.29	23.0	1741	296
		10/22/08	6.41	22.3	1801	285
		1/20/09	6.40	21.7	1233	190
		1/20/09 DUP	6.40	21.7	1233	200
		4/7/09	6.45	23.4	1436	212
		7/8/09	6.31	23.4	1483	189
		10/5/09	6.34	22.7	1525	233
		1/20/10	6.88	17.0	M	222
		4/19/10	6.70	21.9	1533	256
		7/12/10	6.70	24.0	1577	273
		10/18/10	6.47	24.3	1702	296
		1/19/11	6.65	21.2	1672	283
		4/4/11	6.61	24.0	1643	282
		8/25/11	6.27	25.9	1460	300
		10/10/11	6.5	24.1	1520	322
		2/3/12	6.48	18.5	1540	312
		4/23/12	6.57	23.9	1790	303
		7/10/12	6.06	23.7	1200	301
		11/29/12	6.51	20.6	1664	310
		3/13/13	7.29	19.8	1175	317
		4/10/13	6.64	13.9	1569	308
		7/8/13	6.62	28.0	1580	301
		10/11/13	6.57	21.8	1749	301
		1/10/14	6.63	10.7	1664	297
		4/10/14	6.62	15.8	1685	300
		7/8/14	6.56	21.6	1653	297
		10/23/14	6.25	23.9	1704	227
BLOMMER	633472	2/5/08	7.43	20.2	714	206
		4/21/08[1]	7.06	21.9	753	201
		5/15/08[1]	7.16	22.2	845	211
		6/23/08[1]	6.93	21.5	903	193
		7/29/08[1]	7.21	22.2	921	203
		8/27/08[1]	7.12	22.1	864	189
		9/23/08[1]	7.16	22.3	818	193
		10/22/08	7.17	21.3	873	200

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2008-1G	909474	8/27/08	7.09	24.2	808	107
		11/11/08	7.00	20.8	721	143
		2/25/09	7.01	22.0	860	109
		4/28/09	7.04	22.2	762	198
		8/4/09	7.23	22.8	950	104
		10/27/09	7.11	21.9	922	103
		2/17/10	7.36	20.5	899.3	98.4
		4/15/10	7.04	22.2	711	95.2
		7/7/10	6.91	21.5	640	88.1
		7/7/10 DUP	6.91	21.5	640	87.1
		2/10/11	6.80	21.0	916	105
		7/12/11	7.2	26.6	1015	121
		2/8/12	7.02	20.2	869	116
		8/14/12	6.97	21.9	959	120
		2/14/13	7.09	21.2	986	112
		8/14/13	6.96	21.6	1009	120
		2/13/14	6.76	21.1	1010	114
		7/22/14	6.87	22.0	1010	117
BMO-2008-3B	909147	7/18/08	7.35	23.9	615	106
		11/4/08	7.36	21.4	599	179
		11/4/08 DUP	7.36	21.4	599	177
		2/19/09	7.24	21.4	664	155
		5/11/09	7.23	22.1	631	149
		8/6/09	7.33	21.4	718	151
		8/6/09 DUP	7.33	21.4	718	156
		10/26/09	7.32	21.8	684	153
		3/3/10	7.38	21.4	695	164
		4/8/10	6.47	21.3	585	162
		7/1/10	6.92	21.4	541	157
		2/14/11	6.98	20.6	698	169
		7/12/11	7.04	21.4	672	148
		2/23/12	6.92	21.0	695	173
		7/10/12	7.02	21.5	651	150
		2/15/13	6.63	20.4	692	163
		8/27/13	7.1	21.1	725	170
		2/11/14	7.01	20.7	729	162
		7/21/14	6.98	21.0	706	163
BMO-2008-4B	910096	12/11/08	7.34	22.8	374	9.4
		2/18/09	7.17	23.2	370	13.4
		4/30/09	7.33	24.5	376	11.4
		4/30/09 DUP	7.33	24.5	376	11.8
		8/6/09	7.53	24.6	397	11.5
		10/27/09	7.53	23.7	379	11.2
		2/24/10	7.48	21.8	362	9.7
		4/16/10	7.70	23.4	330	9.73
		7/2/10	7.25	23.6	323	10.10
		2/15/11	7.65	22.2	362	8.90
		7/22/11	7.33	23.7	371	10.2
		2/23/12	7.21	22.3	354	10.5
		8/15/12	6.96	23.6	380	9.5
		1/15/13	7.63	22.7	370.2	10.3
		1/15/13 DUP	7.63	22.7	370.2	9.5
		4/15/13	7.75	23.0	368.2	11.2
		9/18/13	7.69	23.4	384.6	9.8
		1/9/14	7.81	22.2	371.4	11.1
		7/18/14	7.78	23.3	379.1	11.6

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2008-5B	909653	9/30/08	7.08	22.0	688	193
		2/18/09	7.03	21.5	691	192
		4/27/09	7.32	22.1	605	177
		8/4/09	7.35	22.3	724	174
		10/29/09	7.29	21.8	731	181
		10/29/09 DUP	7.29	21.8	731	185
		2/15/10	7.22	21.7	720	185
		4/15/10	7.21	23.0	571	194
		7/7/10	6.94	22.2	551	183
		10/5/10	6.85	22.3	722	201
		2/14/11	6.90	21.8	725	203
		5/12/11	7.06	21.5	722	195
		7/13/11	6.99	22.0	712	200
		12/7/11	6.95	19.9	730	213
		2/3/12	7.16	20.2	726	215
		4/18/12	6.96	21.7	712	192
		7/10/12	6.87	21.5	726	218
		10/16/12	6.69	21.4	712	207
		2/7/13	7.40	21.4	771.4	229
		2/12/13	6.49	20.7	752	227
		5/15/13	7.01	21.8	742	220
		8/20/13	7.00	21.7	792	226
		11/1/13	6.92	21.5	792	233
		2/11/14	6.88	21.5	804	230
		5/7/14	6.87	21.5	800	228
		8/19/14	6.99	21.6	795	221
		11/13/14	6.92	21.9	755	228
BMO-2008-5M	909552	10/2/08	7.13	23.6	551	107
		2/18/09	7.06	22.5	562	122
		4/27/09	7.50	22.9	501	111
		8/4/09	7.53	23.1	605	122
		10/29/09	7.35	22.4	610	123
		2/15/10	7.31	22.5	581	123
		4/16/10	7.28	22.6	509	125
		4/16/10 DUP	7.28	22.6	509	124
		7/7/10	7.02	23.5	482	123
		10/5/10	6.81	22.5	602	127
		2/14/11	6.95	22.2	591	124
		5/12/11	7.16	23.0	558	119
		7/12/11	7.22	22.7	590	126
		12/7/11	7.1	21.2	601	129
		2/3/12	6.99	21.5	589	130
		4/18/12	6.71	22.4	587	120
		7/10/12	6.82	22.4	592	135
		10/16/12	6.86	21.9	591	134
		2/12/13	6.65	21.6	610	139
		5/15/13	6.73	22.4	603	135
		8/20/13	7.18	22.5	640	138
		11/1/13	7.07	22.0	641	142
		2/11/14	6.84	22.1	646	138
		5/7/14	6.85	22.1	648	140
		8/19/14	6.97	22.1	645	143
		11/13/14	7.18	22.6	612	139

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2008-6B	909146	7/16/08	7.36	24.1	475	53.3
		11/4/08	7.41	21.5	398	60.3
		2/19/09	7.23	21.1	444	54.3
		4/27/09	7.55	21.7	389	52.7
		8/4/09	7.48	23.4	470	48.5
		10/26/09	7.29	22.5	448	48.7
		2/15/10	7.53	21.2	391	33.5
		4/15/10	7.47	21.0	362	37.0
		7/1/10	7.24	22.2	361	40.1
		10/5/10	7.05	21.0	407	37.2
		2/14/11	7.27	21.8	397	40.2
		5/12/11	7.32	21.5	380	35.0
		7/12/11	7.27	21.1	390	37.8
		12/7/11	7.28	20.8	330	21.8
		2/3/12	7.28	20.1	346	23.0
		4/18/12	7.25	21.4	336	19.7
		7/10/12	6.86	21.2	328	21.9
		10/16/12	6.79	21.5	342	19.9
		2/12/13	6.87	20.7	339	16.2
		5/15/13	6.87	21.2	297	12.7
		8/20/13	7.36	21.5	310	10.6
		11/1/13	7.04	21.0	340	13.9
		2/11/14	7.38	21.6	290	20.1
		5/7/14	7.48	21.1	297	13.6
		8/19/14	7.08	21.6	298	13.4
		11/13/14	7.23	21.6	305	14.9
BMO-2008-6M	909019	7/10/08	M	22.1	702	182
		11/4/08	7.33	21.8	621	199
		2/20/09	7.11	22.0	702	193
		4/28/09	7.34	22.4	595	119
		8/4/09	7.40	23.3	750	189
		10/26/09	7.18	22.4	727	187
		2/15/10	7.29	20.8	733	193
		4/15/10	7.36	20.2	619	208
		7/1/10	7.15	22.0	571	198
		10/5/10	6.87	21.3	720	202
		2/14/11	6.80	21.3	731	202
		5/12/11	7.12	21.9	709	189
		7/12/11	7.06	21.8	709	194
		12/7/11	6.94	21.3	710	200
		2/3/12	7.03	21.2	720	206
		4/18/12	7.01	21.4	701	188
		7/10/12	6.67	21.4	702	208
		10/16/12	6.89	21.8	708	207
		2/12/13	6.71	20.5	740	204
		5/8/13	7.01	21.9	726	212
		8/20/13	6.99	21.7	772	213
		11/1/13	6.83	21.5	773	223
		2/11/14	6.81	21.8	786	217
		5/7/14	6.77	21.3	788	220
		8/19/14	6.9	21.9	774	210
		11/13/14	7.14	22.0	740	218

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2008-7M	908794	7/14/08	7.63	25.2	500	31.4
		11/6/08	7.53	22.6	380	34.5
		2/18/09	7.31	23.3	452	27.6
		5/11/09	7.43	24.4	426	26.0
		8/6/09	7.81	24.1	486	25.1
		10/27/09	7.53	23.0	470	26.1
		2/17/10	7.57	23.4	452	25.4
		2/17/10 DUP	7.57	23.4	452	25.0
		4/15/10	7.52	23.2	415	26.0
		7/6/10	7.28	23.5	391	22.8
		2/14/11	7.18	22.0	465	27.5
		2/14/11 DUP	7.18	22.0	465	26.4
		7/15/11	7.1	22.8	466	26.5
		1/30/12	7.16	22.0	454	26.4
		7/11/12	7.18	22.7	455	28.1
		2/15/13	7.23	21.8	471	25.8
		8/28/13	7.15	22.9	494	27.7
		8/28/13 DUP	7.15	22.9	494	27.8
		2/13/14	7.09	22.6	494	27.8
		7/22/14	7.13	23.2	488	27.3
BMO-2008-8B	910097	12/5/08	6.47	20.1	2480	1890
		2/19/09	6.19	21.0	2958	1570
		5/5/09	6.18	21.3	2888	1370
		8/10/09	6.42	21.5	2897	1250
		11/9/09	6.33	21.8	2889	1510
		11/9/09 DUP	6.33	21.8	2889	1520
		3/3/10	6.51	20.4	3016	1320
		4/16/10	6.06	21.4	1682	1470
		7/1/10	6.10	21.4	1594	1440
		7/15/11	6.21	21.2	2940	1380
		1/30/12	6.22	21.2	2880	1480
		1/30/12 DUP	6.22	21.2	2880	1480
		7/12/12	6.41	21.1	2860	1440
		2/13/13	6.25	20.7	2830	1330
		8/12/13	6.38	21.3	2780	1420
		7/24/14	6.26	21.2	2520	1380
BMO-2008-8M	909711	12/9/08	7.16	23.4	852	197
		2/19/09	7.27	23.5	758	147
		2/19/09 DUP	7.27	23.5	758	149
		5/5/09	7.19	25.1	680	122
		8/10/09	7.49	24.8	673	107
		11/5/09	7.30	25.4	675	104
		3/3/10	7.70	24.1	641	99.5
		4/16/10	7.29	24.5	541	97.0
		7/1/10	6.99	25.0	502	94.7
		1/24/11	7.05	23.4	595	98.2
		7/15/11	6.89	22.1	590	79.9
		1/30/12	7.36	23.9	565	77.6
		7/12/12	7.15	24.2	554	73.1
		7/12/12 DUP	7.15	24.2	554	73.2
		2/14/13	7.1	24.3	565	64.9
		8/12/13	7.19	24.6	585	65.0
		2/19/14	7.07	24.3	579	63.3
		2/19/14 DUP	7.07	24.3	579	63.4
		7/24/14	7.07	24.7	569	66.8

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2008-9M	909255	8/8/08	7.72	25.7	415	47.3
		11/5/08	7.89	21.4	444	54.4
		2/26/09	7.71	24.5	482	28.8
		5/12/09	7.76	24.8	449	51.7
		8/17/09	7.76	25.6	534	53.4
		11/3/09	7.82	24.9	552	56.9
		3/4/10	8.07	22.4	520	58.6
		4/6/10	6.74	23.8	484	60.1
		7/1/10	7.40	24.6	425	61.0
		2/10/11	6.79	24.0	520	64.2
		7/15/11	7.56	24.3	516	67.0
		2/1/12	7.54	22.4	516	67.4
		7/12/12	7.68	24.2	513	68.9
		2/13/13	7.37	23.8	531	68.2
		8/12/13	7.47	24.2	553	71.1
		2/18/14	7.26	23.8	569	74.1
		7/24/14	7.36	24.4	571	74.2
BMO-2008-10GL	909435	8/20/08	6.22	29.5	2924	1320
		11/5/08	6.47	25.3	2573	1290
		2/25/09	6.34	26.8	2646	1180
		5/12/09	6.35	26.2	2402	1120
		8/11/09	6.52	27.3	2661	1030
		11/2/09	6.52	26.7	2565	1100
		3/4/10	6.76	24.1	2937	1080
		4/8/10	6.03	25.6	1575	1260
		7/2/10	6.16	26.3	1338	1020
		7/13/11	6.32	24.8	1726	644
		2/2/12	6.45	24.8	1600	624
		7/13/12	6.71	25.7	1571	545
		2/18/13	6.45	25.4	1530	498
		2/18/13 DUP	6.45	25.4	1530	494
		8/13/13	6.57	25.5	1586	520
		8/7/14	6.56	25.8	1417	442
BMO-2008-10GU	909272	8/4/08	6.41	23.6	3660	2210
		11/5/08	6.15	20.2	3343	1890
		2/25/09	5.96	22.7	3426	1740
		5/6/09	5.99	23.2	3359	1710
		8/11/09	6.28	22.5	3348	1690
		11/2/09	6.27	21.8	3157	1730
		3/10/10	6.67	19.1	3951	1700
		4/7/10	5.96	20.4	3210	1510
		7/6/10	5.90	21.8	1610	1670
		7/13/11	6.12	22.3	3890	1670
		2/1/12	6.09	19.2	3820	1870
		8/19/13	6.10	21.0	3630	1780
BMO-2008-11G	909434	8/22/08	8.02	28.2	359	14.2
		11/12/08	7.96	24.2	257	13.9
		2/26/09	7.92	25.1	319	12.3
		4/28/09	8.14	25.5	273	11.8
		8/12/09	8.24	25.3	365	11.2
		11/9/09	8.03	25.5	339	13.9
		3/1/10	8.37	23.2	338	13.0
		4/9/10	6.88	24.5	301	13.0
		7/1/10	6.97	25.4	298	12.3
		2/10/11	6.99	24.0	327	11.7
		7/22/11	7.26	24.6	331	12.1
		7/22/11 DUP	7.26	24.6	331	12.0
		1/31/12	7.41	24.1	328	11.9
		8/14/12	7.35	24.6	337	12.3
		2/13/13	7.54	24.2	343	11.9
		8/27/13	7.48	24.9	363	12.2
		2/19/14	7.51	24.2	363	12.2
		8/14/14	7.58	24.7	360	12.4

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2008-13B	909551	10/3/08	6.49	21.6	2180	980
		2/17/09	6.51	20.9	1941	1000
		5/6/09	6.55	22.0	1891	930
		8/5/09	6.63	21.5	2137	950
		10/28/09	6.81	19.7	2259	1010
		2/16/10	6.87	20.8	2093	997
		4/14/10	6.38	21.2	1346	974
		7/6/10	6.37	21.8	1208	972
		7/15/11	6.44	20.8	2160	1010
		2/9/12	6.68	20.3	2180	1060
		7/11/12	6.55	21.2	2190	1080
		2/27/13	6.54	20.3	2160	1090
		9/4/13	6.57	20.8	2070	1050
		8/19/14	6.63	21.2	1890	1070
BMO-2008-13M	909760	12/3/08	7.73	24.1	1463	494
		2/17/09	8.21	22.7	1340	441
		4/29/09	8.04	24.8	1126	217
		8/5/09	8.04	25.4	1392	387
		10/28/09	8.12	21.4	1347	403
		2/16/10	8.07	24.9	1297	375
		4/13/10	8.06	23.2	1130	398
		7/2/10	8.30	23.9	1027	386
		7/15/11	8.4	23.4	1331	388
		2/6/12	8.47	23.2	1300	ND
		8/13/12	8.75	24.2	1311	397
		2/15/13	8.8	22.4	1280	383
		9/6/13	8.81	23.8	1300	402
		8/20/14	8.48	23.6	1362	410
BMO-2010-1M	219957	9/9/10	7.82	24.6	727.0	150
		11/11/10	8.68	19.9	570	98
		2/11/11	8.15	20.8	589	138
		5/12/11	7.74	23.0	710	129
		8/31/11	7.74	23.2	562	154
		12/13/11	7.63	21.3	713	149
		2/8/12	7.69	22.0	605	158
		4/24/12	7.08	23.4	701	150
		7/9/12	6.37	24.3	715	161
		10/17/12	7.40	23.9	699	154
		2/13/13	7.09	22.2	712	152
		5/8/13	7.12	22.5	725	160
		8/15/13	7.39	23.5	767	156
		11/4/13	7.38	22.6	774	163
		2/12/14	8.33	22.0	672	161
		6/2/14	7.55	23.3	771	165
		8/4/14	7.38	23.8	772	179
		11/12/14	7.43	23.4	733	165
BMO-2010-2M	219958	9/15/10	6.66	22.6	2054	915
		11/11/10	6.97	20.6	1800	935
		2/10/11	6.53	20.8	2120	950
		5/13/11	6.54	21.1	2160	887
		7/14/11	6.62	21.5	2160	917
		12/13/11	6.59	20.3	2140	984
		1/30/12	6.41	21.4	2180	989
		4/18/12	6.48	21.2	2170	893
		7/9/12	6.41	21.8	2190	1030
		10/17/12	6.60	21.3	2200	998
		2/13/13	6.45	21.0	2190	962
		5/8/13	6.42	21.0	2160	996
		8/15/13	6.58	21.2	2157	978
		11/4/13	6.53	21.9	2120	998
		2/12/14	6.52	21.0	2160	1000
		5/8/14	6.46	21.0	1990	1010
		8/14/14	6.48	21.0	1940	1040
		8/14/14 DUP	6.48	21.0	1940	1030
		11/12/14	6.59	21.3	2210	939

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BMO-2010-3B	219970	7/29/10	7.48	23.1	420	16.0
		11/10/10	7.43	21.2	370	14.9
		1/20/11	7.44	20.9	416.1	14.4
		4/7/11	7.38	20.1	424.6	14.9
		7/13/11	7.68	22.3	404.5	13.8
		10/13/11	7.63	23.4	411.2	15.9
		2/2/12	7.52	20.4	400.2	16.9
		2/2/2012 DUP	7.52	20.4	400.2	17.1
		4/24/12	7.30	21.8	390	16.0
		7/5/12	7.51	22.4	419.1	15.7
		10/18/12	7.58	21.6	411.9	17.0
		1/16/13	7.58	20.8	420.5	17.4
		4/16/13	7.65	21.2	415.1	17.5
		7/23/13	7.67	21.8	420	19.8
		10/8/13	7.72	20.9	420.3	16.8
		1/15/14	7.65	20.2	431.2	18.8
		5/13/14	7.66	21.0	421.2	18.0
		5/13/2014 DUP	7.66	21.0	421.2	18.0
		7/15/14	7.63	21.8	419.1	19.0
		10/14/14	7.48	22.6	395	17.4
		10/14/14 DUP	7.48	22.6	395	18.1
BMO-2010-3M	219969	7/31/10	7.73	24.3	390	14.8
		11/10/10	7.66	21.8	340	12.6
		11/10/10 DUP	7.66	21.8	340	12.7
		1/20/11	7.72	22.6	380.4	11.5
		4/7/11	7.38	23.5	376.5	12.3
		8/25/11	7.17	24.3	340	10.4
		10/13/11	7.73	23.6	375.8	10.5
		2/2/12	7.68	22.0	367.1	10.6
		4/24/12	7.49	23.9	370	10.1
		7/5/12	7.66	23.7	381.8	10.3
		10/18/12	7.71	23.3	379.9	10.4
		1/16/13	7.68	22.1	383.1	10.0
		4/16/13	7.83	22.3	383.7	10.2
		4/16/2013 DUP	7.83	22.3	383.7	10.2
		7/23/13	7.80	23.4	386.0	10.7
		10/8/13	7.76	22.8	384.8	9.4
		1/15/14	7.76	22.1	389.8	9.1
		5/13/14	7.75	22.9	387.1	10.4
		7/15/14	7.74	23.1	386.9	10.2
		10/14/14	7.57	24.1	367	10.8
BMO-2012-1M	221388	11/13/12	7.55	21.3	933.7	231
		2/27/13	6.97	22.4	793	205
		5/8/13	6.77	22.9	814	197
		8/14/13	7.09	22.9	858	202
		11/1/13	6.98	22.4	850	210
		2/13/14	7.00	22.2	883	214
		5/8/14	6.90	22.9	875	207
		7/22/14	6.99	22.6	857	210
		11/13/14	7.10	22.6	839	208
BMO-2014-1BL	917393	11/7/14	7.35	22.6	704	160
BMO-2014-1BU	917394	11/13/14	7.43	22.7	570	84
BMO-2014-2BL	917452	11/20/14	7.38	21.1	809	210
BMO-2014-2BU	917453	12/1/14	7.35	2.08	819.2	230
BOOTH	914931	1/5/13	7.67	18.5	574.3	91.4
		6/14/13	7.61	51.1	604.2	95
		6/14/13 DUP	7.61	51.1	604.2	92.5
		7/17/13	7.75	23.2	497.6	75
		10/18/13	7.66	19.3	597.6	92.6

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
BURKE	212268	2/7/08	7.17	23.0	411	29.5
		4/22/08	7.13	27.0	423	26
		8/5/08	7.06	26.8	496	21.9
		10/20/08	7.57	26.0	466	20.5
		2/11/09	7.23	25.0	363	23.9
		4/28/09	7.16	26.1	369	24.2
		8/19/09	7.36	26.7	486	22.5
		12/16/09	7.28	25.7	488	26
		3/2/10	7.56	12.3	432	23.8
		4/22/10	7.49	16.4	452	24.8
		7/21/10	7.56	25.6	423.7	33.1
		10/10/13	7.87	21.9	469.6	27.5
		1/8/14	8.17	10.9	464.9	28.6
		4/16/14	7.80	21.1	471.0	28.3
		7/21/14	8.19	27.8	448.8	29.6
		10/21/14	8.06	22.2	456	29.1
CHAMBERS	629807	3/6/08	7.73	17.8	408	7.7
		5/5/08	7.15	22.1	421	6
		7/14/08	7.43	23.2	434	5.8
		10/15/08	7.41	22.5	420	4
		1/27/09	7.57	21.5	312	5.3
		4/14/09	7.42	22.4	384	6.8
		7/15/09	7.83	23.4	414	4.3
		10/13/09	7.41	22.6	410	6.5
		1/26/10	7.31	21.3	416	5.7
		4/23/10	7.47	20.9	427.5	8.34
		7/21/10	7.49	23.1	430	7.75
		10/19/10	8.00	23.0	440	7.04
		1/18/11	7.47	22.4	390	7.30
		4/11/11	7.18	22.0	427.3	7.74
		7/18/11	7.18	23.8	420.2	8.18
		10/12/11	7.33	22.6	425.8	7.8
		2/6/12	7.43	21.8	434.6	9.08
		4/23/12	7.46	22.7	460	8.84
		7/17/12	7.31	22.4	410	8.41
		10/8/12	7.44	22.4	430.0	10.1
		1/10/13	7.57	21.5	440.8	9.64
		4/18/13	7.49	21.7	434.1	9.78
		7/15/13	7.40	22.7	434.6	9.81
		7/15/13 DUP	7.40	22.7	434.6	10.2
		10/10/13	7.51	21.8	439.7	10.3
		1/13/14	7.56	21.0	431.3	10.7
		4/14/14	7.48	22.2	435.9	10.9
		7/10/14	7.50	22.9	436.4	11.0
		10/17/14	7.31	22.5	456	10.8
COB MW-1	903992	2/22/08	6.93	21.2	1401	720
		5/20/08	6.88	22.0	2050	980
		7/30/08	6.88	21.7	1780	730
		10/23/08	6.95	21.2	1690	750
		2/12/09	6.92	21.1	1313	750
		4/21/09	7.15	22.7	1366	720
		7/22/09	6.94	21.6	1570	680
		7/22/09 DUP	6.94	21.6	1570	730
		10/22/09	6.81	22.3	1582	820
		2/4/10	7.04	21.1	1653	680
		4/20/10	6.92	21.8	1836	783
		7/13/10	7.02	22.3	2004	919
		7/14/11	6.78	21.4	1924	927
		7/12/12	6.74	23.4	1760	805
		2/5/13	6.95	21.5	1773	877
		7/11/13	7.17	21.4	1858	842
		7/9/14	6.95	21.5	2000	1000
		7/9/14 DUP	6.95	21.5	2000	1020

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
COB MW-2	903984	5/20/08	7.32	21.2	490	40.5
		7/30/08	7.34	20.8	511	37.6
		10/23/08	7.36	20.3	498	34.9
		2/12/09	7.35	20.2	379	35.6
		4/23/09	7.33	21.8	431	34
		7/22/09	7.36	21.3	483	33.5
		10/22/09	7.24	21.0	454	32.2
		3/3/10	7.55	19.7	450	33.5
		4/26/10	7.28	21.3	479.6	34.8
		7/13/10	6.91	21.2	479.5	30.4
		7/13/10 DUP	6.91	21.2	479.5	30.6
		1/20/11	7.47	20.7	440	29.6
		7/14/11	7.11	21.1	472.6	29.8
		1/31/12	7.53	20.3	466.6	30.0
		7/12/12	7.36	21.2	630	29.2
		1/9/13	7.48	20.0	473.5	35.8
		7/25/13	7.34	20.9	485.4	40.6
		1/6/14	7.58	19.9	487.8	40.5
		7/9/14	7.52	20.5	503.5	43.7
COB MW-3	906823	2/28/08	7.39	21.0	416	57.8
		3/27/08	ND	ND	ND	57.7
		4/30/08	ND	ND	ND	37
		5/20/08	7.56	22.3	473	35.8
		7/24/08	ND	ND	ND	64.9
		7/30/08	7.64	22.3	541	67.3
		10/9/08	ND	ND	ND	52.5
		10/23/08	7.43	20.8	507	76.6
		2/12/09	7.35	21.1	432	112
		4/23/09	7.35	22.6	407	43.7
		7/22/09	7.38	21.5	460	52.3
		10/22/09	7.40	21.3	466	74.2
		10/22/09 DUP	7.40	21.3	466	73.9
		3/3/10	7.36	21.1	480	102
		4/26/10	7.35	22.0	497.9	77.6
		7/13/10	7.41	21.7	456.7	46.5
		7/14/11	7.19	21.8	440.0	40.1
		7/12/12	7.34	21.4	450	39.5
		2/5/13	7.60	20.4	476.4	65.1
		2/5/13 DUP	7.60	20.4	476.4	64.7
		7/25/13	7.42	21.4	485.0	66.6
		7/9/14	7.61	21.4	525.3	90.9
COB WL	593116	2/22/08	6.99	20.6	919	90
		3/24/08	ND	ND	ND	98.2
		4/28/08	ND	ND	ND	98.7
		5/20/08	7.30	21.9	1053	98
		7/30/08	7.17	22.0	1098	97.1
		7/30/08	ND	ND	ND	100
		10/15/08	ND	ND	ND	107
		10/23/08	7.23	21.4	1075	104
		2/12/09	6.98	20.6	814	94
		4/23/09	7.29	22.2	923	98
		7/22/09	7.17	22.5	1037	97.3
		10/22/09	7.17	22.4	988	96.1
		3/3/10	7.48	21.1	1030	97.1
		4/26/10	7.36	21.9	1038	97.7
		4/26/10 DUP	7.36	21.9	1038	97.9
		7/13/10	7.18	22.3	1013	88.7
		7/14/11	6.91	21.6	1019	87.3
		7/12/12	7.07	23.2	1060	92.0
		2/5/13	7.91	21.5	1057	98.3
		7/25/13	7.23	22.7	1074	97.6
		7/9/14	7.42	21.8	1132	81.5

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
COLLINS	565260	2/12/08	6.88	21.6	1470	520
		5/29/08	7.01	22.0	1459	520
		7/31/08	6.86	21.6	1502	536
		10/20/08	8.44	24.7	1510	518
		2/11/09	6.68	21.4	1147	567
		4/21/09	6.92	22.5	1150	499
		7/22/09	7.00	22.4	1413	460
		10/20/09	6.60	21.9	1432	513
		2/2/10	6.98	21.2	1439	471
		4/23/10	6.99	20.6	1472	561
		7/20/10	6.69	25.0	1420	569
		7/17/13	6.97	21.6	1409	519
COOPER	623564	2/14/08	7.02	20.8	371	33
		5/14/08	8.08	22.1	419	34.2
		7/31/08	7.81	28.4	455	33.7
		10/20/08	8.44	24.7	448	31.2
		2/11/09	7.32	19.2	333	34.3
		4/21/09	8.19	24.9	346	33.4
		7/20/09	8.45	29.8	430	32.3
		10/14/09	7.85	24.6	423	33.6
		2/1/10	7.83	13.6	433	32.4
		4/22/10	7.82	17.9	433	34.5
		7/19/10	7.98	29.3	420	35.0
		10/18/10	7.12	73.1	450	33.1
		1/19/11	8.83	18.4	410	32.1
		4/11/11	7.65	21.0	442.6	34.3
		7/11/11	7.45	24.2	426.5	32.1
		11/22/11	7.86	20.6	426.1	33.7
		2/1/12	7.97	21.8	429.2	34.1
		4/10/12	7.41	22.4	426.8	32.5
		7/18/12	7.45	22.9	430	33.4
		10/9/12	7.70	22.1	432.8	34.3
		1/11/13	7.76	21.5	434.1	32.7
		4/10/13	7.72	21.1	427.5	31
		7/11/13	7.65	23.2	432.5	31.9
		10/7/13	7.68	22.7	430.5	31.4
		1/16/14	7.65	21.6	431.7	30.8
		4/10/14	7.66	22.3	433.1	31.5
		7/10/14	7.68	22.4	428.8	32.2
		10/8/14	7.37	23.5	408	31.1
COOPER C	637069	3/20/08	6.93	21.3	2081	880
		5/5/08	6.78	22.4	2139	990
		7/15/08	6.86	22.3	2162	1040
		7/15/08 DUP	6.86	22.3	2162	960
		10/16/08	6.80	21.4	2078	1020
		1/27/09	6.92	20.5	1489	950
		4/14/09	6.85	21.6	1833	930
		7/14/09	6.75	22.1	1972	910
		10/12/09	6.70	21.8	1858	830
		1/27/10	7.27	19.6	1930	620
		4/22/10	6.76	19.5	1921	884
		7/21/10	6.84	22.9	1761	921
		10/20/10	7.16	20.9	1980	829
		1/17/11	6.95	20.5	1880	756
		4/11/11	6.82	21.0	1942	834
		8/26/11	6.84	21.8	1800	847
		2/1/12	7.13	20.5	2024	867
		4/25/12	6.83	21.5	1960	817
		7/11/12	6.48	22.8	2030	834
		10/10/12	6.98	21.2	1985	863
		2/27/13	6.58	20.9	1805	821
		5/8/13	6.41	20.7	1744	798
		8/13/13	6.69	21.2	1739	756
		11/1/13	6.61	21.2	1624	738
		2/10/14	6.69	21.6	1616	715
		5/7/14	6.48	22.5	1612	686
		7/21/14	6.63	23.1	1548	671
		11/13/14	6.87	22.4	1520	638

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
DODSON	644927	2/20/08	7.61	17.3	857	54
		5/12/08	7.11	21.1	1118	34.2
		7/24/08	7.25	21.6	1233	49.3
		10/13/08	7.15	20.5	1095	56.9
		1/22/09	7.20	20.4	892	51.8
		4/9/09	7.09	21.4	1103	50.1
		7/8/09	7.18	21.1	1153	55.9
		10/6/09	7.07	21.1	1140	49.3
		1/21/10	7.15	18.9	1227	44.6
		4/19/10	7.46	19.9	1261	48.8
		4/19/10 DUP	7.46	19.9	1261	48.6
		7/20/10	7.16	22.7	1260	47.5
		10/18/10	6.43	21.2	1260	49.3
		1/19/11	7.88	19.5	1120	57.9
		4/5/11	7.03	20.9	1300	49.0
		7/12/11	6.86	23.7	1352	52.9
		10/10/11	6.79	20.9	1280	50.9
		10/10/11 DUP	6.79	20.9	1280	49.6
		1/31/12	7.17	20.3	1454	50.4
		4/12/12	7.06	20.6	1492	45.4
		7/11/12	7.10	21.5	1790	54.0
		10/4/12	7.27	20.6	1626	48.7
		1/18/13	7.27	20.2	1743	51.8
		1/18/13 DUP	7.27	20.2	1743	51.6
		4/9/13	7.33	19.6	1886	74.4
		7/9/13	7.39	21.0	1825	53.6
		10/9/13	7.24	20.2	1612	63.3
		1/9/14	7.31	19.7	1586	61.4
		4/15/14	7.24	20.7	1636	58.5
		7/14/14	7.27	21.9	1651	54.4
		10/16/14	7.12	21.3	1706	53.2
DURAZO	NR	2/10/09	7.22	18.8	848	386
		4/20/09	7.37	22.7	901	367
		7/15/09	7.57	22.8	1102	332
		10/14/09	7.17	21.9	1048	377
		2/1/10	7.30	21.1	1105	344
		4/26/10	7.22	23.1	1099	388
		7/20/10	7.28	23.0	1070	405
		10/19/10	7.28	21.9	1112	398
		1/19/11	7.94	21.6	1050	360
		4/4/11	7.20	21.9	1119	383
		7/14/11	7.01	23.6	1101	409
		10/12/11	7.23	24.9	1000	396
		2/7/12	7.26	25.3	1152	404
		4/12/12	7.41	21.8	1101	407

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
EAST	599796	2/8/08	7.45	19.9	423	10.6
		5/14/08	7.31	20.9	595	14.8
		7/23/08	7.34	20.8	605	11.8
		10/14/08	7.33	20.3	531	8.9
		1/20/09	7.33	20.0	482	12.5
		4/8/09	7.32	20.6	555	15.9
		7/13/09	7.33	21.2	613	13.8
		10/8/09	7.29	20.8	593	13.4
		1/25/10	7.08	19.0	585	10.7
		4/21/10	7.42	20.5	616	14.4
		4/21/10 DUP	7.42	20.5	616	13.9
		7/14/10	7.45	22.2	577.1	12.1
		10/20/10	7.64	21.2	650	12.1
		1/18/11	7.44	21.0	615.9	13.1
		4/5/11	7.19	20.8	612.5	13.8
		7/12/11	7.23	21.7	595.1	12.7
		10/12/11	7.31	21.4	599.7	15.1
		10/12/11 DUP	7.31	21.4	599.7	15.1
		1/31/12	7.24	20.0	610	12.8
		4/11/12	7.53	20.6	609.3	14.6
		7/9/12	7.20	21.1	580	14.2
		10/4/12	7.49	20.4	623.8	15.0
		1/17/13	7.46	20.0	613.0	13.1
		4/9/13	7.54	19.6	597.7	12.2
		7/9/13	7.46	21.2	603.6	12.1
		10/15/13	7.51	20.2	622.6	17.2
		1/14/14	7.54	20.2	632.2	15.5
		1/14/14 DUP	7.54	20.2	632.2	15.5
		4/8/14	7.44	20.5	634.7	15.3
		7/8/14	7.43	20.7	618.8	13.1
		10/22/14	7.23	22.8	601	20.7
ECHAVE	219449	2/1/12	7.39	20.7	390.0	26.7
		4/23/12	7.50	22.5	440.0	26.4
		7/17/12	7.44	22.2	430	26.1
		10/9/12	7.69	21.9	404.7	26.1
		10/9/12 DUP	7.69	21.9	404.7	26.0
		1/18/13	7.61	21.7	408.5	25.4
		5/14/13	7.74	22.2	400.2	25.2
		7/17/13	7.81	22.1	406.4	24.3
		10/8/13	7.66	21.4	404.3	24.5
		1/13/14	7.68	21.0	412.4	25.7
		4/10/14	7.67	21.4	409.3	26.4
		7/17/14	7.68	21.6	405.0	26.7
		10/22/14	7.43	21.4	406	25.9

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
EPPELE 641	805641	3/11/08	7.98	21.4	646	21.7
		5/12/08	7.21	21.7	667	24.7
		7/21/08	7.49	23.9	605	19
		10/14/08	7.56	20.4	642	21.8
		1/21/09	7.60	21.1	500	22.7
		4/8/09	7.56	22.4	538	19.7
		7/9/09	7.43	24.3	550	17.5
		7/20/10	7.58	23.3	529.2	21.1
		10/20/10	7.66	21.0	572.1	17.2
		1/17/11	7.43	21.0	576.4	17.3
		4/5/11	7.43	21.5	569.2	16.7
		7/11/11	7.27	23.5	563.1	18.6
		7/11/11 DUP	7.27	23.5	563.1	18.3
		10/12/11	7.38	20.9	500.0	19.6
		1/31/12	7.68	19.9	560.8	18.2
		4/11/12	7.74	20.6	563.8	19.5
		4/11/12 DUP	7.74	20.6	563.8	19.6
		7/6/12	7.60	21.7	560	18.8
		10/3/12	7.84	20.7	558.8	19.5
		1/17/13	7.76	19.1	559.6	18.8
		4/8/13	7.71	20.4	564.1	17.5
		4/8/13 DUP	7.71	20.4	564.1	17.4
		7/9/13	7.66	21.9	570.1	17.5
		10/15/13	7.86	21.1	682.5	31.9
		1/14/14	7.97	19.1	602.8	29.0
		4/8/14	7.60	19.4	600.2	21.5
		7/8/14	7.65	21.0	596.9	21.6
		10/21/14	7.22	22.2	659	32.2
FLEMING	218386	7/15/10	6.98	24.2	1390	573
FRANCO 101	500101	2/6/08	7.47	19.6	1301	670
		5/5/08	6.93	23.1	1557	680
		7/14/08	7.00	22.7	1586	680
		10/15/08	7.20	20.5	1560	680
		1/22/09	7.19	20.1	1178	740
		4/14/09	7.24	23.1	1416	690
		7/13/09	7.30	27.3	1532	670
		10/12/09	7.16	24.2	1493	650
		1/26/10	6.91	18.5	1529	640
		4/23/10	7.43	15.8	1559	699
		7/13/10	7.48	28.6	901.6	188
FRANCO 383	221383	9/13/12	7.66	25.0	1005	318
		10/5/12	7.63	24.4	1002	324
		11/13/12	7.67	19.8	988.2	349
		12/3/12	7.54	19.4	1001	332
		1/15/13	7.52	13.5	1010	333
		2/6/13	7.55	18.9	1004	353
		3/7/13	7.4	20.5	979.9	338
		4/10/13	7.7	20.4	1000	335
		7/10/13	7.69	25.7	1018	335
		10/16/13	7.63	21.9	1018	350
		1/14/14	7.68	20.1	1039	345
		4/8/14	7.68	24.3	1044	351
		4/8/14 DUP	7.68	24.3	1044	330
		7/14/14	7.63	26.5	1030	349
		10/8/14	7.47	23.5	954	335

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
FULTZ	212447	2/27/08	6.76	21.1	1827	152
		4/21/08[1]	6.74	22.0	1739	137
		5/14/08[1]	6.88	22.3	1532	131
		6/23/08[1]	6.74	22.0	1788	111
		7/29/08[1]	6.74	22.2	1989	152
		8/28/08[1]	M	21.6	1889	137
		9/23/08[1]	6.82	21.9	1821	137
		10/22/08	6.80	21.4	1940	145
		1/21/09	6.74	21.2	1481	82
		4/9/09	6.78	21.5	1695	138
		7/13/09	7.04	23.4	1452	81
		10/8/09	7.00	21.6	1262	72
		10/8/09 DUP	7.00	21.6	1262	71.8
		1/25/10	7.11	21.8	1282	66.7
		4/20/10	7.32	21.2	1202	68.3
		7/14/10	7.75	22.2	1132	57.0
		10/20/10	7.27	20.5	1091	54.7
		1/18/11	7.23	20.4	1136	56.9
		4/5/11	7.08	22.1	1082	49.5
		4/5/11 DUP	7.08	22.1	1082	51.7
		8/25/11	6.45	23.3	940	50.6
		10/12/11	7.22	21.7	870	48.5
GALLANT	502527	2/11/08	7.46	20.2	604	17.9
		7/23/08	7.26	21.2	925	20.9
GARNER 635	587635	2/4/08	7.61	22.7	479	37.8
		5/5/08	7.26	24.9	468	35.8
		7/15/08	7.63	25.6	480	37.4
		10/15/08	7.65	24.1	472	36
		1/28/09	7.69	23.4	368	37.4
		4/15/09	7.83	24.1	412	36.9
		7/16/09	7.56	25.1	445	35.7
		10/14/09	7.58	25.2	446	36.1
		2/2/10	7.79	22.8	465	35.1
		4/22/10	7.84	23.7	464.1	36.9
		7/20/10	7.57	25.3	458.2	38.8
		10/19/10	8.23	25.4	510	37.9
		1/19/11	7.82	24.1	463.4	35.7
		1/19/11 DUP	7.82	24.1	463.4	35.7
		4/6/11	7.76	23.4	467.4	35.8
		7/15/11	7.19	25.0	457.40	37.7
		10/11/11	7.57	24.2	400.0	38
		2/2/12	7.38	22.7	469.5	39.2
		4/13/12	7.62	24.0	460.0	33.5
		7/11/12	7.52	24.9	520	37.7
		7/11/12 DUP	7.52	24.9	520	37.2
		10/5/12	8.09	23.1	472.9	39.1
		1/11/13	7.83	23.7	470.8	38.7
		4/15/13	7.79	23.4	471.5	40
		7/10/13	7.9	25.0	469.5	36.7
		10/11/13	7.78	24.0	476.7	38.8
		1/17/14	7.81	23.2	473.6	41
		4/15/14	7.74	23.7	470.7	40.4
GGOOSE 547	628547	5/21/08	7.08	22.7	856	199
		8/15/08	7.02	24.8	915	178
		10/29/08	7.27	22.6	897	216
		2/24/09	7.06	23.8	851	186
		5/14/09	7.15	23.9	743	174
		8/19/09	7.20	23.8	887	175
		11/11/09	7.15	23.1	897	188

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
GL-03	539782	3/4/08	7.43	25.7	417	20.3
		5/22/08	7.06	25.3	647	43.3
		8/4/08	7.10	26.8	673	36.1
		11/12/08	7.21	25.2	478	34.9
		2/26/09	7.05	26.5	603	54.8
		5/5/09	6.91	28.1	682	43.9
		8/1/09	7.12	27.4	768	43.1
		11/10/09	6.96	27.0	692	49
		3/2/10	7.36	24.9	693	43.4
		3/2/10 DUP	7.36	24.9	693	45.1
		4/9/10	6.17	25.6	556	48.1
		7/7/10	6.48	26.3	546	44.4
		2/1/12	6.57	24.1	559	42.0
HARDT	NR	2/5/13	7.15	17.5	670.6	17.7
HOBAN	805290	2/27/08	6.93	22.1	1359	510
		5/7/08	6.88	22.3	1532	670
		7/14/08	6.88	23.1	1719	690
		10/16/08	6.98	22.4	1624	692
		1/28/09	6.82	21.3	1220	580
		4/15/09	7.07	21.7	1423	700
		7/14/09	6.78	22.6	1551	670
		10/15/09	6.75	22.7	1487	670
		10/15/09 DUP	6.75	22.7	1487	780
		3/2/10	7.12	19.8	1575	580
		8/31/11	6.64	22.3	1772	893
		12/14/11	6.68	20.2	1870	944
		2/1/12	6.74	20.9	1900	993
		4/19/12	6.81	21.5	1805	868
		7/11/12	6.86	21.4	1906	1110
		10/17/12	6.74	22.0	1846	1040
		2/15/13	6.64	20.7	1934	954
		5/8/13	6.6	21.4	1903	1060
		8/13/13	6.85	21.6	1925	1030
		11/1/13	6.74	21.0	1920	1070
		2/10/14	6.64	21.0	1950	991
		5/7/14	6.69	21.1	1958	1030
		7/21/14	6.69	21.6	1903	1030
		11/13/14	6.88	21.7	1965	1020
HOWARD 312	221312	8/14/12	8.35	26.3	629.3	69.2
		10/16/12	8.18	26.6	648.3	68.1
		2/6/13	8.18	24.1	650.3	71.9
		4/9/13	8.2	24.3	621	67.5
		7/12/13	8.25	26.8	624.9	67.9
		10/16/13	8.12	25.6	623.7	70.2
		1/8/14	8.22	24.8	620.1	70.8
		4/10/14	8.14	26	621.7	66.1
		4/10/14 DUP	8.14	26	621.7	68.2
		7/14/14	8.16	26.6	618.3	69.1
		10/10/14	7.99	26.4	621	66.8

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
HOWARD NR	NR	3/4/08	7.06	20.4	1280	571
		5/8/08	6.95	21.0	1494	673
		7/14/08	7.00	21.1	1566	610
		10/15/08	7.00	20.6	1598	683
		1/28/09	6.82	21.0	1203	640
		1/28/09 DUP	6.82	21.0	1203	640
		4/15/09	7.02	21.5	1397	620
		7/15/09	7.16	21.5	1539	640
		10/12/09	6.89	21.4	1414	600
		1/27/10	7.35	20.0	1714	440
		1/27/10 DUP	7.35	20.0	1714	520
		4/21/10	7.16	20.8	1490	710
		7/19/10	6.94	24.6	1350	548
		10/18/10	6.47	21.4	1420	568
		1/17/11	7.12	19.8	1370	520
		4/11/11	7.20	20.6	1489	616
		8/26/11	7.11	23.2	1160	498
		10/11/11	7.1	21.0	1220	545
		10/11/11 DUP	7.1	21.0	1220	538
		2/1/12	7.29	20.6	1367	630
		4/13/12	6.99	21.2	1508	632
		9/13/12	7.12	21.9	1576	699
		10/16/12	7.06	21.1	1417	576
		2/6/13	7.06	20.3	1499	679
		4/9/13	7.38	19.4	1319	521
		7/12/13	7.40	21.6	1430	590
		10/16/13	7.15	20.3	1319	522
		1/8/14	7.24	20.3	1267	462
		4/10/14	7.23	20.6	1262	471
		7/14/14	7.18	21.1	1300	496
		7/14/14 DUP	7.18	21.1	1300	495
		10/10/14	6.93	23.2	1339	413
KEEFER	209744	2/6/08	7.70	19.0	378	6.8
		5/6/08	7.19	20.3	512	9
		7/16/08	7.21	21.4	539	8
		10/28/08	7.32	20.1	534	21.2
		1/28/09	7.42	19.5	356	6.1
		4/16/09	7.29	20.0	452	7.7
		7/14/09	7.35	22.1	533	7
		10/13/09	7.24	20.7	516	8.7
		1/26/10	7.15	18.8	483	7.3
		4/20/10	7.44	20.5	540.9	8.77
		7/15/10	7.50	22.2	535.8	8.84
		10/19/10	6.72	20.2	470	7.89
		1/18/11	7.45	20.6	450	7.24
		4/6/11	7.48	19.1	546.2	8.04
		7/18/11	7.19	23.2	492.3	7.79
		10/11/11	7.39	20.7	486.9	7.98
		2/6/12	7.36	20.3	482.0	6.84
		4/23/12	7.23	21.6	500	7.14
		7/17/12	7.40	21.0	500	7.29
		10/9/12	7.58	20.1	506.6	8.47
		1/10/13	7.55	19.3	466.3	6.37
		4/18/13	7.58	20	475.9	7.3
		7/11/13	7.67	20.8	485.1	7.23
		7/11/13 DUP	7.67	20.8	485.1	7.24
		10/7/13	7.53	20.6	458.9	6.39
		1/7/14	7.61	19.7	464.8	6.54
		4/9/14	7.59	20.2	473.3	6.61
		7/10/14	7.49	21.6	460.5	6.66
		10/8/14	7.32	22.3	429	6.35

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
MARCELL	NR	8/26/11	7.12	25.1	1390	669
		9/26/11	6.63	22.1	1502	638
		11/22/11	7.29	21.0	1536	687
		2/1/12	7.42	20.8	1557	705
		4/13/12	7.15	21.8	1560	668
		7/13/12	6.86	22.3	1730	650
		10/17/12	7.18	21.3	1546	660
		10/17/12 DUP	7.18	21.3	1546	657
		2/6/13	7.25	19.8	1553	714
		2/6/13 DUP	7.25	19.8	1553	714
		4/10/13	7.07	19.9	1578	695
		7/15/13	7.09	21.4	1617	724
MCCONNELL 265	539265	2/20/08	7.21	21.1	1435	720
		5/6/08	6.77	21.6	1668	737
		7/15/08	6.91	22.3	1775	700
		10/15/08	6.82	21.3	1686	703
		1/28/09	6.85	21	1274	660
		4/15/09	7.04	21.3	1472	657
		7/15/09	7.01	22.2	1607	662
		10/12/09	6.77	21.7	1594	666
		1/26/10	6.71	21.5	1641	685
		4/22/10	6.95	20.1	1691	811
		7/21/10	6.86	23.5	1560	805
		10/18/10	6.97	22.0	1704	775
		1/19/11	7.38	20.6	1610	711
		4/8/11	7.04	19.8	1775	810
		7/12/11	6.60	23.7	1702	790
		10/11/11	7.18	21.8	1590	845
		2/7/12	7.14	20.6	1842	847
		4/11/12	6.82	21.4	1781	833
		7/6/12	6.88	22.4	1827	851
		10/8/12	7.07	20.9	1862	934
		1/10/13	6.89	20.9	1854	902
		1/10/13 DUP	6.89	20.9	1854	889
		4/18/13	7.11	20.4	1889	884
		7/10/13	7.14	22.1	1897	898
		10/14/13	7.00	21.0	1911	908
		1/8/14	7.23	20.9	1942	985
		4/14/14	6.99	20.7	1913	963
		7/14/14	6.95	21.8	1941	975
		10/7/14	6.84	22.2	1976	968
MCCONNELL 459	221459	7/27/12	8.25	26.5	510.0	41
		10/8/12	8.12	25.3	517.3	43.4
		1/15/13	8.06	24.5	512.6	37.4
		4/10/13	8.14	23.5	487.0	35.5
		7/10/13	8.10	25.5	480.7	34.5
		10/14/13	8.04	24.9	486.7	34.6
		1/8/14	8.20	23.7	489.4	37.1
		4/14/14	8.08	24.6	474.3	35.9
		9/9/14	8.12	25.1	465.7	33.0
		10/7/14	7.94	25.7	478	34.1

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
METZLER	35-71891	3/5/08	7.27	21.6	1055	317
		5/15/08	7.12	22.8	1051	329
		7/31/08	7.16	22.5	1078	317
		10/20/08	7.24	22.2	1080	305
		10/20/08 DUP	7.24	22.2	1080	326
		2/11/09	7.12	21.3	818	321
		4/20/09	7.22	23.2	845	313
		7/15/09	7.41	22.9	1031	293
		7/15/09 DUP	7.41	22.9	1031	309
		10/14/09	7.1	22.7	989	315
		2/1/10	7.22	21.7	1021	286
		5/18/10	7.56	21.0	1053	330
		7/16/10	7.20	24.1	1007	330
		10/19/10	7.15	22.6	1006	319
		1/19/11	7.55	21.1	930	298
		4/4/11	7.03	23.3	1018	323
		7/12/11	7.07	22.3	993.0	312
		10/12/11	7.27	22.1	910	301
		2/7/12	7.36	21.5	1019	326
		4/12/12	7.34	21.1	1009	320
MOORE	538847	2/20/08	7.69	22.2	362	7.1
		5/8/08	7.09	22.4	432	7.5
		7/16/08	7.34	23.0	482	9.8
		10/29/08	7.32	22.4	452	19.2
		1/29/09	7.11	21.7	328	6.6
		4/16/09	7.40	22.1	374	6.4
		7/15/09	7.44	23.3	439	5.8
		10/13/09	7.36	22.6	429	7.1
		1/26/10	7.54	19.6	423	6.3
		4/22/10	7.47	20.6	433	7.40
		7/15/10	7.44	24.1	431.3	7.54
		7/15/10 DUP	7.44	24.1	431.3	7.11
		10/19/10	6.79	22.1	430	7.14
		1/18/11	7.48	21.1	390	6.42
		4/6/11	7.39	21.4	426.3	6.70
		7/13/11	6.91	23.2	423.4	7.62
		10/11/11	7.31	22.5	419.0	7.31
		1/31/12	7.35	21.7	430	7.21
		4/23/12	7.34	22.8	470	6.99
		4/23/12 DUP	7.34	22.8	470	7.05
		7/17/12	7.36	22.9	430	7.01
		7/17/12 DUP	7.36	22.9	430	6.99
		10/8/12	7.64	21.4	433.2	7.51
		1/10/13	7.50	20.8	439.9	7.16
		4/19/13	7.68	21.6	434.7	7.25
		7/11/13	7.56	22.9	442.2	7.14
		10/7/13	7.59	21.5	431.8	6.99
		10/13/14	7.47	22.0	433	6.72
NESS	509127	7/24/08	7.35	26.5	563	50.2
		10/16/08	7.47	21.4	542	48.9
		1/26/09	7.39	17.2	422	52.3
		5/11/09	7.52	28.8	472	45.9
		8/11/09	7.56	28.7	525	39.8
		11/12/09	7.53	24.5	537	51.3
		2/2/10	7.67	19.7	535	48.7
		4/21/10	7.70	23.5	518.9	42.1
		7/19/10	7.58	28.9	524.7	48.1
		1/18/11	7.49	21.8	536.6	50.1
		7/12/11	7.48	26.3	520.0	43.5
		2/3/12	7.58	21.1	538.2	49.0
		7/10/12	7.20	26.8	380	40.1
		7/10/12 DUP	7.20	26.8	380	39.2
		1/9/13	7.57	19.1	549.6	53.9
		7/8/13	7.84	27.9	539.2	46.8
		1/6/14	7.61	20.3	542.4	53.4
		7/7/14	7.60	25.3	536.6	48.3

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
NOTEMAN	212483	2/5/08	6.70	19.9	1317	310
		5/13/08	6.67	23.0	1445	272
		7/24/08	6.68	24.2	1539	274
		10/23/08	6.57	23.2	1643	356
		1/19/09	6.38	22.9	1098	322
		4/7/09	6.56	23.8	1375	303
		7/8/09	6.55	24.6	1405	260
		10/5/09	6.48	24.1	1442	281
		1/20/10	6.79	20.3	1450	289
		4/19/10	6.81	22.4	1446	307
		7/19/10	6.77	24.6	1438	309
		10/18/10	6.08	24.6	1430	280
		1/19/11	6.84	22.3	1446	266
		4/4/11	6.72	22.9	1446	276
		4/4/11 DUP	6.72	22.9	1446	279
		7/11/11	6.78	23.9	1406	272
		10/11/11	6.96	23.4	1250	286
		2/3/12	6.68	21.3	1370	301
		4/23/12	6.68	24.0	1580	291
		7/9/12	6.57	24.7	1360	265
		7/9/12 DUP	6.57	24.7	1360	265
		10/4/12	6.80	23.6	1412	287
		1/17/13	6.69	23.3	1417	288
		4/8/13	6.90	22.3	1409	280
		7/9/13	6.89	24.3	1400	278
		10/14/13	6.75	23.2	1528	355
		1/10/14	6.83	22.2	1440	311
		4/10/14	6.84	23.2	1426	301
		7/7/14	6.80	23.2	1423	289
		12/10/14	6.66	22.8	1528	366
NOTEMAN HOUSE	212483	2/3/12	7.06	13.5	1520	324
NSD-02	527587	2/5/08	ND	ND	ND	43
		7/7/08	8.02	21.0	609.00	44
NSD-03	527586	2/5/08	ND	ND	ND	70.7
		7/7/08	7.64	21.0	570.00	58.9
NWC-02	562944	10/27/08	7.47	22.2	438	5.1
		2/12/09	7.58	21.6	330	6.6
		4/23/09	7.39	23.8	373	6.4
		7/21/09	7.62	23.9	408	5
		10/21/09	7.32	22.6	436	6.8
		2/3/10	7.68	19.6	423	8.5
		4/21/10	7.57	22.1	413	7.26
		7/20/10	7.36	23.7	412.5	6.87
		10/19/10	7.42	22.5	416.2	7.39
		1/18/11	7.47	23.2	390	6.43
		4/6/11	7.27	22.9	413.5	6.4
		7/15/11	7.03	22.5	416.3	7.24
		10/13/11	7.45	21.9	370	7.31
		1/30/12	7.39	21.2	431.3	7.78
		4/25/12	7.42	22.4	370	8.42
		7/18/12	7.33	22.5	430	6.99
		10/10/12	7.58	21.7	423.9	7.46
		1/10/13	7.58	21.8	396.4	9.02
		4/17/13	7.64	21.2	426.2	7.52
		7/12/13	7.65	22.0	429.3	6.91
		10/10/13	7.49	21.2	433.4	7.05
		10/10/13 DUP	7.49	21.2	433.4	7.14
		1/13/14	7.6	21.2	426.7	7.03
		4/7/14	7.59	21.3	432.9	7.34
		7/10/14	7.57	22.0	431.6	7.65
		10/13/14	7.48	23.1	424	7.04

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
NWC-03	203321	3/4/08	ND	ND	ND	560
		6/9/08	ND	ND	ND	524
		10/27/08	7.07	21.9	1374	489
		2/12/09	7.06	20.2	1023	412
		4/23/09	6.98	21.9	1129	466
		4/23/09 DUP	6.98	21.9	1129	460
		7/21/09	7.21	22.9	1194	458
		10/21/09	6.94	21.8	1224	444
		2/3/10	7.24	20.7	1214	444
		4/21/10	7.22	21.6	1178	433
		7/20/10	7.04	22.8	1229	477
		10/19/10	7.22	21.3	1172	432
		1/18/11	7.09	22.8	1120	386
		4/6/11	7.19	21.7	1114	361
		7/15/11	6.91	21.8	1094	386
		10/13/11	7.23	21.6	960	353
		1/30/12	7.15	21.5	1061	379
		4/25/12	7.17	21.6	920	346
		4/25/12 DUP	7.17	21.6	920	347
		7/18/12	7.05	22.1	1080	354
		10/10/12	7.31	21.1	1029	354
		10/10/12 DUP	7.31	21.1	1029	353
		1/10/13	7.18	20.8	1051	370
NWC-04	551849	3/4/08	ND	ND	ND	240
		6/9/08	ND	ND	ND	231
		10/27/08	7.32	25.0	856	162
		1/22/09	7.23	22.9	688	184
		2/12/09	7.20	19.8	699	181
		2/12/09 DUP	7.20	19.8	699	198
		3/11/09	7.15	23.4	846	197
		4/23/09	7.21	24.1	797	188
		5/28/09	7.01	24.1	933	210
		6/24/09	6.93	25.6	792	169
		7/21/09	7.48	24.3	859	193
		8/19/09	7.12	24.5	906	183
		9/23/09	7.16	23.8	953	202
		10/21/09	7.18	24.3	875	191
		11/18/09	7.24	22.9	909	191
		12/16/09	7.28	22.3	926	193
		2/3/10	7.49	22.3	844	167
		3/8/10	7.33	22.5	880	182
		4/21/10	7.34	22.8	913	218
		5/18/10	7.68	25.8	901.3	210
		6/15/10	7.31	24.5	917.5	212
		7/20/10	7.28	28.3	873.2	188
		8/25/10	7.55	24.8	820.9	196
		9/29/10	7.38	24.5	920.2	205
		10/19/10	7.34	23.6	870.2	195
		11/4/10	7.53	23.9	853.2	197
		12/14/10	7.41	23.6	856.8	182
		1/18/11	7.31	24.1	860	194
		2/17/11	7.46	22.3	848.6	169
		3/17/11	7.44	24.1	888.1	182
		4/5/11	7.32	23.4	878.7	196
		5/11/11	7.32	23.1	868.1	175
		6/17/11	7.28	23.7	856.3	204
		7/15/11	7.06	23.5	875.1	202
		8/25/11	7.32	25.1	780	195
		9/26/11	6.56	26.2	875.4	198
		9/26/11 DUP	6.56	26.2	875.4	199
		10/13/11	7.46	23.3	770	198
		11/22/11	7.36	22.9	853.5	201
		12/8/11	7.33	22.3	872.2	207
		1/30/12	7.34	23.4	914.4	217
		2/17/12	7.45	22.9	898.1	203
		3/15/12	7.39	23.9	888.2	207
		4/25/12	7.16	23.4	870	204
		5/22/12	7.25	23.9	970	178

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
NWC-04	551849	6/6/12	7.27	24.4	1040	195
		7/18/12	7.25	23.7	880	205
		8/28/12	7.49	24.2	893.3	208
		9/13/12	7.40	23.9	883.7	205
		10/10/12	7.48	23.2	883.6	207
		11/13/12	7.56	21.7	849.8	211
		12/3/12	7.40	23.0	898.6	208
		1/10/13	7.37	22.2	903.1	210
		2/7/13	7.54	23.0	917.5	228
		3/7/13	7.49	22.4	892.4	222
		4/17/13	7.43	22.6	903.8	223
		5/14/13	7.53	23.2	881.7	214
		6/5/13	7.29	33.9	862.7	201
		7/12/13	7.29	23.5	897.2	211
		7/12/13 DUP	7.29	23.5	897.2	200
		8/9/13	7.43	23.5	898.6	207
		9/5/13	7.56	23.8	893.6	214
		10/10/13	7.39	22.6	873.7	197
		11/6/13	7.58	21.8	852.3	202
		12/3/13	7.50	23.1	843.4	199
		1/13/14	7.12	21.9	885.6	197
		2/5/14	7.46	22.4	833.3	198
		3/5/14	7.59	22.8	813.3	168
		4/7/14	7.49	22.9	834.2	187
		5/13/14	7.56	23.4	819.8	186
		6/23/14	7.62	24.5	806.7	188
		7/10/14	7.57	23.8	826.2	194
		8/11/14	7.59	23.5	824.0	187
		9/9/14	7.50	24.0	789.5	163
		10/13/14	7.39	24.5	802	175
		11/14/14	7.46	22.9	835.4	183
		12/10/14	7.33	23.3	840.7	189
NWC-06	575700	6/9/08	ND	ND	ND	7.2
		10/27/08	7.35	23.3	414	6.4
		2/12/09	7.54	21.8	306	8
		4/23/09	7.30	24.5	354	7.3
		7/21/09	7.63	23.5	388	6.4
		10/21/09	7.26	23.2	413	8
		2/3/10	7.61	20.5	404	7.5
		2/3/10 DUP	7.61	20.5	404	7.4
		4/21/10	7.54	22.4	387	8.49
		7/20/10	7.33	26.0	388.6	8.59
		10/19/10	7.49	22.7	394.5	8.32
		1/18/11	7.45	23.4	380	8.24
		4/6/11	7.42	23.1	388.3	7.76
		4/6/11 DUP	7.42	23.1	388.3	7.73
		7/15/11	7.09	22.9	394.3	8.36
		10/13/11	7.51	22.3	340	8.48
		1/30/12	7.47	22.1	402.7	8.44
		4/25/12	7.34	22.5	410	7.11
		7/18/12	7.39	22.8	380	8.60
		10/10/12	7.62	21.9	393.6	9.33
		1/10/13	7.47	21.3	429.2	7.55
		4/17/13	7.66	21.1	404.1	8.82
		7/12/13	7.59	22.4	404.1	8.40
		10/10/13	7.56	21.6	403.3	8.38
		1/13/14	7.64	21.3	401.8	8.78
		4/7/14	7.65	21.7	403.7	8.62
		7/10/14	7.68	22.4	405.9	8.97
		7/10/14 DUP	7.68	22.4	405.9	8.99
		10/13/14	7.59	23.4	393	8.51

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
OSBORN	643436	2/25/08	7.35	22.4	508	16.4
		5/13/08	7.22	22.2	576	17.2
		7/22/08	7.24	22.9	618	17.7
		7/22/08 DUP	7.24	22.9	618	17.5
		10/16/08	7.39	22.4	595	15.9
		1/20/09	7.33	22.4	469	16
		4/7/09	7.25	24.0	542	17
		8/18/09	7.16	24.6	643	17.4
		10/5/09	7.14	22.9	599	17.9
		1/21/10	7.47	19.5	591	15.6
		4/19/10	7.60	21.5	601.9	19.3
		7/12/10	7.69	24.2	594.0	18.4
		7/12/11	7.87	29.8	575.9	19.5
		2/3/12	8.15	15.3	390	19.2
		1/8/13	7.88	10.5	544.4	20.4
		7/8/13	7.56	39.2	510.3	19.2
		1/10/14	7.89	18.1	580.5	18.7
		7/7/14	7.84	29.2	496.3	18.0
PALMER	578819	2/14/08	7.91	17.5	435	15.9
		5/13/08	7.92	22.9	508	16.6
		7/22/08	7.64	25.8	548	16.2
		10/16/08	7.61	17.0	527	15.9
		1/20/09	7.33	19.4	441	14.3
		4/8/09	7.65	19.1	475	15.4
		7/8/09	7.47	27.2	521	14.3
		10/5/09	7.81	22.2	538	16.2
		1/20/10	7.72	11.9	510	13.8
		4/22/10	7.97	13.6	520	16.7
		7/12/10	7.62	30.2	518.8	15.7
		10/18/10	8.13	22.1	511.9	16.5
		1/18/11	7.24	17.1	517.0	15.7
		4/5/11	8.04	19.0	499.2	15.8
		7/12/11	7.65	26.6	517.6	16.4
		10/11/11	7.85	22.0	510.4	17
		2/3/12	7.94	10.0	521.4	17.1
		4/11/12	7.52	18.7	519.8	17.3
		7/10/12	7.30	27.9	390	16.6
		10/3/12	8.09	25.7	526.7	17.6
		10/3/12 DUP	8.09	25.7	526.7	17.5
		1/9/13	7.9	17.5	532.8	16.8
		4/8/13	8.07	18.4	534.1	17
		7/17/13	7.74	22.3	531.0	17.2
		10/14/13	8.03	20.1	533.1	16.9
		1/6/14	7.82	11.9	517.4	17.4
		4/7/14	7.96	18.3	534.8	17.3
		7/7/14	8.07	23.9	534.4	18.3
		10/23/14	7.86	19.6	536	17.5

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
PANAGAKOS	35-76413	4/21/08	6.80	20.5	1228	410
		7/21/08	6.95	21.9	1390	444
		10/13/08	6.86	21.2	1386	480
		10/13/08 DUP	6.86	21.2	1386	500
		1/22/09	6.92	19.7	997	397
		4/9/09	6.81	21.7	1228	431
		4/9/09 DUP	6.81	21.7	1228	426
		7/9/09	6.89	22.3	1469	490
		10/6/09	6.83	21.1	1328	472
		1/21/10	7.06	18.8	1291	318
		4/20/10	7.25	21.0	1528	608
		7/20/10	6.90	24.0	1560	706
		10/18/10	6.38	22.1	1530	568
		7/14/11	6.93	23.3	1070	223
		8/25/11	7.17	23.4	1170	222
		2/6/12	6.98	20.8	1017	166
		2/29/12	7.09	20.3	1080	362
		3/15/12	7.02	21.4	1138	282
		4/12/12	6.90	20.9	1265	346
		4/12/12 DUP	6.90	20.9	1265	352
		7/9/12	6.82	22.2	1140	292
		11/27/2012	7.51	20.1	1164	274
		2/6/13	7.05	19.9	1054	212
		4/9/13	7.24	19.7	1105	232
		7/10/13	7.26	21.4	1218	329
		10/15/13	7.14	20.5	1109	240
		1/10/14	7.23	19.6	1079	227
		4/16/14	7.17	20.4	1103	228
		7/17/14	7.13	21.4	1357	467
		10/16/14	6.90	22.1	1104	193
PARRA	576415	2/11/08	7.08	21.8	1067	360
		5/15/08	7.10	21.8	1200	405
		7/31/08	7.00	22.4	1248	423
		7/31/08 DUP	7.00	22.4	1248	404
		10/20/08	7.07	22.9	1246	387
		2/13/09	7.24	22.1	965	405
		4/20/09	7.10	22.6	971	372
		7/20/09	7.17	23.9	1174	375
		10/20/09	6.80	22.5	1188	388
		2/1/10	7.07	21.5	1197	353
		4/22/10	6.91	20.3	1219	417
		7/14/10	7.13	22.2	1201	403
		7/14/10 DUP	7.13	22.2	1201	391
		10/20/10	7.51	21.4	1270	411
		1/19/11	7.49	20.8	1130	391
		4/4/11	6.90	22.6	1207	382
		7/12/11	6.76	23.7	1156	404
		10/12/11	7.44	22.3	1070	406
		2/7/12	7.64	21.4	1212	428
		4/13/12	7.49	21.1	1204	402
		4/13/12 DUP	7.49	21.1	1204	390
		7/18/12	7.03	22.6	1210	418
		7/18/12 DUP	7.03	22.6	1210	419
		10/9/12	7.30	21.3	1209	428
		1/11/13	7.64	20.3	1217	413
		4/11/13	7.29	21.2	1206	427
		7/17/13	7.21	21.9	1212	411
		10/18/13	7.18	21.3	1212	406
		1/8/14	7.21	20.8	1221	437
		4/15/14	7.18	21.5	1213	416
		7/21/14	7.30	22.4	1193	432
		10/6/14	7.12	21.5	1133	413

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
PIONKE 395	613395	2/6/08	7.53	19.9	910	394
		5/7/08	7.08	21.4	1100	391
		7/17/08	6.99	21.9	1209	420
		10/27/08	7.03	20.8	1175	460
		1/29/09	7.13	19.9	847	385
		4/14/09	7.58	20.7	1053	411
		7/13/09	7.35	21.5	1165	472
		10/7/09	7.43	21.1	1100	403
		3/8/10	7.72	18.6	1201	406
		4/26/10	7.22	21.9	1224	438
		7/15/10	7.32	22.3	1158	474
		10/18/10	7.33	21.3	1277	473
		10/18/10 DUP	7.33	21.3	1277	487
		1/19/11	7.32	19.9	1222	471
		4/8/11	7.13	19.2	1232	467
		7/12/11	7.30	23.8	1226	500
		10/11/11	6.98	20.8	1100	502
		2/1/12	7.25	17.5	1230	481
		2/1/12 DUP	7.25	17.5	1230	495
		4/12/12	7.17	22.1	1218	508
		7/11/12	6.59	22.9	1280	439
		10/17/12	7.16	22.3	1136	419
PIONKE 517	221517	9/18/12	7.91	23.4	395.8	14
		10/11/12	7.75	22.8	394.7	14.9
		1/9/13	7.79	22.6	389.9	14.3
		4/17/13	7.74	22.1	391.9	14.6
		7/16/13	7.84	22.9	391.5	13.9
		10/17/13	7.73	22.7	391.5	13.8
		2/5/14	7.75	21.5	394.2	14.9
		4/9/14	7.71	22.9	400.9	14.0
		7/11/14	7.76	23.7	388.9	14.6
		10/7/14	7.46	25.8	406	14.0
POOL	509518	2/20/08	7.95	20.9	497	134
		5/19/08	7.40	22.2	585	122
		7/31/08	7.47	22.3	599	117
		10/21/08	7.51	21.4	598	120
		2/13/09	7.62	20.8	473	141
		4/21/09	7.73	22.6	470	124
		7/20/09	7.76	22.9	579	122
		10/20/09	7.22	21.2	577	122
		2/24/10	7.56	22.4	577	110
		4/22/10	7.75	20.2	606.5	130
		7/14/10	7.38	21.7	580.9	117
		10/20/10	7.79	21.3	620	115
		1/20/11	7.71	20.5	530	112
		1/20/11 DUP	7.71	20.5	530	114
		4/6/11	7.37	21.6	567.4	114
POWER	624535	2/12/08	7.11	18.9	428	15.5
		7/22/08	7.10	21.7	795	20.2
POWER 639	222639	1/16/14	7.38	20.9	1004	234
		2/5/14	7.35	20.8	1004	328
		3/5/14	7.39	21.3	991.4	187
		4/15/14	7.38	21.6	999.4	249
		5/13/14	7.40	21.4	990.9	206
		6/23/14	7.44	21.9	886.4	117
		7/17/14	7.40	22.1	861.3	168
		8/11/14	7.50	21.8	864.9	136
		9/9/14	7.49	21.7	850.4	105

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
RAMIREZ	216425	2/4/08	7.47	21.7	408	7.6
		5/6/08	7.19	22.7	405	8.3
		7/17/08	7.32	24.5	439	8.8
		10/27/08	7.41	22.2	412	7.3
		1/29/09	7.24	22.2	301	8.3
		4/16/09	7.49	22.4	344	7.6
		7/10/09	7.52	23.9	411	6.4
		10/6/09	7.30	23.8	388	8.4
		1/25/10	7.48	22.4	390	7.8
		4/21/10	7.45	22.6	397	9.04
		7/21/10	7.38	25.1	420	8.98
		10/19/10	7.91	23.7	450	10.8
		1/18/11	7.52	23.1	380	8.18
		4/11/11	7.24	23.2	408.5	8.65
		7/18/11	7.27	25.4	402.6	8.44
		10/12/11	7.40	23.3	412.7	8.55
		1/30/12	7.38	22.3	412.2	8.80
		4/10/12	7.40	23.2	404.5	8.70
		7/6/12	7.32	24.2	415.7	8.97
		10/8/12	7.61	22.5	412.0	9.14
		10/8/12 DUP	7.61	22.5	412.0	9.07
		1/17/13	7.52	22.2	409.6	8.82
		4/19/13	7.6	22.1	413.9	8.63
		7/15/13	7.58	23.6	416.2	8.19
		10/7/13	7.68	22.6	412.7	8.37
		1/13/14	7.63	21.9	409.8	8.79
		4/14/14	7.55	22.2	417.5	8.67
		7/10/14	7.58	23.2	413.5	8.92
		10/17/14	7.36	23.0	422	8.67
RAY	803772	2/15/08	7.30	19.1	1540	159
		4/21/08[1]	6.92	21.3	1418	125
		5/13/08[1]	7.05	20.9	1418	123
		6/23/08[1]	6.87	21.1	1593	130
		7/29/08[1]	6.98	21.8	1411	120
		8/28/08[1]	M	21.1	1519	129
		9/23/08[1]	6.90	22.2	1519	125
		10/22/08	6.96	20.8	1604	145
		1/20/09	6.92	20.6	1355	88
		4/8/09	6.85	21.4	1759	178
		7/9/09	6.93	22.3	1434	126
		10/7/09	6.98	21.3	1288	127
		1/26/10	6.82	20.6	1352	125
		4/20/10	7.14	21.5	1318	134
		7/14/10	7.11	23.8	1313	137
		10/20/10	7.14	19.6	1368	127
		1/17/11	7.04	20.8	1451	132
		1/17/11 DUP	7.04	20.8	1451	125
		4/5/11	7.03	20.8	1387	132
		7/11/11	7.07	22.8	1345	126
		10/12/11	7.06	21.6	1250	130
		1/31/12	7.28	20.5	1360	131
		4/11/12	7.03	20.6	1359	131
		7/6/12	7.11	22.1	1430	129
		10/3/12	7.12	21.1	1464	130
		1/17/13	7.05	19.5	1527	126
		1/17/13 DUP	7.05	19.5	1527	140
		4/8/13	7.32	20	1476	131
		7/9/13	7.18	21.4	1451	128
		10/15/13	7.13	20.8	1487	135
		1/14/14	7.25	19.2	1433	133
		4/8/14	7.09	20.8	1502	146
		7/8/14	7.14	21.4	1409	147
		10/22/14	6.88	21.6	1422	147
ROGERS 596	573596	10/19/09	6.89	23.3	1360	590
		11/5/09	6.79	21.9	1418	540
		2/25/10	6.99	19.6	1603	520
		4/22/10	7.21	18.2	1641	710

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
ROGERS 803	641803	2/7/08	7.45	18.6	601	138
		4/21/08[1]	7.32	21.4	552	128
		5/8/08[1]	7.14	21.2	622	141
		6/23/08[1]	7.06	22.9	660	129
		7/29/08[1]	6.78	23.1	339	134
		8/28/08[1]	7.18	21.6	635	128
		9/23/08[1]	7.24	21.9	599	133
		10/22/08	7.36	21.3	650	144
		2/10/09	7.42	17.9	475	141
		4/29/09	7.52	21.9	506	211
		8/3/09	7.39	24.2	674	150
		7/16/10	7.46	23.9	643.4	169
		10/19/10	7.32	21.1	643.8	154
		10/19/10 DUP	7.32	21.1	643.8	154
		1/20/11	7.44	18.1	610	143
		4/8/11	7.30	20.2	658.2	160
		7/14/11	7.12	23.5	653.5	166
		10/12/11	7.41	21.8	665.3	175
		1/30/12	7.40	20.0	580	171
		4/23/12	7.32	23.9	720	166
		7/13/12	7.26	24.0	820	171
		7/13/12 DUP	7.26	24.0	820	166
		10/10/12	7.41	24.3	671.4	177
		1/15/13	7.37	16.9	681.1	174
		4/15/13	7.57	23.8	698	190
		7/15/13	7.39	23.6	697.8	184
		10/16/13	7.47	25.4	710.6	185
		1/9/14	7.46	21.4	701.8	190
		4/11/14	7.52	26.1	711.3	190
		7/18/14	7.48	24.9	709.2	192
ROGERS E	216018	2/4/08	7.40	21.0	435	4.6
		5/7/08	7.18	22.2	415	5.9
		7/17/08	7.28	23.0	446	7.1
		10/27/08	7.38	21.4	434	15.7
		2/10/09	7.51	20.7	322	5.4
		4/16/09	7.48	22.0	361	4.9
		7/13/09	7.34	22.6	420	3.8
		10/6/09	7.31	22.3	407	5.8
		1/25/10	7.52	20.6	414	5.1
		4/21/10	7.44	21.1	421	6.04
		7/21/10	7.37	23.8	430	6.47
		10/19/10	7.80	22.8	460	5.92
		1/18/11	7.39	21.5	390	5.50
		4/11/11	7.19	22.7	427.2	6.13
		7/18/11	7.12	24.3	418.5	6.00
		10/13/11	7.52	22.2	370	5.99
		1/30/12	7.38	20.8	427.2	6.22
		4/10/12	7.37	22.1	421.8	6.31
		7/17/12	7.32	22.7	420	5.85
		10/17/12	7.55	21.7	429.0	6.04
		1/17/13	7.46	21.5	431.5	6.01
		4/18/13	7.63	21.3	433.5	6.26
		7/17/13	7.59	22.1	427.7	6.05
		7/17/13 DUP	7.59	22.1	427.7	6.28
		10/10/13	7.51	21.9	436.9	5.8
		1/7/14	7.49	21.0	434.0	6.24
		4/14/14	7.59	21.4	431.2	6.11
		7/10/14	7.54	22.4	428.5	6.41
		10/17/14	7.31	22.6	452	5.81

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
RUIZ	531770	2/5/08	7.73	18.2	445	263
		5/15/08	7.23	25.9	965	265
		7/30/08	6.99	22.1	999	243
		10/20/08	7.04	22.0	995	238
		2/12/09	6.94	20.9	748	254
		4/21/09	7.18	22.3	759	227
		8/3/09	7.05	22.9	1029	221
		10/28/09	7.09	20.6	920	227
		2/1/10	7.08	20.9	934	236
		4/26/10	7.01	22.5	920.1	240
		7/20/10	7.08	22.5	880	240
		10/20/10	7.52	20.7	970	231
		1/18/11	7.19	20.2	860	213
		4/8/11	7.09	19.8	923.3	236
		8/26/11	6.85	22.6	800	220
		10/13/11	7.19	21.5	810	230
		2/7/12	7.28	20.7	915.6	230
		2/7/12 DUP	7.28	20.7	915.6	228
		4/13/12	7.04	21.1	896.5	203
		7/18/12	6.87	21.6	900	214
		10/9/12	7.18	21.4	890.6	229
		1/11/13	7.21	20.7	895.8	219
		1/11/13 DUP	7.21	20.7	895.8	211
		4/11/13	7.26	21.9	876.8	229
		7/25/13	7.13	21.4	887.3	228
		10/17/13	7.23	20.8	891.9	210
		1/8/14	7.32	20.5	886.8	220
		4/15/14	7.26	21.2	873.5	215
		8/11/14	7.32	21.2	869.2	221
		10/21/14	7.09	21.4	886	209
		10/21/14 DUP	7.09	21.4	886	212
SCHWARTZ	210865	2/8/08	7.52	21.5	506	158
		4/21/08[1]	7.23	21.7	563	122
		5/19/08[1]	7.38	22.4	629	130
		6/23/08[1]	7.02	22.1	674	129
		7/29/08[1]	7.25	22.4	955	245
		8/28/08[1]	M	22.3	669	131
		9/23/08[1]	7.27	22.2	607	124
		10/22/08[1]	7.31	22.0	653	135
		11/19/08[1]	7.38	21.1	612	140
		12/17/08[1]	6.78	21.6	472	144
		1/29/09[1]	7.08	22.0	475	124
		2/23/09[1]	7.33	22.1	610	123
		4/17/09	7.46	22.2	520	120
		7/10/09	7.52	22.8	651	116
		7/10/09 DUP	7.52	22.8	651	117
		10/6/09	7.27	22.5	613	120
		1/22/10	7.79	19.5	664	133
		4/21/10	7.50	20.9	638	129
		7/21/10	7.43	22.0	650	134
		10/19/10	7.76	21.2	710	147
		1/17/11	7.15	21.2	620	116
		4/11/11	7.20	21.5	656.9	128
		7/18/11	7.36	23.7	612.4	116
		10/12/11	7.35	22.4	635.8	124
		2/6/12	7.32	21.3	629.7	116
		2/6/12 DUP	7.32	21.3	629.7	114
		4/10/12	7.48	21.6	626.1	120
		7/16/12	7.31	21.9	710	117
		10/17/12	7.48	21.6	645	121
		3/13/13	7.57	20.7	623.6	118
		5/14/13	7.61	21.5	629.7	112
		7/15/13	7.49	22.1	770.2	198
		10/14/13	7.55	20.9	633.3	109
		1/13/14	7.61	20.6	663.1	125
		4/9/14	7.48	21.5	635.9	110
		7/18/14	7.45	21.8	790.5	216
		10/22/14	7.28	22.0	646	119

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
SRC	211345	4/23/08	7.57	25.8	380	19
		8/5/08	7.40	27.2	452	15.4
SWAN	NR	2/13/08	7.28	20.7	467	24.1
		5/14/08	7.24	21.2	479	23.7
		7/24/08	7.35	22.4	506	18
		10/16/08	7.32	20.7	488	19
		1/20/09	7.05	20.4	391	19.8
		4/7/09	7.21	21.5	447	19.9
		7/8/09	7.18	23.1	473	18.5
		10/5/09	7.18	21.4	496	19.7
		1/21/10	7.49	19.5	501	18.4
		4/21/10	7.42	20.3	512.1	20.9
		7/19/10	7.13	23.8	518.6	22.2
		1/18/11	7.19	17.8	483.6	18.7
		7/12/11	7.05	22.4	478.2	19.1
		2/3/12	7.40	20.5	484.5	20.1
		2/3/12 DUP	7.40	20.5	484.5	19.5
		7/10/12	7.00	22.7	370	19.4
		1/11/13	7.38	20.0	489.0	19.3
		7/8/13	7.45	22.8	489.7	19.4
		1/10/14	7.65	19.7	428.6	19.2
		7/714	7.44	21.8	464.7	19.4
THOMPSON 341	218341	5/29/13	7.22	24.4	415.9	7.32
		8/9/13	7.57	22.2	420.0	7.62
		10/9/13	7.49	21.6	425.2	7.54
		1/16/14	7.53	21.5	432.7	7.48
		4/14/14	7.50	21.6	425.8	7.68
		7/21/14	7.48	22.3	414.2	8.02
		10/22/14	7.23	22.3	430	8.02
TM-02A	522574	3/4/08	8.67	22.6	302	12.3
		5/23/08	7.75	22.9	321	14.7
		8/15/08	7.84	26.4	369	14.4
		10/30/08	8.07	23.9	375	21.9
		2/24/09	8.10	24.8	340	20.3
		5/6/09	8.06	26.7	320	18.7
		8/12/09	8.34	26.9	398	20
		11/4/09	8.16	26.3	381	21.8
		3/10/10	8.13	25.2	351	21.4
		3/10/10 DUP	8.13	25.2	351	21.3
		4/6/10	6.96	24.6	363	25.6
		7/6/10	7.38	24.6	343	22.1
		2/10/11	6.93	20.2	359	22.9
		7/13/11	7.92	24.8	349	22.5
		2/2/12	7.89	22.2	360	23.0
		8/14/12	7.65	24.6	366	23.4
		2/15/13	7.72	22.2	369	22.1
		8/27/13	7.72	24.7	414	23.5
		2/18/14	7.54	24.3	388	24.5
		8/12/14	7.62	24.7	395	25.6
TM-03	522575	5/20/08	7.51	22.2	778	110
		8/6/08	7.08	21.6	828	97
		11/12/08	7.47	20.5	590	128
		2/26/09	7.21	21.8	737	107
		2/26/09 DUP	7.21	21.8	737	102
		5/13/09	7.47	22.2	695	109
		8/18/09	7.48	22.4	822	98
		11/10/09	7.55	21.8	761	106
		3/2/10	7.56	21.6	748	99
		4/14/10	7.55	20.6	635	103
		7/7/10	7.19	21.4	566	103
		2/1/12	7.48	21.1	744	112

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
TM-06 MILLER	522695	2/27/08	7.44	19.6	457	13.9
		5/20/08	7.50	20.7	506	32.7
		8/4/08	7.41	20.7	529	31.3
		10/29/08	7.55	20.2	531	34.5
		2/26/09	7.18	20.4	574	32.7
		5/13/09	7.35	20.9	465	30.6
		8/18/09	7.50	20.9	560	30.9
		8/18/09 DUP	7.50	20.9	560	29.9
		11/12/09	7.53	20.4	530	31.1
		4/14/10	7.35	19.4	461	29.0
		7/2/10	7.24	20.1	438	29.8
		7/21/11	7.1	20.1	516	31.7
		7/9/12	6.82	20.8	505	33.5
		2/14/13	6.92	19.6	527	31.1
		8/19/13	7.21	19.9	556	32.5
		7/21/14	7.17	19.9	551	33.0
TM-07	522576	3/6/08	7.54	20.8	726	22.5
		5/22/08	6.96	20.1	385	22.9
		8/6/08	7.04	22.8	519	22.2
		11/4/08	7.76	20.6	347	31.2
		2/20/09	7.77	19.9	376	22.5
		5/13/09	7.30	22.9	559	130
		8/17/09	7.60	22.6	442	134
		11/3/09	7.85	21.8	441	134
		3/2/10	7.67	21.6	422	124
		5/25/10	7.77	21.2	398	42.6
		7/6/10	7.58	22.0	350	44.7
		2/11/11	6.87	20.1	393	24.9
		7/21/11	6.90	21.4	402	41.7
		2/9/12	7.15	23.0	670	171
		8/13/12	6.83	21.7	415	25.4
		2/27/13	6.81	19.9	380	25.6
		8/28/13	7.36	21.2	369	25.0
		2/13/14	6.99	20.4	372	27.4
		8/21/14	7.35	20.6	358	48.5
TM-08 SWAN	522817	2/13/08	7.63	24.1	511	24.1
		5/14/08	7.44	24.4	480	12.6
		7/23/08	7.76	28.1	522	12.6
TM-10 USBP	522696	12/8/11	6.95	19.6	381	16.8
		3/15/12	7.85	20.2	382.3	15.1
		4/24/12	7.88	21.0	280	13.4
		4/24/12 DUP	7.88	21.0	280	13.3
		9/13/12	8.09	21.1	407	13.3
		10/19/12	8.17	21.0	428.2	12.8
		3/7/13	8.33	21.2	415.1	12.7
		4/17/13	8.27	20.3	423.9	12.8
		7/23/13	8.16	21.4	426.1	13.2
		11/6/13	7.90	21.3	386.5	4.81
		11/6/13 DUP	7.90	21.3	386.5	4.64
		1/15/14	7.91	21.1	424.4	3.98
		5/15/14	7.98	20.4	410.6	5.12
		7/15/14	7.86	21.4	421.9	5.46
		10/16/14	7.51	22.0	439	4.16

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
TM-15 MILLER	522699	2/27/08	7.66	21.9	344	14
		5/23/08	7.54	22.1	371	14.4
		8/5/08	7.42	23.3	413	13.7
		10/28/08	7.63	22.6	387	18.6
		10/28/08 DUP	7.63	22.6	387	18.8
		2/26/09	7.57	22.0	373	14.6
		5/13/09	7.61	23.1	344	13.7
		8/17/09	7.73	23.2	398	14.2
		11/3/09	7.73	23.4	414	14.8
		2/24/10	7.66	22.8	381	14.4
		4/27/10	7.71	23.0	383.6	14.9
		7/20/10	7.77	23.0	324	14.3
		7/12/11	7.36	23.2	380	14.2
		7/10/12	7.04	23.7	379	14.9
		2/12/13	6.96	21.7	393	14.6
		9/4/13	7.2	22.8	412	14.8
		7/22/14	7.18	23.2	407	14.6
TM-16	522578	3/5/08	7.17	20.6	1351	497
		5/22/08	7.05	20.5	1304	522
		8/6/08	6.67	20.9	1410	466
		11/5/08	7.14	19.8	1162	547
		2/20/09	6.90	21.1	1292	492
		5/13/09	6.93	21.1	1179	484
		8/19/09	7.08	21.2	1354	468
		11/10/09	7.02	21.0	1310	505
		3/2/10	7.13	20.4	1313	451
		4/14/10	6.90	19.9	987	484
		7/2/10	6.81	20.8	858	474
		7/14/11	6.97	20.5	1285	511
		7/16/11	6.97	20.5	1285	513
		7/9/12	6.95	21.0	1292	544
		8/15/13	6.86	20.3	1374	539
		8/4/14	6.79	20.6	1368	550
TM-19A	522581	3/6/08	8.02	22.2	240	56.1
		5/22/08	7.36	24.0	501	64.5
		8/6/08	7.32	22.6	494	55.3
		11/18/08	7.79	24.3	365	66.3
		3/3/09	7.41	24.5	489	66.2
		4/22/09	7.44	24.3	494	62.5
		8/12/09	7.61	24.4	554	61.3
		11/4/09	7.47	24.2	522	63
		3/10/10	7.54	22.9	511	60.6
		4/9/10	6.49	23.0	435	66.5
		7/7/10	6.93	23.8	428	63.2
		2/14/11	6.69	21.4	511	61.9
		7/15/11	7.11	24.1	499	62.1
		2/2/12	7.13	22.5	498	62.2
		7/10/12	7.12	23.5	505	63.7
		2/15/13	6.74	23.2	522	60.1
		9/4/13	7.11	23.8	538	61.3
		2/12/14	6.93	23.6	548	62.8
		7/21/14	7.06	24.2	542	63.3

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
TM-42	562554	3/5/08	7.10	20.8	1342	482
		5/22/08	7.05	21.4	1270	483
		8/6/08	6.69	22.0	1388	467
		11/6/08	6.90	21.0	1025	477
		2/18/09	6.72	22.3	1245	429
		5/7/09	6.88	24.5	1155	430
		5/7/09 DUP	6.88	24.5	1155	445
		8/18/09	7.04	24.4	1336	428
		11/3/09	7.07	23.1	1266	430
		2/24/10	7.13	22.7	1236	390
		4/19/10	6.87	21.5	985	444
		7/2/10	6.81	23.9	827	407
		7/12/11	6.83	22.0	1205	441
		2/9/12	6.76	20.5	1172	444
		7/11/12	6.72	21.1	1155	449
		2/12/13	6.69	20.2	1185	400
		8/28/13	6.89	21.3	1212	416
		7/21/14	6.85	21.4	1205	418
TM-43	564729	3/3/08	8.57	21.0	341	2.1
		8/4/08	8.14	25.7	436	<5
TM-43A	564726	3/3/08	6.17	19.9	2788	1420
		8/4/08	6.03	21.6	3149	1320
TM-43B	565004	3/3/08	6.79	20.6	514	0.7
		8/5/08	6.89	21.0	507	31.8
		8/5/08 DUP	6.89	21.0	507	32.5
TVI 236	802236	3/20/08	7.48	20.0	488	31.3
		5/7/08	7.13	20.4	494	32.6
		7/15/08	7.39	21.9	532	37.6
		10/15/08	7.45	22.3	490	36.6
		2/11/09	7.32	20.1	391	27.6
		4/17/09	7.36	19.3	418	28.1
		4/17/09 DUP	7.36	19.3	418	28.3
		7/21/09	7.59	22.9	484	31.3
		10/19/09	7.31	22.1	513	33.2
		2/2/10	7.39	20.4	497	26
		4/23/10	7.46	20.0	504.6	30.9
		7/15/10	7.37	21.5	499.4	39.3
		7/15/11	6.80	22.4	499.6	42.9
		7/16/12	7.30	21.1	500	36.3
		10/9/12	7.56	20.4	513.7	40.9
		7/18/13	7.38	20.9	514.4	42.4
		7/16/14	7.41	21.1	517.3	43.9

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
TVI 875	568875	2/21/08	7.28	21.1	739	244
		5/7/08	7.09	21.2	833	250
		7/15/08	7.27	22.4	925	274
		10/15/08	7.26	22.1	878	245
		2/11/09	7.20	20.7	738	312
		4/17/09	7.31	21.5	690	251
		7/21/09	7.47	22.2	812	236
		10/19/09	7.23	21.9	822	247
		2/2/10	7.32	20.8	939	250
		4/23/10	7.34	20.2	930.4	294
		7/15/10	7.46	21.8	842.5	262
		10/20/10	7.79	21.9	890	242
		1/20/11	7.39	21.0	780	226
		4/11/11	7.20	21.1	820.6	235
		7/15/11	6.75	22.2	791.9	239
		10/12/11	7.35	22.7	868.5	262
		2/3/12	7.20	20.5	850	299
		4/25/12	7.19	21.3	840	267
		7/16/12	7.13	22.2	860	261
		7/16/12 DUP	7.13	22.2	860	267
		10/9/12	7.39	20.9	882.8	281
		2/6/13	7.23	20.8	946.1	335
		4/10/13	7.35	20.9	907.6	296
		7/18/13	7.31	21.4	994.2	355
		10/8/13	7.35	21.0	894.6	275
		1/9/14	7.23	20.3	917.4	305
		4/9/14	7.31	20.9	910.7	296
		7/16/14	7.30	21.6	940.2	328
		10/9/14	7.12	21.2	963	245
WALKER	200393	2/13/08	7.05	20.2	650	20
		7/23/08	7.25	20.7	740	45.4
WEED	544535	2/14/08	7.74	21.7	323	11.1
		5/15/08	7.22	22.7	365	12.6
		7/30/08	7.42	32.0	407	11.5
		10/20/08	8.10	31.6	405	10.2
		2/13/09	7.66	21.0	303	12.6
		4/22/09	7.46	22.2	368	11.6
		7/16/09	7.50	21.9	365	10.8
		10/20/09	7.34	21.6	381	12.7
		2/1/10	7.60	20.8	382	12.2
		4/26/10	7.69	22.1	366	13.4
		7/21/10	7.36	22.1	354.9	13.6
		7/21/10 DUP	7.36	22.1	354.9	13.5
		10/19/10	7.63	21.2	378.8	11.7
		1/19/11	7.62	21.1	383.6	12.2
		4/11/11	7.44	21.5	386.6	13
		7/18/11	7.56	22.0	379.3	12.7
		10/12/11	7.02	21.7	382.8	13.3
		2/6/12	7.60	21.4	385.0	13.5
		4/25/12	7.60	22.1	360	12.7
		7/5/12	7.64	21.7	385.8	12.9
		10/9/12	7.66	21.5	385.1	14.0
		2/7/13	7.7	21.4	389.7	14.0
		2/7/13 DUP	7.7	21.4	389.7	13.2
		4/10/13	7.76	20.6	383.9	13.0
		7/19/13	7.63	21.3	386.6	14.2
		10/18/13	7.72	21.1	387.3	13.1
		1/15/14	7.73	20.7	388.4	13.4
		4/10/14	7.85	21.5	387.1	13.5
		7/18/14	7.79	21.4	386.7	14.1
		10/22/14	7.50	22.7	394	13.7

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
WEISKOPF 802	641802	2/15/08	7.48	20.0	1072	500
		5/7/08	7.10	21.8	1251	483
		7/16/08	7.07	22.2	1399	560
		10/28/08	6.98	20.8	1401	602
		1/29/09	6.79	20.7	1014	503
		4/15/09	7.53	21.1	1164	503
		7/15/09	7.84	22.1	1317	486
		10/15/09	6.89	21.4	1216	484
		2/2/10	7.22	20.4	1319	451
		4/22/10	7.30	19.3	1329	572
		7/19/10	7.06	23.1	1330	573
		10/20/10	7.64	21.6	1360	515
		10/20/10 DUP	7.64	21.6	1360	529
		1/17/11	7.16	22.0	1270	481
		4/11/11	6.88	22.4	1365	557
		8/26/11	6.83	23.5	1200	549
		10/13/11	7.07	22.8	1299	539
		2/3/12	7.35	21.5	1363	583
		4/25/12	7.07	23.5	1300	575
		7/13/12	6.83	22.2	1530	552
		10/11/12	7.26	21.3	1369	572
		10/11/12 DUP	7.26	21.3	1369	577
		1/16/13	7.14	20.5	1298	523
		4/17/13	7.22	20.1	1337	558
		7/18/13	7.45	21.3	1131	420
		10/17/13	7.29	22.5	1131	437
		1/16/14	7.28	22.7	1323	563
		4/11/14	7.29	23.0	1304	558
		7/18/14	7.17	23.3	1375	608
		10/9/14	7.08	24.5	1094	405
WEISKOPF 897	221897	12/6/12	7.93	23.6	398.3	18.5
		1/16/13	7.88	23.1	398.9	18.2
		1/16/13 DUP	7.88	23.1	398.9	18.2
		4/17/13	7.86	22.6	394.4	19.0
		7/18/13	7.84	24.3	393.2	18.0
		10/17/13	7.90	23.3	392.2	18.3
		1/16/14	7.90	23	395.8	18.4
		4/11/14	7.92	23.5	390.5	17.9
		7/18/14	7.87	23.9	387.4	18.4
		10/9/14	7.69	22.8	392	17.7
WMD-2011-03M	913037	2/2/12	6.66	22.0	1190	391

TABLE 3
Compilation of Analytical Results For Sulfate and Field Parameters

Well Name	ADWR 55 Registry Number	Sample Date	pH (SU)	Temp (deg C)	SC (µS/cm)	Sulfate, dissolved (mg/L)
ZANDER	205126	2/4/08	7.24	19.7	392	5.7
		5/6/08	7.26	21.2	404	6.3
		7/16/08	6.92	22.9	441	6.9
		10/28/08	7.40	21.2	415	15
		2/10/09	7.50	20.4	317	6
		4/16/09	7.47	21.7	352	5.5
		7/14/09	7.36	22.9	418	4.5
		10/13/09	7.41	21.7	407	6.3
		1/26/10	7.49	20.3	411	5.7
		4/2/10	7.55	20.0	416	6.70
		7/21/10	7.38	22.7	388.2	6.78
		10/19/10	6.78	21.3	430	6.56
		1/18/11	7.59	18.9	380	6.14
		1/18/11 DUP	7.59	18.9	380	6.06
		4/6/11	7.20	19.7	425.8	6.12
		7/13/11	7.29	22.9	410.10	6.43
		10/12/11	7.35	22.2	426.2	6.38
		1/31/12	7.29	20.3	420	6.59
		4/10/12	7.49	21.9	420.1	6.90
		4/10/12 DUP	7.49	21.9	420.1	6.65
		7/17/12	7.34	22.2	430	6.38
		10/8/12	7.58	20.8	431.4	7.03
		1/10/13	7.58	20.7	436.1	6.52
		4/18/13	7.65	20.8	436.7	6.66
		7/15/13	7.55	21.8	431.1	6.49
		10/7/13	7.59	21.5	430.2	6.41
		1/7/14	7.50	20.9	435.4	6.77
		4/9/14	7.57	21.5	434.4	6.57
		7/17/14	7.61	21.5	432.0	6.99
		10/13/14	7.52	23.8	422	6.24

Notes:
35-71891 = ADWR 35 Database
ADWR = Arizona Department of Water Resources
deg C = degrees Celsius
DUP = Blind duplicate
M = Multi-Meter Malfunction
mg/L = milligrams per liter
ND = No Data
NR = No Record
SC = Specific Conductance
SU = Standard Units
µS/cm = microsiemens per centimeter
[1] Verified drinking water supply well, sample collected for sulfate trend analysis and interim action evaluation

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
ANDERSON 396	613396	601134.729	3468816.065	4588.51	3/20/08	145.46	4443.05
					5/5/08	145.84	4442.67
					7/14/08	146.16	4442.35
					10/15/08	146.21	4442.30
					1/27/09	145.97	4442.54
					4/14/09	146.21	4442.30
					7/14/09	146.88	4441.63
					10/12/09	147.31	4441.20
					1/27/10	147.31	4441.20
					4/21/10	147.57	4440.94
					7/19/10	148.34	4440.17
					10/19/10	147.75	4440.76
					1/17/11	148.63	4439.88
					4/11/11	149.46	4439.05
					7/14/11	149.92	4438.59
					10/11/11	150.19	4438.32
					2/1/12	150.19	4438.32
					4/25/12	150.69	4437.82
					7/12/12	151.34	4437.17
					10/10/12	151.50	4437.01
					1/17/13	151.24	4437.27
					4/15/13	152.08	4436.43
					7/18/13	152.19	4436.32
					10/16/13	152.41	4436.10
					1/9/14	152.14	4436.37
					4/7/14	152.56	4435.95
					7/11/14	152.02	4436.49
					10/6/14	152.7	4435.81
ANDERSON 458	221458	601118.690	3468826.284	4585.37	9/7/12	173.76	4411.61
					10/10/12	151.82	4433.55
					1/17/13	152.17	4433.20
					4/15/13	158.42	4426.95
					7/18/13	157.56	4427.81
					10/16/13	156.24	4429.13
					1/9/14	152.58	4432.79
					4/7/14	153.54	4431.83
					7/11/14	156.66	4428.71
					10/6/14	157.31	4428.06
ASLD 435	616435	593496.865	3468879.791	4471.34	6/27/13	250.85	4220.49
					9/24/13	250.85	4220.49
					12/3/13	250.79	4220.55
					2/25/14	250.75	4220.59
					6/4/14	250.93	4220.41
					9/10/14	250.97	4220.37
					11/20/14	250.66	4220.68

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
AWC-02	616586	598907.911	3468549.357	4547.64	8/27/08	121.12	4426.52
					4/8/08	116	4431.64
					10/23/08[1]	115	4432.64
					4/22/09[1]	118	4429.64
					10/9/09[1]	117	4430.64
					4/23/10[1]	119	4428.64
					4/11/13	127.64	4420.00
					7/25/13	128.89	4418.75
					10/7/13[1]	125.00	4422.64
					1/7/14	125.36	4422.28
					5/14/14	124.89	4422.75
					7/16/14	124.49	4423.15
					10/15/14	122.52	4425.12
AWC-03	616585	599090.322	3468681.898	4539.52	8/27/08	119.40	4420.12
					4/8/08	112	4427.52
					10/23/08[1]	106	4433.52
					4/22/09[1]	114	4425.52
					10/9/09[1]	116	4423.52
					4/23/10[1]	116	4423.52
					4/11/13[1]	125	4414.52
					7/16/13[1]	126	4413.52
					10/7/13[1]	122	4417.52
					1/7/14[1]	121	4418.60
					5/14/14[1]	121.50	4418.02
					7/16/14[1]	123.50	4416.02
					10/15/14	119.6	4419.92
AWC-04	616584	598949.929	3468717.084	4540.48	8/18/08	112.56	4427.92
					4/8/08	108	4432.48
					10/23/08[1]	111.31	4429.17
					4/22/09[1]	110	4430.48
					10/9/09[1]	110	4430.48
					4/23/10[1]	109	4431.48
					4/11/13	120.93	4419.55
					7/16/13	123.76	4416.72
					10/7/13[1]	116.00	4424.48
					1/7/14	115.98	4424.50
					5/14/14	115.32	4425.16
					7/16/14	118.44	4422.04
					10/15/14	114.29	4426.19

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
AWC-05	590620	599269.904	3468541.692	4542.51	8/27/08	299.65	4242.86
					4/8/08	284	4258.51
					10/23/08	284	4258.51
					4/22/09	286	4256.51
					6/3/09	125	4417.51
					10/9/09[1]	289	4253.51
					4/23/10[1]	278	4264.51
					4/11/13	229.56	4312.95
					7/16/13	203.17	4339.34
					10/7/13[1]	142.00	4400.51
					1/7/14	123.09	4419.42
					5/14/14	346.75	4195.76
					7/16/14	346.34	4196.17
					10/15/14	316.16	4226.35
BANKS 987	647987	606981.921	3469206.175	4648.18	2/27/08	208.00	4440.18
					5/12/08	216.30	4431.88
					7/21/08	228.95	4419.23
					10/13/08	228.20	4419.98
					1/21/09	206.64	4441.54
					4/8/09	205.50	4442.68
					7/9/09	235.68	4412.50
					10/7/09	236.71	4411.47
					2/25/10	216.98	4431.20
					4/20/10	219.35	4428.83
					7/20/10	235.60	4412.58
					10/20/10	230.24	4417.94
					1/17/11	215.28	4432.90
					4/5/11	221.68	4426.50
					7/11/11	237.39	4410.79
					10/12/11	237.34	4410.84
					1/31/12	228.95	4419.23
					4/11/12	219.39	4428.79
					7/6/12	232.59	4415.59
					10/4/12	237.16	4411.02
					1/18/13	237.81	4410.37
					4/8/13	237.92	4410.26
					7/9/13	238.32	4409.86
					10/15/13	239.48	4408.70
					1/14/14	239.53	4408.65
					4/8/14	231.49	4416.69
					7/8/14	228.85	4419.33
					10/21/14	233.96	4414.22
BARTON 919	644919	606243.850	3469076.689	4692.36	5/12/08	113.71	4578.65
					7/23/08	113.56	4578.80
					10/16/08	113.20	4579.16
					3/11/09	112.92	4579.44
					4/10/09	112.89	4579.47
					7/7/09	112.86	4579.50
					7/17/13	114.18	4578.18
					1/14/14	113.96	4578.40
					7/17/14	113.42	4578.94

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BF-01	539783	604169.077	3472151.593	4835.23	3/4/08	348.99	4486.24
					5/23/08	348.80	4486.43
					8/5/08	348.66	4486.57
					11/5/08	348.94	4486.29
					2/20/09	348.78	4486.45
					5/6/09	348.73	4486.50
					8/17/09	348.73	4486.50
					11/4/09	348.65	4486.58
					3/1/10	348.84	4486.39
					4/7/10	348.70	4486.53
					7/6/10	348.69	4486.54
					7/13/11	348.67	4486.56
					2/1/12	347.84	4487.39
					8/13/12	343.95	4491.28
BIMA	577927	606001.245	3471852.804	4802.05	5/13/08	367.31	4434.74
					8/18/08	370.24	4431.81
					10/23/08	353.96	4448.09
					1/20/09	353.07	4448.98
					4/7/09	357.76	4444.29
					7/8/09	365.44	4436.61
					10/5/09	370.11	4431.94
					4/19/10	382.25	4419.80
					7/21/10	386.89	4415.16
					10/18/10	387.39	4414.66
					1/19/11	391.47	4410.58
					4/4/11	395.22	4406.83
BMO-2008-1G	909474	606467.681	3471723.644	4805.10	8/27/08	62.05	4743.05
					11/11/08	60.95	4744.15
					2/25/09	61.43	4743.67
					4/28/09	62.01	4743.09
					8/4/09	62.96	4742.14
					10/27/09	63.61	4741.49
					2/17/10	64.51	4740.59
					4/15/10	65.05	4740.05
					7/7/10	65.83	4739.27
					2/10/11	67.74	4737.36
					7/12/11	69.37	4735.73
					2/8/12	70.33	4734.77
					8/14/12	71.73	4733.37
					2/14/13	72.95	4732.15
					8/14/13	73.82	4731.28
					2/13/14	73.79	4731.31
					7/22/14	74.14	4730.96

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-3B	909147	602012.923	3467919.582	4583.97	7/18/08	138.05	4445.92
					11/4/08	137.95	4446.02
					2/19/09	138.19	4445.78
					5/11/09	138.46	4445.51
					8/6/09	139.02	4444.95
					10/26/09	139.60	4444.37
					3/3/10	140.03	4443.94
					4/8/10	140.07	4443.90
					7/1/10	140.70	4443.27
					2/14/11	141.41	4442.56
					7/12/11	142.21	4441.76
					2/23/12	143.90	4440.07
					7/10/12	143.70	4440.27
					2/15/13	144.53	4439.44
					8/27/13	145.10	4438.87
					2/11/14	145.08	4438.89
					7/21/14	145.36	4438.61
BMO-2008-4B	910096	601099.405	3468383.430	4573.17	12/11/08	130.77	4442.40
					2/18/09	130.58	4442.59
					4/30/09	131.24	4441.93
					8/6/09	131.96	4441.21
					10/27/09	132.04	4441.13
					2/24/10	131.82	4441.35
					4/16/10	132.65	4440.52
					7/2/10	133.20	4439.97
					2/15/11	133.78	4439.39
					7/22/11	134.80	4438.37
					2/23/12	134.64	4438.53
					9/17/12	136.15	4437.02
					1/15/13	136.13	4437.04
					4/15/13	136.78	4436.39
					9/18/13	137.04	4436.13
					1/9/14	136.96	4436.21
					7/18/14	137.49	4435.68

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-5B	909653	600438.159	3468994.715	4585.10	9/30/08	145.10	4440.00
					2/18/09	144.35	4440.75
					4/27/09	144.78	4440.32
					8/4/09	145.36	4439.74
					10/29/09	145.88	4439.22
					2/15/10	145.42	4439.68
					4/15/10	145.80	4439.30
					7/7/10	146.59	4438.51
					10/5/10	147.00	4438.10
					2/14/11	147.56	4437.54
					5/12/11	148.04	4437.06
					7/13/11	148.31	4436.79
					12/7/11	148.45	4436.65
					2/3/12	148.47	4436.63
					4/18/12	149.02	4436.08
					7/10/12	148.65	4436.45
					10/16/12	149.91	4435.19
					2/7/13	149.94	4435.16
					2/12/13	150.06	4435.04
					5/15/13	150.55	4434.55
					8/20/13	150.82	4434.28
					11/1/13	150.77	4434.33
					2/11/14	150.33	4434.77
					5/7/14	150.83	4434.27
					8/19/14	151.13	4433.97
					11/13/14	150.78	4434.32
BMO-2008-5M	909552	600445.071	3468994.282	4585.02	10/2/08	146.65	4438.37
					2/18/09	145.97	4439.05
					4/27/09	146.46	4438.56
					8/4/09	147.13	4437.89
					10/29/09	147.68	4437.34
					2/15/10	147.07	4437.95
					4/16/10	147.34	4437.68
					7/7/10	148.28	4436.74
					10/5/10	148.68	4436.34
					2/14/11	148.74	4436.28
					5/12/11	149.66	4435.36
					7/12/11	150.20	4434.82
					12/7/11	150.30	4434.72
					2/3/12	150.05	4434.97
					4/18/12	150.70	4434.32
					7/10/12	151.65	4433.37
					10/16/12	151.77	4433.25
					2/12/13	152.00	4433.02
					5/15/13	152.42	4432.60
					8/20/13	152.76	4432.26
					11/1/13	152.53	4432.49
					2/11/14	151.78	4433.24
					5/7/14	152.26	4432.76
					8/19/14	152.78	4432.24
					11/13/14	152.27	4432.75

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-6B	909146	600366.523	3469820.644	4627.44	7/16/08	190.13	4437.31
					11/4/08	190.23	4437.21
					2/19/09	189.71	4437.73
					4/27/09	189.99	4437.45
					8/4/09	190.80	4436.64
					10/26/09	191.04	4436.40
					2/15/10	190.82	4436.62
					4/15/10	190.75	4436.69
					7/1/10	191.43	4436.01
					10/5/10	192.50	4434.94
					2/14/11	192.19	4435.25
					5/12/11	192.70	4434.74
					7/12/11	193.30	4434.14
					12/7/11	193.85	4433.59
					2/3/12	193.60	4433.84
					4/18/12	193.90	4433.54
					7/10/12	194.75	4432.69
					10/16/12	195.71	4431.73
					2/12/13	195.42	4432.02
					5/15/13	195.91	4431.53
					8/20/13	196.23	4431.21
					11/1/13	195.77	4431.67
					2/11/14	195.24	4432.20
					5/7/14	195.47	4431.97
					8/19/14	196.36	4431.08
					11/13/14	195.74	4431.70
BMO-2008-6M	909019	600367.943	3469813.885	4626.90	7/10/08	191.63	4435.27
					11/4/08	190.25	4436.65
					2/20/09	190.70	4436.20
					4/28/09	190.98	4435.92
					8/4/09	191.77	4435.13
					10/26/09	192.14	4434.76
					2/15/10	191.78	4435.12
					4/15/10	191.64	4435.26
					7/1/10	192.53	4434.37
					10/5/10	192.96	4433.94
					2/14/11	193.14	4433.76
					5/12/11	193.68	4433.22
					7/12/11	194.47	4432.43
					12/7/11	194.92	4431.98
					2/3/12	194.65	4432.25
					4/18/12	195.00	4431.90
					7/10/12	196.10	4430.80
					10/16/12	196.53	4430.37
					2/12/13	196.45	4430.45
					5/15/13	196.90	4430.00
					8/20/13	197.43	4429.47
					11/1/13	196.53	4430.37
					2/11/14	196.18	4430.72
					5/7/14	196.33	4430.57
					8/19/14	197.40	4429.50
					11/13/14	196.32	4430.58

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-7M	908794	603099.165	3470029.283	4688.33	7/14/08	238.31	4450.02
					11/6/08	239.69	4448.64
					2/18/09	238.90	4449.43
					5/11/09	239.03	4449.30
					8/6/09	239.17	4449.16
					10/27/09	239.55	4448.78
					2/17/10	239.98	4448.35
					4/15/10	240.13	4448.20
					7/6/10	240.28	4448.05
					2/14/11	241.26	4447.07
					7/15/11	241.81	4446.52
					1/30/12	242.44	4445.89
					7/11/12	243.0	4445.33
					2/15/13	243.8	4444.53
					8/28/13	244.32	4444.01
					2/13/14	244.31	4444.02
					7/22/14	244.66	4443.67
BMO-2008-8B	910097	604171.347	3471141.719	4753.25	12/5/08	297.94	4455.31
					2/19/09	297.63	4455.62
					5/5/09	297.37	4455.88
					8/10/09	297.53	4455.72
					11/9/09	297.85	4455.40
					3/3/10	298.37	4454.88
					4/16/10	298.46	4454.79
					7/1/10	298.64	4454.61
					2/11/11	299.56	4453.69
					5/13/11	299.78	4453.47
					7/15/11	300.00	4453.25
					1/30/12	300.52	4452.73
					7/12/12	301.15	4452.10
					2/13/13	302.05	4451.20
					8/12/13	302.48	4450.77
					7/24/14	301.86	4451.39
BMO-2008-8M	909711	604167.912	3471127.902	4752.45	12/9/08	299.79	4452.66
					2/19/09	298.32	4454.13
					5/5/09	298.27	4454.18
					8/10/09	298.57	4453.88
					11/5/09	298.81	4453.64
					3/3/10	299.18	4453.27
					4/16/10	299.42	4453.03
					7/1/10	299.70	4452.75
					1/24/11	300.46	4451.99
					5/13/11	301.00	4451.45
					7/15/11	300.96	4451.49
					1/30/12	301.60	4450.85
					7/12/12	302.45	4450.00
					2/14/13	303.07	4449.38
					8/12/13	303.60	4448.85
					2/19/14	303.11	4449.34
					7/24/14	303.48	4448.97

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-9M	909255	604668.669	3471121.675	4762.61	8/8/08	287.17	4475.44
					11/5/08	287.65	4474.96
					2/26/09	285.65	4476.96
					5/12/09	285.28	4477.33
					8/17/09	286.09	4476.52
					11/3/09	286.55	4476.06
					3/4/10	287.45	4475.16
					4/6/10	287.81	4474.80
					7/1/10	288.26	4474.35
					2/10/11	289.77	4472.84
					5/13/11	290.47	4472.14
					7/15/11	290.95	4471.66
					2/1/12	293.44	4469.17
					7/12/12	294.65	4467.96
					2/13/13	296.67	4465.94
					8/12/13	297.63	4464.98
					2/18/14	293.68	4468.93
					7/24/14	293.53	4469.08
BMO-2008-10GL	909435	605264.072	3471702.043	4792.21	8/20/08	521.75	4270.46
					11/5/08	520.50	4271.71
					2/25/09	516.72	4275.49
					5/12/09	514.68	4277.53
					8/11/09	513.23	4278.98
					11/2/09	509.43	4282.78
					3/4/10	510.88	4281.33
					4/8/10	506.31	4285.90
					7/2/10	511.80	4280.41
					7/13/11	512.16	4280.05
					2/2/12	511.34	4280.87
					7/13/12	510.90	4281.31
					2/18/13	509.91	4282.30
					8/13/13	509.32	4282.89
					8/7/14	507.21	4285.00
BMO-2008-10GU	909272	605267.551	3471731.866	4793.45	8/4/08	299.28	4494.17
					11/5/08	295.89	4497.56
					2/25/09	289.84	4503.61
					5/6/09	289.35	4504.10
					8/11/09	289.09	4504.36
					11/2/09	289.77	4503.68
					3/10/10	289.58	4503.87
					4/7/10	289.5	4503.95
					7/6/10	288.93	4504.52
					7/13/11	301.02	4492.43
					2/1/12	326.51	4466.94
					7/13/12	328.7	4464.75
					8/19/13	283.97	4509.48

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2008-11G	909434	603800.995	3472626.482	4844.67	8/22/08	577.76	4266.91
					11/12/08	576.80	4267.87
					2/26/09	575.91	4268.76
					4/8/09	575.46	4269.21
					8/12/09	574.84	4269.83
					11/9/09	573.41	4271.26
					3/1/10	573.68	4270.99
					4/9/10	573.56	4271.11
					7/1/10	572.97	4271.70
					2/10/11	571.61	4273.06
					7/22/11	571.20	4273.47
					1/31/12	569.83	4274.84
					8/14/12	569.70	4274.97
					2/13/13	568.75	4275.92
					8/27/13	566.50	4278.17
					2/19/14	564.68	4279.99
					8/14/14	564.24	4280.43
BMO-2008-13B	909551	601657.612	3470076.358	4649.21	10/3/08	206.42	4442.79
					2/17/09	206.11	4443.10
					5/6/09	206.32	4442.89
					8/5/09	206.79	4442.42
					10/28/09	207.08	4442.13
					2/16/10	207.26	4441.95
					4/14/10	207.27	4441.94
					7/6/10	207.68	4441.53
					2/10/11	208.51	4440.70
					5/13/11	208.95	4440.26
					7/15/11	209.36	4439.85
					2/9/12	209.78	4439.43
					7/11/12	210.60	4438.61
					2/27/13	211.40	4437.81
					9/4/13	212.15	4437.06
					8/19/14	212.68	4436.53
BMO-2008-13M	909760	601650.495	3470040.455	4647.15	12/3/08	206.00	4441.15
					2/17/09	208.74	4438.41
					4/29/09	208.53	4438.62
					8/5/09	208.85	4438.30
					10/28/09	208.91	4438.24
					2/16/10	209.16	4437.99
					4/13/10	209.20	4437.95
					7/2/10	209.30	4437.85
					2/10/11	210.36	4436.79
					5/13/11	210.50	4436.65
					7/15/11	210.67	4436.48
					2/6/12	210.90	4436.25
					8/13/12	211.42	4435.73
					2/15/13	212.13	4435.02
					9/6/13	212.52	4434.63
					8/20/14	213.14	4434.01

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2010-1M	219957	605581.263	3469935.750	4718.55	9/7/10	224.13	4494.42
					11/10/10	222.97	4495.58
					2/11/11	222.01	4496.54
					5/12/11	223.08	4495.47
					8/31/11	224.38	4494.17
					12/13/11	222.86	4495.69
					2/8/12	222.97	4495.58
					4/24/12	223.87	4494.68
					7/9/12	225.05	4493.50
					10/17/12	225.63	4492.92
					2/13/13	226.85	4491.70
					5/8/13	227.45	4491.10
					8/15/13	228.10	4490.45
					11/4/13	224.41	4494.14
					2/12/14	222.90	4495.65
					6/2/14	222.80	4495.75
					8/4/14	223.14	4495.41
					11/12/14	219.47	4499.08
BMO-2010-2M	219958	605685.549	3470564.646	4746.16	9/7/10	264.13	4482.03
					11/11/10	263.94	4482.22
					2/10/11	264.13	4482.03
					5/13/11	266.97	4479.19
					7/14/11	268.05	4478.11
					12/13/11	270.98	4475.18
					1/30/12	271.50	4474.66
					4/18/12	272.31	4473.85
					7/9/12	273.20	4472.96
					10/17/12	274.27	4471.89
					2/13/13	275.52	4470.64
					5/8/13	276.05	4470.11
					8/15/13	278.76	4467.40
					11/4/13	273.26	4472.90
					2/12/14	271.44	4474.72
					5/8/14	270.65	4475.51
					8/14/14	270.78	4475.38
					11/12/14	263.19	4482.97

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BMO-2010-3B	219970	599977.962	3468347.363	4550.59	7/28/10	115.38	4435.21
					11/10/10	115.80	4434.79
					1/20/11	115.46	4435.13
					4/7/11	116.11	4434.48
					7/13/11	117.30	4433.29
					10/13/11	117.72	4432.87
					2/2/12	117.18	4433.41
					4/24/12	117.92	4432.67
					7/5/12	118.84	4431.75
					10/18/12	119.13	4431.46
					1/16/13	118.89	4431.70
					4/16/13	119.36	4431.23
					7/23/13	120.02	4430.57
					10/8/13	119.63	4430.96
					1/15/14	118.96	4431.63
					5/13/14	119.40	4431.19
					7/15/14	120.06	4430.53
					10/14/14	119.16	4431.43
BMO-2010-3M	219969	599970.801	3468353.543	4550.53	7/30/10	118.63	4431.90
					11/10/10	118.75	4431.78
					1/20/11	118.32	4432.21
					4/7/11	119.09	4431.44
					8/25/11	120.74	4429.79
					10/13/11	120.67	4429.86
					2/2/12	119.91	4430.62
					4/24/12	120.93	4429.60
					7/5/12	122.05	4428.48
					10/18/12	122.06	4428.47
					1/16/13	121.86	4428.67
					4/16/13	122.26	4428.27
					7/23/13	122.97	4427.56
					10/8/13	121.91	4428.62
					1/15/14	120.91	4429.62
					5/13/14	121.90	4428.63
					7/15/14	121.92	4428.61
					10/14/14	121.87	4428.66
BMO-2014-1BL	917393	600563.194	3468234.798	4558.45	11/7/14	123.03	4435.42
BMO-2014-1BU	917394	600570.805	3468231.440	4558.54	11/13/14	123.51	4435.03
BMO-2014-2BL	917452	600784.872	3468183.921	4561.80	11/20/14	126.15	4435.65
BMO-2014-2BU	917453	600788.520	3468192.762	4561.85	12/1/14	126.73	4435.12
BMO-2012-1M	221388	606097.384	3469746.747	4719.76	11/13/12	231.90	4487.86
					2/27/13	233.20	4486.56
					5/8/13	233.97	4485.79
					8/14/13	233.96	4485.80
					11/1/13	230.44	4489.32
					2/13/14	229.85	4489.91
					5/8/14	229.89	4489.87
					7/22/14	229.94	4489.82
					11/13/14	225.37	4494.39
BOOTH	914931	601132.466	3468049.945	4568.21	1/15/13	131.47	4436.74
					4/19/13	132.04	4436.17
					10/18/13	132.56	4435.65

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
BURKE	212268	602230.087	3473029.816	4856.30	4/22/08	606.55	4249.75
					8/5/08	605.86	4250.44
					10/28/08	604.88	4251.42
					2/19/09	603.91	4252.39
					4/28/09	603.70	4252.60
					8/19/09	602.66	4253.64
					10/10/13	601.06	4255.24
					1/8/14	592.90	4263.40
					4/16/14	592.51	4263.79
					7/21/14	592.35	4263.95
					10/21/14	594.68	4261.62
COB MW-1	903992	603153.259	3469889.889	4683.26	2/22/08	232.47	4450.79
					5/20/08	233.12	4450.14
					7/30/08	233.37	4449.89
					10/23/08	233.62	4449.64
					2/12/09	234.05	4449.21
					4/21/09	234.99	4448.27
					7/22/09	234.34	4448.92
					10/22/09	234.69	4448.57
					2/4/10	235.15	4448.11
					4/20/10	235.47	4447.79
					7/13/10	235.68	4447.58
					7/14/11	236.98	4446.28
					7/12/12	238.24	4445.02
					2/5/13	239.11	4444.15
					7/11/13	239.67	4443.59
					7/9/14	240.03	4443.23
COB MW-2	903984	600973.257	3468114.836	4566.21	2/22/08	122.85	4443.36
					5/20/08	123.00	4443.21
					7/30/08	123.53	4442.68
					10/23/08	124.02	4442.19
					2/12/09	123.39	4442.82
					4/23/09	124.16	4442.05
					7/22/09	124.91	4441.30
					10/22/09	125.33	4440.88
					3/3/10	124.93	4441.28
					4/26/10	125.47	4440.74
					7/13/10	126.54	4439.67
					1/20/11	126.46	4439.75
					7/14/11	128.17	4438.04
					1/31/12	128.04	4438.17
					7/12/12	129.58	4436.63
					1/9/13	129.28	4436.93
					7/25/13	130.21	4436.00
					1/6/14	130.11	4436.10
					7/9/14	131.32	4434.89

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
COB MW-3	906823	599169.225	3468726.000	4538.63	2/28/08	120.84	4417.79
					5/20/08	125.00	4413.63
					7/30/08	118.50	4420.13
					10/23/08	117.93	4420.70
					2/12/09	110.91	4427.72
					4/23/09	125.13	4413.50
					7/22/09	124.09	4414.54
					10/22/09	118.03	4420.60
					3/3/10	120.14	4418.49
					4/26/10	123.12	4415.51
					7/13/10	128.60	4410.03
					7/14/11	132.41	4406.22
					7/12/12	133.89	4404.74
					2/5/13	123.68	4414.95
					7/25/13	129.05	4409.58
					1/6/14	127.52	4411.11
					7/9/14	124.19	4414.44
COB WL	593116	606357.506	3472502.012	4832.06	2/22/08	56.50	4775.56
					5/20/08	57.50	4774.56
					7/30/08	58.64	4773.42
					10/23/08	58.76	4773.30
					2/12/09	58.89	4773.17
					4/23/09	59.73	4772.33
					7/22/09	61.27	4770.79
					10/22/09	62.82	4769.24
					3/3/10	65.24	4766.82
					4/26/10	66.13	4765.93
					7/13/10	67.52	4764.54
					7/14/11	73.86	4758.20
					7/12/12	78.85	4753.21
					2/5/13	82.41	4749.65
					7/25/13	81.36	4750.70
					7/9/14	78.12	4753.94
COLLINS	565260	602551.286	3471341.335	4733.72	2/12/08	289.47	4444.25
					5/29/08	288.53	4445.19
					7/31/08	290.08	4443.64
					10/20/08	290.15	4443.57
					4/21/09	290.66	4443.06
					7/20/09	290.78	4442.94
					10/20/09	290.52	4443.20
					2/2/10	291.64	4442.08
					4/23/10	291.96	4441.76
					7/20/10	292.21	4441.51

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
COOPER C	637069	601349.987	3468913.011	4599.14	3/4/08	155.08	4444.06
					5/5/08	155.34	4443.80
					7/15/08	156.01	4443.13
					10/16/08	155.85	4443.29
					1/27/09	155.62	4443.52
					4/14/09	155.86	4443.28
					7/14/09	156.50	4442.64
					10/12/09	156.89	4442.25
					1/27/10	157.03	4442.11
					4/22/10	157.31	4441.83
					7/21/10	158.00	4441.14
					10/20/10	158.41	4440.73
					1/17/11	158.37	4440.77
					4/11/11	158.74	4440.40
					8/26/11	159.51	4439.63
					10/13/11	159.81	4439.33
					2/1/12	159.80	4439.34
					4/25/12	160.26	4438.88
					7/12/12	160.88	4438.26
					10/10/12	161.10	4438.04
					2/27/13	161.40	4437.74
					5/8/13	161.70	4437.44
					8/13/13	162.07	4437.07
					11/1/13	162.23	4436.91
					2/10/14	161.90	4437.24
					5/7/14	162.63	4436.51
					7/21/14	162.67	4436.47
					11/13/14	162.48	4436.66

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
DODSON	644927	605594.560	3469063.772	4686.34	5/12/08	81.38	4604.96
					7/24/08	82.20	4604.14
					10/13/08	81.82	4604.52
					1/22/09	82.33	4604.01
					4/9/09	82.84	4603.50
					7/8/09	86.88	4599.46
					10/6/09	87.27	4599.07
					1/21/10	88.54	4597.80
					4/19/10	89.53	4596.81
					7/20/10	90.79	4595.55
					10/18/10	90.33	4596.01
					1/19/11	90.34	4596.00
					4/5/11	91.05	4595.29
					7/12/11	92.07	4594.27
					10/10/11	93.11	4593.23
					1/31/12	93.68	4592.66
					4/12/12	94.19	4592.15
					10/4/12	97.80	4588.54
					1/18/13	99.73	4586.61
					4/9/13	98.09	4588.25
					7/9/13	98.38	4587.96
					10/9/13	92.69	4593.65
					1/9/14	93.21	4593.13
					4/15/14	94.64	4591.70
					7/14/14	95.43	4590.91
					10/16/14	97.22	4589.12
DOUGLASS 791	592791	607632.993	3470222.677	4703.27	2/13/08	22.11	4681.16
					5/13/08	24.60	4678.67
					7/22/08	27.00	4676.27
					10/16/08	23.60	4679.67
					1/19/09	26.51	4676.76
					4/8/09	28.53	4674.74
					7/7/09	31.04	4672.23
					10/5/09	31.49	4671.78
					1/21/10	34.55	4668.72
					4/19/10	36.40	4666.87
					7/12/10	36.74	4666.53
					1/18/11	25.96	4677.31
					1/30/12	27.72	4675.55
					4/11/12	29.99	4673.28
					7/5/12	32.67	4670.60
					1/9/13	27.24	4676.03
					7/8/13	32.70	4670.57
					1/6/14	23.56	4679.71
					7/7/14	28.22	4675.05

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
DOUGLASS 792	592792	607607.541	3469829.115	4681.73	2/13/08	87.76	4593.97
					5/13/08	87.21	4594.52
					7/22/08	86.90	4594.83
					10/16/08	86.45	4595.28
					1/20/09	86.26	4595.47
					4/8/09	86.04	4595.69
					7/7/09	86.16	4595.57
					10/5/09	86.19	4595.54
					1/21/10	86.45	4595.28
					4/19/10	87.19	4594.54
					7/12/10	87.55	4594.18
					1/18/11	87.8	4593.93
					7/12/11	88.38	4593.35
					1/30/12	88.92	4592.81
					4/11/12	89.18	4592.55
					7/5/12	95.64	4586.09
					1/9/13	82.60	4599.13
					7/8/13	83.66	4598.07
					1/6/14	83.55	4598.18
					7/7/14	82.43	4599.30
EAST	599796	607076.365	3468712.215	4626.01	2/8/08	50.20	4575.81
					5/14/08	52.45	4573.56
					7/23/08	52.16	4573.85
					10/14/08	52.19	4573.82
					1/20/09	50.52	4575.49
					4/8/09	51.91	4574.10
					7/13/09	56.93	4569.08
					10/8/09	60.95	4565.06
					1/25/10	59.35	4566.66
					4/21/10	58.88	4567.13
					7/14/10	61.86	4564.15
					10/20/10	61.20	4564.81
					1/18/11	59.79	4566.22
					4/5/11	59.73	4566.28
					7/12/11	63.79	4562.22
					10/12/11	63.64	4562.37
					1/31/12	63.82	4562.19
					4/11/12	65.72	4560.29
					7/9/12	70.50	4555.51
					10/4/12	73.34	4552.67
					1/17/13	75.04	4550.97
					4/9/13	78.05	4547.96
					7/9/13	78.37	4547.64
					10/15/13	72.38	4553.63
					1/14/14	71.88	4554.13
					4/8/14	71.03	4554.98
					7/8/14	72.03	4553.98
					10/22/14	67.75	4558.26
ECHAVE	219449	599701	3470168	4648	2/1/12	216.71	4431.29
					1/18/13	218.41	4429.59

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
EPPELE 641	805641	607165.354	3469229.942	4642.86	3/11/08	29.52	4613.34
					5/12/08	30.64	4612.22
					7/21/08	25.59	4617.27
					10/14/08	24.53	4618.33
					1/21/09	27.35	4615.51
					4/8/09	29.08	4613.78
					7/9/09	31.51	4611.35
					10/7/09	29.92	4612.94
					7/20/10	50.38	4592.48
					10/20/10	48.88	4593.98
					1/17/11	51.13	4591.73
					4/5/11	53.81	4589.05
					7/11/11	56.82	4586.04
					10/12/11	37.62	4605.24
					1/31/12	46.80	4596.06
					4/11/12	52.07	4590.79
					7/6/12	62.39	4580.47
					10/3/12	71.66	4571.20
					1/17/13	59.73	4583.13
					4/8/13	83.98	4558.88
					7/9/13	92.84	4550.02
					10/15/13	28.50	4614.36
					1/14/14	49.32	4593.54
					4/8/14	52.03	4590.83
					7/8/14	66.62	4576.24
					10/21/14	24.56	4618.30
FLEMING	218386	605565.701	3469342.523	4693.68	2/18/09	299.30	4394.38
					4/8/09	301.81	4391.87
					7/7/09	304.60	4389.08
					10/6/09	307.84	4385.84
					1/21/10	311.73	4381.95
					4/20/10	315.26	4378.42
					7/15/10	318.32	4375.36
					11/4/10	349.62	4344.06
					1/19/11	356.89	4336.79
					7/12/11	364.72	4328.96
					2/3/12	370.84	4322.84
					7/9/12	373.86	4319.82
					1/18/13	373.96	4319.72
					7/17/13	374.88	4318.80
					1/10/14	379.63	4314.05
					7/17/14	372.97	4320.71
FRANCO 101	500101	602848.756	3468830.905	4636.75	4/10/13	196.05	4440.70
					7/10/13	196.19	4440.56
					10/16/13	196.65	4440.10
					1/14/14	196.77	4439.98
					4/8/14	196.86	4439.89
					7/14/14	197.08	4439.67
					10/8/14	197.91	4438.84

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
FRANCO 383	221383	602817.854	3468831.563	4636.88	9/13/12	195.19	4441.69
					10/5/12	195.00	4441.88
					12/3/12	196.70	4440.18
					1/15/13	196.30	4440.58
					2/6/13	195.62	4441.26
					3/7/13	196.20	4440.68
					4/10/13	196.25	4440.63
					7/10/13	196.13	4440.75
					10/16/13	196.30	4440.58
					1/14/14	196.46	4440.42
					4/8/14	196.89	4439.99
					7/14/14	196.87	4440.01
					10/8/14	196.86	4440.02
FULTZ	212447	607153.306	3469063.892	4642.92	10/22/08	40.59	4602.33
					1/21/09	40.66	4602.26
					4/9/09	42.88	4600.04
					7/13/09	54.94	4587.98
					10/8/09	56.16	4586.76
					1/25/10	53.45	4589.47
					4/20/10	63.82	4579.10
					7/14/10	119.86	4523.06
GARNER 557	558557	602659.240	3468962.415	4638.45	2/21/08	191.05	4447.40
					5/5/08	191.28	4447.17
					7/15/08	191.44	4447.01
					10/16/08	191.83	4446.62
					1/28/09	191.92	4446.53
					4/15/09	192.09	4446.36
					7/16/09	192.52	4445.93
					10/14/09	192.82	4445.63
					2/2/10	193.33	4445.12
					4/22/10	193.49	4444.96
					7/20/10	193.93	4444.52
					10/19/10	194.29	4444.16
					1/19/11	194.61	4443.84
					4/6/11	194.86	4443.59
					7/15/11	195.25	4443.20
					10/11/11	195.72	4442.73
					2/2/12	196.09	4442.36
					4/13/12	196.30	4442.15
					7/11/12	196.72	4441.73
					10/5/12	197.08	4441.37
					1/11/13	197.51	4440.94
					4/15/13	197.76	4440.69
					7/10/13	197.87	4440.58
					10/11/13	198.27	4440.18
					1/17/14	198.46	4439.99
					4/15/14	198.58	4439.87

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
GARNER 635	587635	602665.352	3468967.902	4640.74	2/4/08	193.20	4447.54
					5/5/08	195.90	4444.84
					7/15/08	193.58	4447.16
					10/15/08	194.35	4446.39
					1/28/09	194.80	4445.94
					4/15/09	195.54	4445.20
					7/16/09	194.88	4445.86
					10/14/09	196.36	4444.38
					2/2/10	195.32	4445.42
					4/22/10	196.01	4444.73
					8/25/10	195.57	4445.17
					10/19/10	225.83	4414.91
					1/19/11	196.89	4443.85
					4/6/11	197.40	4443.34
					7/15/11	198.07	4442.67
					10/11/11	197.75	4442.99
					2/2/12	199.50	4441.24
					4/13/12	200.40	4440.34
					7/11/12	199.15	4441.59
					10/5/12	202.71	4438.03
					1/11/13	199.38	4441.36
					4/15/13	200.53	4440.21
					7/10/13	200.13	4440.61
					10/11/13	200.27	4440.47
					1/17/14	201.83	4438.91
					4/15/14	200.67	4440.07
GGOOSE 547	628547	606256.657	3469820.260	4717.11	5/21/08	220.91	4496.20
					8/15/08	238.48	4478.63
					10/29/08	235.90	4481.21
					2/24/09	236.13	4480.98
					5/14/09	236.17	4480.94
					8/19/09	236.01	4481.10
					8/19/09	236.01	4481.10
					11/11/09	237.66	4479.45
					3/9/10	238.84	4478.27
					4/27/10	239.17	4477.94
GL-03	539782	604386.940	3473747.943	4924.31	5/22/08	660.15	4264.16
					8/4/08	659.79	4264.52
					12/2/08	658.25	4266.06
					2/26/09	658.62	4265.69
					5/5/09	657.23	4267.08
					8/12/09	656.56	4267.75
					8/12/09	656.56	4267.75
					11/10/09	655.31	4269.00
					3/2/10	655.52	4268.79
					4/9/10	655.35	4268.96
					7/7/10	655.05	4269.26
					2/1/12	651.72	4272.59

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
GOAR RANCH	610695	602454.751	3468892.471	4631.13	2/21/08	183.90	4447.23
					5/5/08	188.11	4443.02
					7/16/08	184.41	4446.72
					10/22/08	184.68	4446.45
					1/27/09	184.87	4446.26
					4/15/09	184.96	4446.17
					7/7/09	185.36	4445.77
					10/12/09	185.72	4445.41
					2/2/10	186.25	4444.88
					4/22/10	186.44	4444.69
					7/13/10	186.76	4444.37
					1/19/11	187.52	4443.61
					7/12/11	188.24	4442.89
					2/6/12	189.02	4442.11
					9/13/12	190.08	4441.05
					1/11/13	190.48	4440.65
					9/18/13	191.21	4439.92
					1/17/14	191.48	4439.65
					7/21/14	191.73	4439.40
HOBAN	805290	601705.848	3468880.329	4607.60	2/27/08	163.05	4444.55
					5/7/08	163.28	4444.32
					7/14/08	163.87	4443.73
					10/16/08	163.95	4443.65
					1/28/09	163.82	4443.78
					4/15/09	164.16	4443.44
					7/14/09	164.59	4443.01
					10/15/09	165.00	4442.60
					3/2/10	165.32	4442.28
					5/18/10	165.71	4441.89
					7/20/10	166.17	4441.43
					10/19/10	166.45	4441.15
					8/31/11	167.76	4439.84
					12/14/11	168.13	4439.47
					2/1/12	168.09	4439.51
					4/19/12	168.32	4439.28
					7/11/12	169.10	4438.50
					10/17/12	169.40	4438.20
					2/15/13	169.70	4437.90
					5/8/13	169.95	4437.65
					8/13/13	170.31	4437.29
					11/1/13	170.54	4437.06
					2/10/14	170.22	4437.38
					5/7/14	170.61	4436.99
					7/21/14	170.90	4436.70
					11/13/14	170.81	4436.79

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
HOWARD 312	221312	601308.920	3468772.630	4594.9356	8/14/12	188.36	4406.58
					10/16/12	193.33	4401.61
					2/6/13	193.74	4401.20
					4/9/13	195.30	4399.64
					7/12/13	198.27	4396.67
					10/16/13	201.08	4393.86
					1/8/14	202.61	4392.33
					4/10/14	204.64	4390.30
					7/14/14	206.97	4387.97
					10/10/14	206.36	4388.58
HOWARD NR	NR	601281.159	3468770.377	4593.91	3/4/08	150.10	4443.81
					5/8/08	150.70	4443.21
					7/14/08	150.91	4443.00
					10/15/08	150.67	4443.24
					1/28/09	150.67	4443.24
					4/15/09	151.15	4442.76
					7/15/09	151.76	4442.15
					10/12/09	152.08	4441.83
					1/27/10	152.20	4441.71
					4/21/10	152.30	4441.61
					7/19/10	153.16	4440.75
					10/18/10	153.53	4440.38
					1/17/11	153.51	4440.40
					4/11/11	154.24	4439.67
					8/26/11	154.79	4439.12
					10/11/11	155.02	4438.89
					2/1/12	155.08	4438.83
					4/13/12	155.40	4438.51
					9/13/12	156.29	4437.62
					10/16/12	156.43	4437.48
					2/6/13	156.27	4437.64
					4/9/13	156.71	4437.20
					7/12/13	157.18	4436.73
					10/16/13	157.52	4436.39
					1/8/14	157.16	4436.75
					4/10/14	157.55	4436.36
					7/14/14	157.92	4435.99
					10/10/14	157.68	4436.23

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
KEEFER	209744	599879.175	3468119.015	4572.03	2/6/08	134.67	4437.36
					5/6/08	135.28	4436.75
					7/16/08	136.24	4435.79
					10/28/08	135.87	4436.16
					1/28/09	134.88	4437.15
					4/16/09	135.00	4437.03
					7/14/09	136.07	4435.96
					10/13/09	136.67	4435.36
					1/26/10	136.26	4435.77
					4/20/10	136.26	4435.77
					7/15/10	137.29	4434.74
					10/19/10	137.68	4434.35
					1/18/11	137.42	4434.61
					4/6/11	137.91	4434.12
					7/18/11	140.39	4431.64
					10/11/11	141.68	4430.35
					2/6/12	139.27	4432.76
					4/23/12	139.76	4432.27
					7/17/12	140.69	4431.34
					10/9/12	141.00	4431.03
					1/10/13	140.80	4431.23
					4/8/13	141.32	4430.71
					7/11/13	141.81	4430.22
					10/7/13	141.63	4430.40
					1/7/14	141.10	4430.93
					4/9/14	140.91	4431.12
					7/10/14	141.97	4430.06
					10/8/14	141.45	4430.58
LADD 251	520251	594788.933	3470348.534	4443.83	3/22/13	221.32	4222.51
					6/14/13	221.78	4222.05
					9/24/13	219.6	4224.23
					12/3/13	217.44	4226.39
					2/25/14	217.59	4226.24
					6/4/14	218.27	4225.56
					9/10/14	219.04	4224.79
					11/20/14	213.58	4230.25

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
LADD 538	505538	596790.675	3469638.573	4527.05	2/9/10	253.10	4273.95
					4/28/10	253.83	4273.22
					7/28/10	254.05	4273.00
					12/8/10	252.87	4274.18
					3/17/11	252.76	4274.29
					6/24/11	288.00	4239.05
					9/29/11	276.58	4250.47
					12/16/11	250.68	4276.37
					2/15/12	253.80	4273.25
					6/11/12	258.90	4268.15
					9/26/12	255.76	4271.29
					12/19/12	249.43	4277.62
					3/22/13	250.51	4276.54
					6/27/13	270.00	4257.05
					9/24/13	250.80	4276.25
					12/3/13	251.36	4275.69
					2/25/14	253.36	4273.69
					6/4/14	259.63	4267.42
					9/10/14	248.68	4278.37
					11/20/14	268.66	4258.39
LADD 837	519837	594757.700	3470817.194	4470.11	2/9/10	262.80	4207.31
					4/28/10	262.65	4207.46
					7/28/10	265.75	4204.36
					12/8/10	262.38	4207.73
					3/17/11	262.65	4207.46
					6/24/11	262.51	4207.60
					9/29/11	262.28	4207.83
					12/16/11	264.32	4205.79
					2/15/12	262.24	4207.87
					6/11/12	264.04	4206.07
					9/26/12	261.75	4208.36
					12/19/12	261.94	4208.17
					3/27/13	266.68	4203.43
					6/14/13	261.51	4208.60
					9/24/13	261.38	4208.73
					12/3/13	260.85	4209.26
					2/25/14	261.04	4209.07
					6/4/14	262.53	4207.58
					9/10/14	263.68	4206.43
					11/20/14	261.18	4208.93

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
LADD 977	642977	597619.168	3468714.011	4513.40	3/17/11	82.32	4431.08
					6/24/11	84.00	4429.40
					9/29/11	83.62	4429.78
					12/16/11	84.8	4428.60
					2/15/12	84.67	4428.73
					6/11/12	85.7	4427.70
					9/26/12	84.96	4428.44
					12/19/12	86.27	4427.13
					3/22/13	85.18	4428.22
					6/14/13	86.54	4426.86
					9/24/13	82.66	4430.74
					12/3/13	84.48	4428.92
					2/25/14	85.27	4428.13
					6/4/14	85.88	4427.52
					9/10/14	86.15	4427.25
					11/20/14	80.95	4432.45
MCCONNELL 265	539265	601463.094	3468840.139	4600.70	2/20/08	156.15	4444.55
					5/6/08	156.40	4444.30
					7/15/08	157.07	4443.63
					11/19/08	157.17	4443.53
					1/28/09	156.70	4444.00
					4/15/09	157.22	4443.48
					7/15/09	157.59	4443.11
					10/12/09	158.13	4442.57
					1/26/10	158.35	4442.35
					4/22/10	158.68	4442.02
					7/21/10	159.37	4441.33
					10/18/10	159.63	4441.07
					1/19/11	159.69	4441.01
					4/8/11	159.10	4441.60
					7/12/11	160.77	4439.93
					10/11/11	161.17	4439.53
					2/7/12	161.31	4439.39
					4/11/12	161.57	4439.13
					7/6/12	162.36	4438.34
					10/8/12	162.43	4438.27
					1/10/13	162.57	4438.13
					4/18/13	163.08	4437.62
					10/14/13	163.61	4437.09
					1/8/14	163.42	4437.28
					4/14/14	163.79	4436.91
					7/14/14	164.03	4436.67
					10/7/14	163.89	4436.81

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
MCCONNELL 459	221459	601471.708	3468840.682	4601.55	7/27/12	170.50	4431.05
					10/8/12	166.81	4434.74
					1/15/13	166.32	4435.23
					4/10/13	166.79	4434.76
					7/19/13	167.53	4434.02
					10/14/13	167.13	4434.42
					1/8/14	167.90	4433.65
					4/14/14	167.28	4434.27
					9/9/14	167.37	4434.18
					10/7/14	167.24	4434.31
METZLER	35-71891	602091.308	3471381.176	4728.53	3/5/08	288.30	4440.23
					5/15/08	286.53	4442.00
					7/31/08	286.82	4441.71
					10/20/08	287.09	4441.44
					2/11/09	287.74	4440.79
					4/20/09	287.47	4441.06
					7/15/09	287.58	4440.95
					10/14/09	287.99	4440.54
					2/1/10	288.38	4440.15
					5/18/10	288.65	4439.88
					7/16/10	288.88	4439.65
					10/19/10	289.09	4439.44
					1/19/11	289.54	4438.99
					4/4/11	289.87	4438.66
					7/12/11	289.98	4438.55
					10/12/11	290.47	4438.06
					2/7/12	290.92	4437.61
					4/12/12	291.15	4437.38
					7/18/12	291.37	4437.16
					10/4/12	291.63	4436.90
					1/11/13	292.15	4436.38
					4/11/13	292.29	4436.24
					7/17/13	292.43	4436.10
					10/17/13	292.86	4435.67
					1/16/14	293.20	4435.33
					4/15/14	293.20	4435.33
					7/21/14	293.45	4435.08
					10/8/14	293.62	4434.91

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
NESS	509127	607866.391	3471419.494	4761.23	7/24/08	557.90	4203.33
					10/16/08	549.30	4211.93
					2/25/09	536.40	4224.83
					5/11/09	544.64	4216.59
					8/11/09	566.87	4194.36
					11/12/09	537.34	4223.89
					2/2/10	531.85	4229.38
					4/21/10	568.11	4193.12
					7/19/10	573.02	4188.21
					1/18/11	541.80	4219.43
					7/12/11	597.71	4163.52
					2/3/12	591.24	4169.99
					1/9/13	551.35	4209.88
					1/6/14	538.84	4222.39
					7/7/14	594.42	4166.81
NOTEMAN	212483	606053.800	3471576.400	4800.68	5/13/08	339.77	4460.91
					8/27/08	344.34	4456.34
					11/22/08	322.26	4478.42
					2/25/09	327.54	4473.14
NSD-02	527587	598820.051	3468821.474	4531.38	10/7/09	101.17	4430.21
					3/16/10	99.43	4431.95
					5/25/10	101.63	4429.75
					8/25/10	102.38	4429.00
					3/17/11	102.68	4428.70
					6/17/11	109.29	4422.09
					12/7/11	104.41	4426.97
					3/6/12	104.30	4427.08
					12/14/12	107.24	4424.14
					3/22/13	107.20	4424.18
					6/24/13	113.50	4417.88
					9/23/13	105.00	4426.38
					12/19/13	103.45	4427.93
					3/24/14	103.12	4428.26
					6/23/14	107.06	4424.32
					9/23/14	104.77	4426.61
					12/22/14	101.30	4430.08

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
NSD-03	527586	598070.538	3468694.259	4518.28	10/7/09	85.62	4432.66
					3/16/10	83.51	4434.77
					5/25/10	84.49	4433.79
					8/25/10	85.70	4432.58
					3/17/11	86.76	4431.52
					6/17/11	88.76	4429.52
					12/7/11	89.30	4428.98
					3/6/12	89.24	4429.04
					12/14/12	90.83	4427.45
					3/22/13	88.65	4429.63
					6/24/13	91.70	4426.58
					9/23/13	86.88	4431.40
					12/19/13	89.11	4429.17
					3/24/14	89.48	4428.80
					6/23/14	90.77	4427.51
					9/23/14	89.10	4429.18
					12/22/14	86.80	4431.48
NWC-02	562944	600177.435	3467474.673	4600.44	10/27/08	160.51	4439.93
					4/29/09[2]	160.5	4439.94
					9/10/09[2]	155	4445.44
					4/2010[2]	131	4469.44
					3/1/2013[2]	131	4469.44
NWC-03	203321	601153.857	3468350.838	4574.99	11/3/08	131.48	4443.51
					4/29/09[2]	130	4444.99
					9/10/09[2]	126	4448.99
					10/9/09[5]	125	4449.99
NWC-03 CAP	627684	601151.704	3468343.653	4572.82	2/2/09	130.03	4442.79
					4/23/09	130.62	4442.20
					7/21/09	131.26	4441.56
					10/21/09	131.60	4441.22
					2/3/10	131.34	4441.48
					4/21/10	131.86	4440.96
					7/20/10	131.50	4441.32
					1/18/11	132.91	4439.91
					7/15/11	134.42	4438.40
					10/13/11	134.73	4438.09
					1/31/12	134.50	4438.32
					4/25/12	135.09	4437.73
					7/18/12	135.73	4437.09
					10/10/12	135.97	4436.85
					1/10/13	135.60	4437.22
					4/17/13	136.32	4436.50
					7/12/13	136.78	4436.04
					10/10/13	136.78	4436.04
					1/13/14	136.43	4436.39
					4/7/14	136.93	4435.89
					7/10/14	137.30	4435.52
NWC-04	551849	605829.808	3469071.959	4690.77	12/2/08	352.11	4338.66
					4/29/09[2]	328	4362.77
					9/10/09[2]	324	4366.77
					4/2010[2]	216	4474.77
					3/1/2013[2]	216	4474.77

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
NWC-06	575700	599822.821	3467749.954	4592.50	4/29/09[2]	156	4436.50
					9/10/09[2]	155	4437.50
					10/9/09[2]	148	4444.50
					4/2010[2]	140	4452.50
					3/1/13[2]	140	4452.50
OSBORN	643436	607031.823	3470270.548	4711.95	5/13/08	68.65	4643.30
					8/5/08	69.53	4642.42
					10/16/08	69.83	4642.12
					1/20/09	69.23	4642.72
					4/7/09	69.60	4642.35
					7/8/09	96.61	4615.34
					10/5/09	75.09	4636.86
					1/21/10	75.37	4636.58
					4/19/10	81.59	4630.36
					7/12/10	83.00	4628.95
					7/12/11	74.60	4637.35
					2/3/12	74.57	4637.38
					7/9/12	74.63	4637.32
PANAGAKOS	35-76413	605304.234	3469323.140	4691.40	1/22/09	155.28	4536.12
					4/9/09	156.15	4535.25
					7/9/09	161.61	4529.79
					10/6/09	167.20	4524.20
					1/21/10	166.92	4524.48
					4/20/10	167.11	4524.29
					7/20/10	171.78	4519.62
					10/18/10	176.39	4515.01
					7/14/11	173.78	4517.62
					8/25/11	172.89	4518.51
					2/6/12	169.09	4522.31
					2/29/12	169.32	4522.08
					3/15/12	169.64	4521.76
					4/12/12	168.85	4522.55
					7/9/12	170.38	4521.02
					11/27/12	169.82	4521.58
					1/18/13	169.12	4522.28
					2/6/13	168.76	4522.64
					4/9/13	167.79	4523.61
					7/10/13	168.51	4522.89
					10/15/13	164.49	4526.91
					1/10/14	160.32	4531.08
					4/16/14	158.75	4532.65
					7/17/14	159.69	4531.71
					10/16/14	159.28	4532.12
PARRA	576415	602170.716	3471263.549	4727.21	5/15/08	279.78	4447.43
					8/18/08	280.06	4447.15
					11/3/08	280.39	4446.82
					2/13/09	280.75	4446.46
					4/28/09	280.88	4446.33
					7/20/09	280.99	4446.22

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
PIONKE 395	613395	601045.471	3468960.981	4592.13	7/17/08	149.88	4442.25
					11/3/08	150.99	4441.14
					2/25/09	149.68	4442.45
					4/14/09	150.01	4442.12
					7/13/09	150.47	4441.66
					10/7/09	150.96	4441.17
					3/8/10	151.11	4441.02
					4/26/10	151.32	4440.81
					7/15/10	151.90	4440.23
					10/18/10	152.38	4439.75
					1/19/11	152.38	4439.75
					4/8/11	153.04	4439.09
					7/12/11	153.57	4438.56
					10/11/11	153.87	4438.26
					2/1/12	153.92	4438.21
					4/12/12	154.35	4437.78
					7/11/12	154.97	4437.16
					10/17/12	155.31	4436.82
					1/9/13	155.25	4436.88
					4/17/13	155.76	4436.37
					7/18/13	156.09	4436.04
					10/17/13	156.39	4435.74
					2/5/14	155.84	4436.29
					4/9/14	156.21	4435.92
					7/11/14	156.66	4435.47
					10/7/14	156.47	4435.66
PIONKE 517	221517	600909.967	3468866.654	4587.20792	9/18/12	152.00	4435.21
					10/11/12	152.15	4435.06
					1/9/13	152.23	4434.98
					4/17/13	152.58	4434.63
					7/16/13	153.11	4434.10
					10/17/13	153.27	4433.94
					3/5/14	153.24	4433.97
					4/9/14	153.07	4434.14
					7/11/14	153.56	4433.65
					10/7/14	153.31	4433.90
POOL	509518	599683.603	3470013.823	4639.09	2/20/08	204.22	4434.87
					5/19/08	204.72	4434.37
					7/31/08	205.56	4433.53
					10/21/08	205.06	4434.03
					2/13/09	204.74	4434.35
					4/21/09	204.87	4434.22
					7/20/09	205.69	4433.40
					10/20/09	206.06	4433.03
					2/24/10	205.59	4433.50
					4/22/10	205.48	4433.61
					7/14/10	206.58	4432.51
					10/20/10	206.74	4432.35

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
POWER 639	222639	602146.123	3471373.655	4734.38	1/16/14	294.07	4440.31
					2/5/14	294.07	4440.31
					3/5/14	294.20	4440.18
					4/15/14	294.14	4440.24
					5/13/14	294.25	4440.13
					6/23/14	294.28	4440.10
					7/17/14	294.32	4440.06
					8/11/14	294.44	4439.94
					9/9/14	294.47	4439.91
					10/8/14	294.49	4439.89
RAMIREZ	216425	599730.649	3467584.363	4596.61	10/27/08	159.45	4437.16
					1/29/09	158.74	4437.87
					4/16/09	158.66	4437.95
					7/10/09	159.64	4436.97
					10/6/09	160.36	4436.25
					1/25/10	160.10	4436.51
					4/21/10	159.96	4436.65
					7/21/10	161.05	4435.56
					10/19/10	161.23	4435.38
					1/18/11	161.22	4435.39
					4/11/11	161.48	4435.13
					7/18/11	162.39	4434.22
					10/12/11	163.04	4433.57
					4/10/12	163.22	4433.39
					7/6/12	163.85	4432.76
					10/8/12	164.38	4432.23
					4/19/13	164.96	4431.65
					1/13/14	165.26	4431.35
					4/14/14	164.85	4431.76

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
RAY	803772	607083.422	3469195.147	4647.91	2/15/08	40.85	4607.06
					5/13/08	43.82	4604.09
					7/29/08	45.25	4602.66
					10/22/08	44.54	4603.37
					1/20/09	44.31	4603.60
					4/8/09	44.68	4603.23
					7/9/09	48.99	4598.92
					10/7/09	49.87	4598.04
					1/26/10	47.61	4600.30
					4/20/10	49.78	4598.13
					7/14/10	51.36	4596.55
					10/20/10	49.85	4598.06
					1/17/11	50.51	4597.40
					4/5/11	51.84	4596.07
					7/11/11	55.74	4592.17
					10/12/11	53.63	4594.28
					1/31/12	53.21	4594.70
					4/11/12	54.50	4593.41
					7/6/12	58.75	4589.16
					10/3/12	60.98	4586.93
					1/17/13	56.57	4591.34
					4/18/13	56.32	4591.59
					7/9/13	60.30	4587.61
					10/15/13	44.33	4603.58
					1/14/14	34.50	4613.41
					4/8/14	36.72	4611.19
					7/8/14	43.38	4604.53
					10/22/14	44.65	4603.26
ROGERS 596	573596	601001.503	3468491.639	4577.35	11/11/09	135.46	4441.89
					2/25/10	135.89	4441.46
					4/22/10	135.62	4441.73
					7/16/10	136.63	4440.72
					10/19/10	136.61	4440.74
					1/20/11	134.21	4443.14
					4/8/11	137.68	4439.67
					7/14/11	138.09	4439.26
					10/12/11	138.09	4439.26
					1/30/12	137.91	4439.44
					4/23/12	138.61	4438.74
					7/13/12	139.65	4437.70
					10/10/12	139.55	4437.80
					1/15/13	139.23	4438.12
					4/15/13	139.97	4437.38
					7/15/13	139.94	4437.41
					10/16/13	140.50	4436.85
					1/9/14	140.12	4437.23
					4/11/14	140.56	4436.79
					7/18/14	140.64	4436.71

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
ROGERS 750[3]	641750	600977.690	3468417.386	4579.02	2/7/08	129.85	4449.17
					7/29/08	131.86	4447.16
					10/22/08	132.08	4446.94
					2/10/09	130.62	4448.40
					4/29/09	131.33	4447.69
					8/3/09	135.07	4443.95
ROGERS E	216018	600449.648	3467636.029	4590.66	7/17/08	149.65	4441.01
					11/3/08	150.15	4440.51
					2/10/09	149.02	4441.64
					4/16/09	149.53	4441.13
					7/13/09	150.31	4440.35
					10/6/09	150.76	4439.90
					1/25/10	150.64	4440.02
					4/21/10	150.97	4439.69
					8/25/10	151.15	4439.51
					10/19/10	151.57	4439.09
					10/13/11	153.79	4436.87
					1/30/12	153.56	4437.10
					4/10/12	154.13	4436.53
					7/17/12	155.10	4435.56
					1/17/13	154.56	4436.10
					4/18/13	155.66	4435.00
					7/17/13	155.71	4434.95
					4/14/14	155.97	4434.69
RUIZ	531770	602857.357	3471424.219	4735.18	2/5/08	293.29	4441.89
					5/15/08	293.57	4441.61
					7/30/08	293.86	4441.32
					10/20/08	294.18	4441.00
					2/12/09	294.62	4440.56
					4/21/09	294.66	4440.52
					8/3/09	294.98	4440.20
					10/28/09	295.33	4439.85
					2/1/10	295.70	4439.48
					4/26/10	295.96	4439.22
					4/8/11	297.20	4437.98
					4/13/12	298.47	4436.71
					1/11/13	299.39	4435.79
					4/11/13	299.72	4435.46
					7/25/13	300.06	4435.12
					10/17/13	300.07	4435.11
					1/8/14	300.19	4434.99
					4/15/14	300.31	4434.87
					10/21/14	300.38	4434.80

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
SCHWARTZ	210865	600811.014	3468269.622	4564.49	2/8/08	121.80	4442.69
					5/19/08	123.49	4441.00
					7/29/08	122.64	4441.85
					10/22/08	123.39	4441.10
					1/29/09	122.87	4441.62
					4/17/09	123.53	4440.96
					7/10/09	124.15	4440.34
					10/6/09	124.55	4439.94
					1/22/10	124.32	4440.17
					4/21/10	124.65	4439.84
					7/21/10	125.80	4438.69
					10/19/10	126.30	4438.19
					1/17/11	125.35	4439.14
					4/11/11	127.50	4436.99
					7/18/11	127.67	4436.82
					10/12/11	127.51	4436.98
					2/6/12	127.34	4437.15
					4/10/12	127.78	4436.71
					7/16/12	128.84	4435.65
					10/17/12	128.98	4435.51
					3/13/13	128.81	4435.68
					5/14/13	129.60	4434.89
					7/15/13	129.05	4435.44
					10/14/13	130.15	4434.34
					4/9/14	129.77	4434.72
					7/18/14	129.81	4434.68
					10/22/14	129.66	4434.83
STEPHENS	808560	606981.766	3469072.799	4651.22	5/13/08	44.94	4606.28
					8/5/08	46.61	4604.61
					10/16/08	46.60	4604.62
					1/21/09	47.19	4604.03
					4/8/09	48.45	4602.77
					7/7/09	49.41	4601.81
					10/7/09	50.33	4600.89
					1/26/10	51.13	4600.09
					4/20/10	51.24	4599.98
					7/14/10	51.91	4599.31
					1/18/11	52.98	4598.24
					7/11/11	54.44	4596.78
					1/31/12	55.65	4595.57
					7/9/12	10.69	4640.53
					1/18/13	10.50	4640.72
					7/10/13	58.16	4593.06
					1/14/14	45.51	4605.71
					7/8/14	45.39	4605.83

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
SUNBELT	201531	605998.250	3471735.149	4806.52	2/6/08	352.10	4454.42
					5/15/08	358.97	4447.55
					8/5/08	Dry	<4426
					10/16/08	347.00	4459.52
					1/21/09	344.78	4461.74
					4/10/09	349.64	4456.88
					7/8/09	356.99	4449.53
					10/5/09	Dry	<4426
					1/21/10	Dry	<4426
					4/19/10	Dry	<4426
					7/12/10	Dry	<4426
					1/19/11	Dry	<4426
					8/25/11	Dry	<4426
					2/3/12	Dry	<4426
					7/9/12	Dry	<4426
					9/13/12	Dry	<4426
					1/17/13	Dry	<4426
					7/9/13	Dry	<4426
					1/10/14	Dry	<4426
					7/8/14	Dry	<4426
SWAN	NR	607378.547	3470648.298	4716.59	2/13/08	26.50	4690.09
					5/14/08	30.69	4685.90
					7/24/08	32.06	4684.53
					10/16/08	27.53	4689.06
					1/20/09	29.77	4686.82
					4/7/09	31.47	4685.12
					7/8/09	33.61	4682.98
					10/5/09	35.12	4681.47
					1/21/10	36.64	4679.95
					4/21/10	38.06	4678.53
					7/19/10	39.67	4676.92
					1/18/11	35.06	4681.53
					7/12/11	39.32	4677.27
					2/3/12	37.86	4678.73
					7/10/12	40.39	4676.20
					1/9/13	38.51	4678.08
					7/8/13	42.26	4674.33
					1/10/14	29.43	4687.16
					7/7/14	33.68	4682.91
THOMPSON 151	612151	599543.561	3467387.294	4597.62	8/9/13	167.86	4429.76
					10/10/13	167.68	4429.94
					1/16/14	167.19	4430.43
					4/14/14	166.98	4430.64
					7/21/14	167.78	4429.84
					10/22/14	167.56	4430.06

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
TM-02A	522574	604152.059	3472008.794	4808.43	3/4/08	346.62	4461.81
					5/23/08	346.16	4462.27
					8/15/08	353.91	4454.52
					10/30/08	349.45	4458.98
					2/24/09	348.64	4459.79
					5/6/09	349.38	4459.05
					8/12/09	349.13	4459.30
					11/4/09	348.97	4459.46
					3/10/10	348.19	4460.24
					4/6/10	353.86	4454.57
					7/6/10	349.20	4459.23
					2/10/11	347.60	4460.83
					7/13/11	348.14	4460.29
					2/2/12	346.94	4461.49
					8/13/12	344.53	4463.90
					2/14/13	343.50	4464.93
					8/27/13	343.84	4464.59
					2/18/14	341.47	4466.96
					8/12/14	338.50	4469.93
TM-03	522575	606366.130	3473711.046	4897.85	3/12/08	127.14	4770.71
					5/20/08	127.40	4770.45
					8/6/08	128.02	4769.83
					11/12/08	128.00	4769.85
					2/26/09	126.94	4770.91
					5/13/09	113.86	4783.99
					8/18/09	128.80	4769.05
					11/10/09	125.38	4772.47
					3/2/10	128.02	4769.83
					4/14/10	130.56	4767.29
					7/7/10	131.25	4766.60
					2/1/12	135.04	4762.81
TM-06 MILLER	522695	606055.975	3468376.658	4707.88	2/26/08	158.78	4549.10
					5/20/08	158.76	4549.12
					8/4/08	158.80	4549.08
					10/29/08	158.85	4549.03
					2/16/09	159.28	4548.60
					5/13/09	158.81	4549.07
					8/18/09	158.91	4548.97
					11/12/09	158.96	4548.92
					3/8/10	158.99	4548.89
					4/14/10	159.02	4548.86
					7/2/10	159.13	4548.75
					7/21/11	159.88	4548.00
					7/9/12	161.40	4546.48
					2/14/13	161.05	4546.83
					8/19/13	161.30	4546.58
					7/21/14	162.60	4545.28

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
TM-10 USBP	522696	601586.268	3471816.397	4741.18	3/15/12	279.30	4461.88
					4/24/12	279.03	4462.15
					9/13/12	278.30	4462.88
					10/19/12	277.45	4463.73
					3/7/13	276.55	4464.63
					4/17/13	276.42	4464.76
					7/23/13	275.99	4465.19
					11/6/13	254.20	4486.98
					1/15/14	262.00	4479.18
					5/15/14	269.39	4471.79
					7/15/14	271.03	4470.15
					10/16/14	235.11	4506.07
TM-16	522578	605588.075	3469842.199	4717.71	3/5/08	81.00	4636.71
					5/22/08	81.24	4636.47
					8/6/08	81.65	4636.06
					11/5/08	81.75	4635.96
					2/26/09	81.88	4635.83
					5/13/09	82.01	4635.70
					8/19/09	82.37	4635.34
					11/10/09	82.83	4634.88
					3/2/10	83.09	4634.62
					4/14/10	83.22	4634.49
					7/2/10	83.51	4634.20
					7/14/11	80.41	4637.30
					7/9/12	72.55	4645.16
					8/15/13	61.42	4656.29
					8/4/14	62.55	4655.16
TM-19A	522581	602458.710	3469197.426	4645.87	3/6/08	199.85	4446.02
					5/22/08	199.50	4446.37
					8/6/08	199.19	4446.68
					11/18/08	199.46	4446.41
					3/3/09	199.81	4446.06
					4/22/09	200.57	4445.30
					8/12/09	201.46	4444.41
					11/4/09	201.16	4444.71
					3/10/10	201.34	4444.53
					4/9/10	201.55	4444.32
					7/7/10	202.35	4443.52
					2/14/11	203.00	4442.87
					7/15/11	203.30	4442.57
					2/2/12	203.84	4442.03
					7/11/12	204.75	4441.12
					10/16/12	205.02	4440.85
					2/15/13	205.30	4440.57
					9/4/13	205.73	4440.14
					2/12/14	207.47	4438.40
					7/21/14	210.56	4435.31

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
TM-42	562554	603698.271	3469104.903	4666.67	3/5/08	211.04	4455.63
					5/22/08	210.98	4455.69
					8/6/08	211.55	4455.12
					11/6/08	207.05	4459.62
					2/18/09	212.31	4454.36
					5/7/09	212.37	4454.30
					8/18/09	212.77	4453.90
					11/3/09	213.05	4453.62
					2/24/10	213.36	4453.31
					4/19/10	213.51	4453.16
					7/2/10	213.52	4453.15
					7/12/11	214.62	4452.05
					7/11/12	216.10	4450.57
					2/12/13	216.55	4450.12
					8/28/13	217.38	4449.29
					7/21/14	218.33	4448.34
TVI 236	802236	600552.215	3467978.431	4561.98	5/7/08	123.30	4438.68
					7/15/08	121.55	4440.43
					10/15/08	122.35	4439.63
					2/11/09	121.28	4440.70
					4/17/09	122.73	4439.25
					7/21/09	123.96	4438.02
					10/19/09	123.88	4438.10
					2/2/10	122.26	4439.72
					4/23/10	122.70	4439.28
					7/15/10	125.08	4436.90
					7/15/11	127.23	4434.75
					7/16/12	127.81	4434.17
					10/9/12	128.45	4433.53
					7/18/13	127.38	4434.60
					7/16/14	129.24	4432.74

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
TVI 713	567713	600729.095	3468412.946	4567.22	5/7/08	127.10	4440.12
					7/14/08	126.30	4440.92
					10/15/08	130.00	4437.22
					2/11/09	149.87	4417.35
					4/17/09	126.73	4440.49
					7/21/09	127.36	4439.86
					10/19/09	127.79	4439.43
					2/2/10	126.71	4440.51
					4/23/10	127.53	4439.69
					7/15/10	129.14	4438.08
					10/20/10	130.84	4436.38
					1/20/11	134.36	4432.86
					4/11/11	135.72	4431.50
					7/15/11	131.61	4435.61
					10/12/11	130.33	4436.89
					2/3/12	130.01	4437.21
					4/25/12	131.33	4435.89
					7/16/12	131.97	4435.25
					10/9/12	132.16	4435.06
					2/6/13	131.14	4436.08
					4/10/13	132.08	4435.14
					7/18/13	131.72	4435.50
					10/8/13	133.10	4434.12
					1/9/14	132.37	4434.85
					4/9/14	132.93	4434.29
					7/16/14	132.57	4434.65
					10/9/14	132.29	4434.93

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
WEISKOPF 802	641802	601154.951	3468658.855	4586.89	2/15/08	143.31	4443.58
					5/7/08	143.90	4442.99
					7/16/08	144.22	4442.67
					10/28/08	145.81	4441.08
					1/29/09	143.99	4442.90
					4/15/09	144.38	4442.51
					7/15/09	144.99	4441.90
					10/15/09	145.66	4441.23
					2/2/10	145.28	4441.61
					4/22/10	145.72	4441.17
					7/19/10	146.46	4440.43
					10/20/10	147.11	4439.78
					1/17/11	146.72	4440.17
					4/11/11	146.31	4440.58
					8/26/11	148.06	4438.83
					10/13/11	148.30	4438.59
					2/1/12	148.23	4438.66
					4/25/12	148.82	4438.07
					7/13/12	149.79	4437.10
					10/11/12	149.73	4437.16
					1/16/13	149.49	4437.40
					4/17/13	150.16	4436.73
					7/18/13	150.24	4436.65
					10/17/13	150.69	4436.20
					1/16/14	150.08	4436.81
					4/11/14	150.75	4436.14
					7/18/14	150.85	4436.04
					10/9/14	150.89	4436.00
WEISKOPF 897	221897	601096.780	3468647.358	4585.70	12/6/12	149.27	4436.43
					1/16/13	148.70	4437.00
					4/17/13	149.80	4435.90
					7/18/13	150.15	4435.55
					10/17/13	150.38	4435.32
					1/16/14	149.78	4435.92
					4/11/14	150.50	4435.20
					7/18/14	150.55	4435.15
					10/9/14	150.34	4435.36
WMD-2011-03M	913037	605360.830	3470671.273	4746.28	2/2/12	226.66	4519.62

TABLE 4
Compilation of Groundwater Elevation Data

Well Name	ADWR 55 Registry Number	UTM East (meters)	UTM North (meters)	Measuring Point Elevation (ft amsl)	Date	Depth To Water (feet)	Groundwater Elevation (ft amsl)
ZANDER	205126	599678.880	3467998.486	4580.94	2/4/08	144.85	4436.09
					5/6/08	145.33	4435.61
					7/16/08	146.40	4434.54
					10/28/08	146.01	4434.93
					2/10/09	144.83	4436.11
					4/16/09	144.94	4436.00
					7/14/09	146.14	4434.80
					10/13/09	146.77	4434.17
					1/26/10	146.34	4434.60
					4/22/10	146.27	4434.67
					7/21/10	147.81	4433.13
					10/19/10	147.80	4433.14
					1/18/11	147.52	4433.42
					4/6/11	147.84	4433.10
					7/13/11	148.91	4432.03
					10/12/11	149.50	4431.44
					1/31/12	149.31	4431.63
					4/10/12	149.64	4431.30
					7/17/12	150.63	4430.31
					10/8/12	150.92	4430.02
					1/10/13	150.89	4430.05
					4/18/13	151.36	4429.58
					7/15/13	152.14	4428.80
					10/7/13	151.65	4429.29
					1/7/14	151.10	4429.84
					4/9/14	150.81	4430.13
					7/17/14	152.02	4428.92

Notes:

35-71891 = ADWR 35 Database

ADWR = Arizona Department of Water Resources

ft amsl = feet above mean sea level

NR = No Record

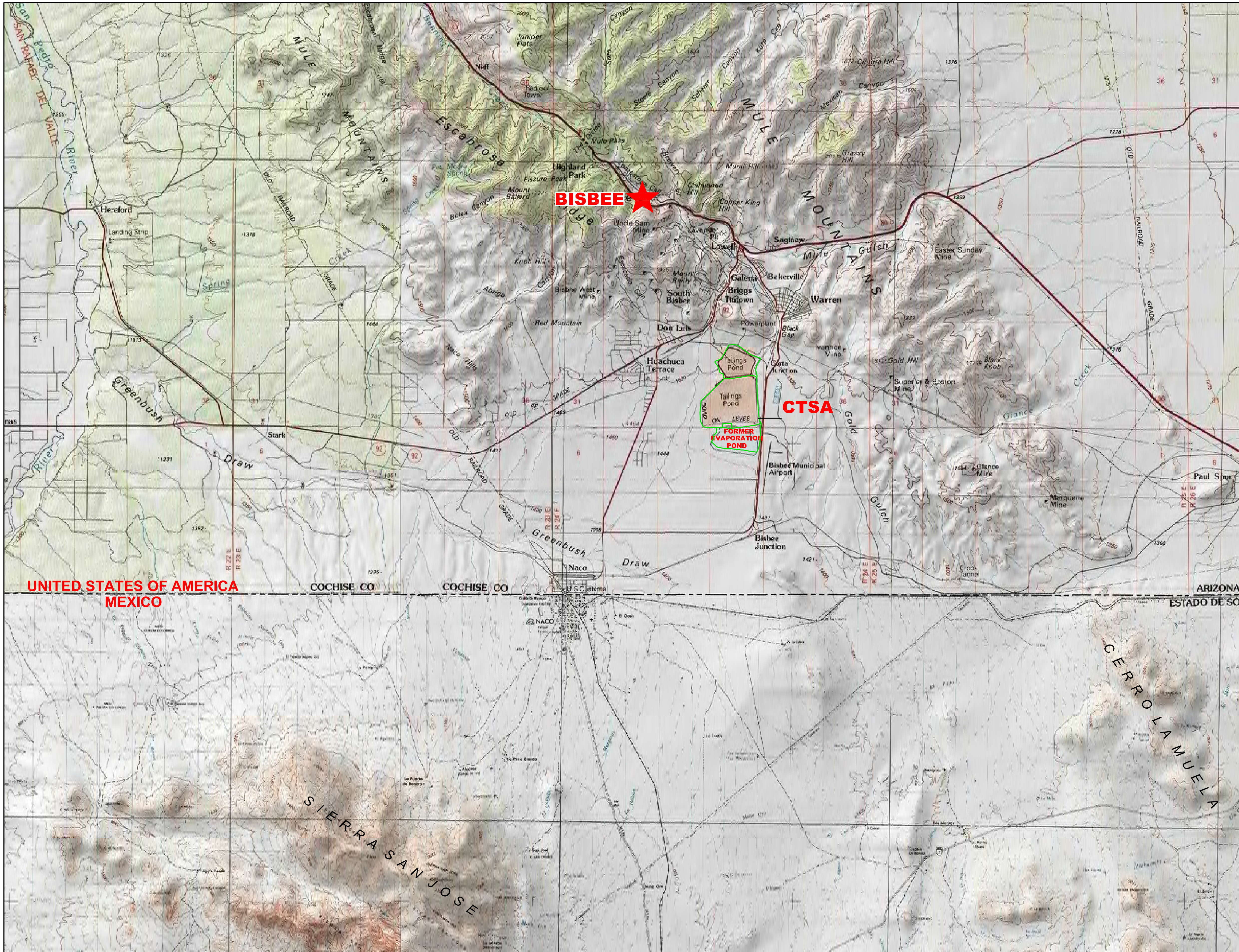
UTM = Universal Transverse Mercator Zone 12, North American Datum 1983 (NAD83)

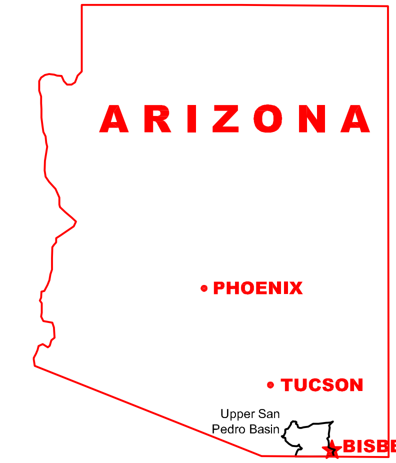
[1] Depth to water measurement provided by Arizona Water Company

[2] Depth to water measurement provided by Naco Water Company

[3] Well previously identified as ROGERS 803

FIGURES





LEGEND

CTSA FACILITY

SCALE

0 1 2 MILES

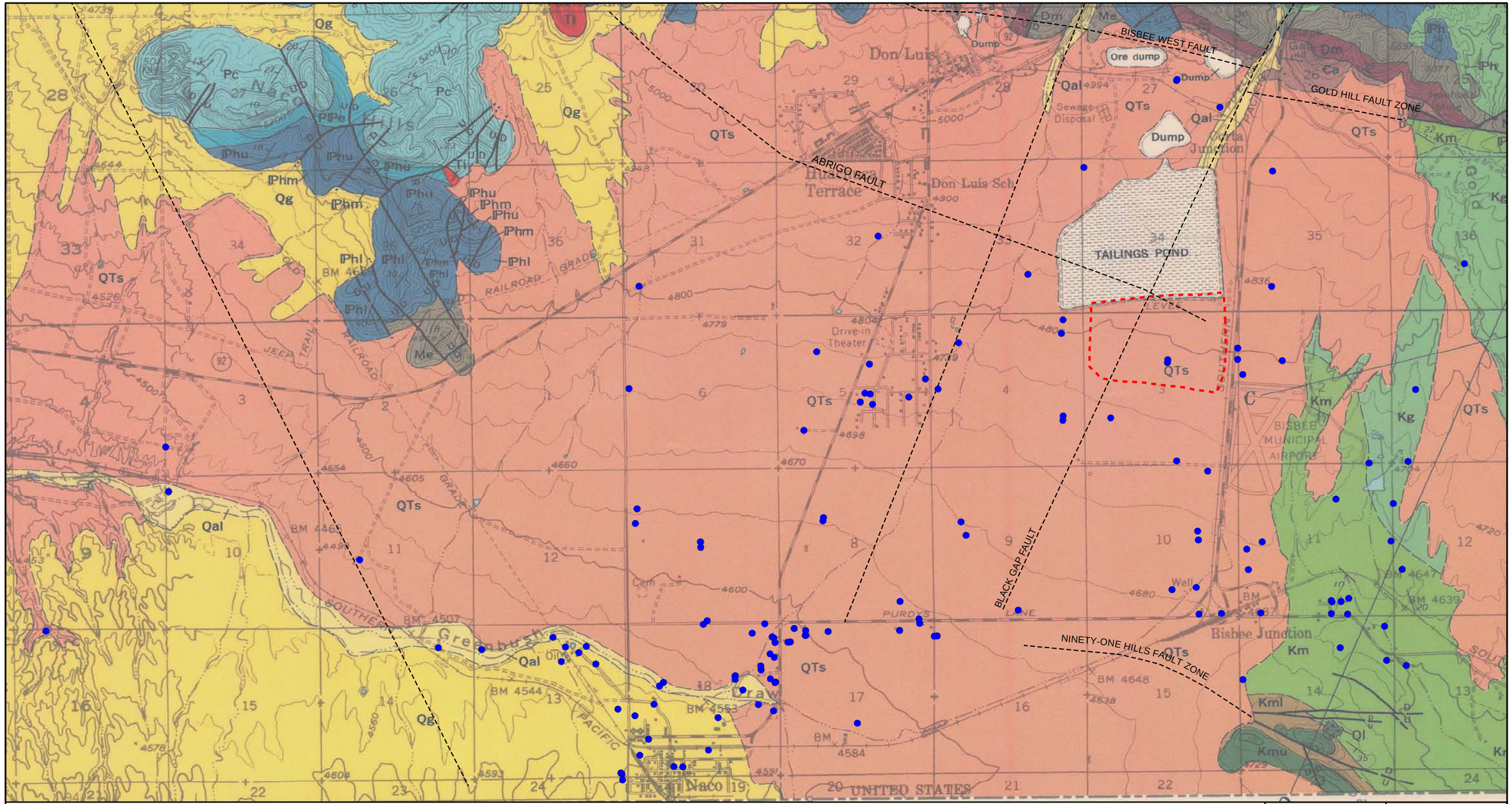
0 6000 12000 FEET

Date 03/16/2015

File ID 055038-239B

CLEAR CREEK ASSOCIATES

FIGURE 1
LOCATION MAP



Legend

- Monitoring Location
- Fault
- Former Evaporation Ponds

Geologic Unit - Hayes and Landis (1964)

Basin Fill
- Qal - Quaternary Alluvium
- Qg - Quaternary Gravel
- QTs - Quaternary Tertiary sediment
- Ti - Tertiary Intrusive

Bisbee Group
- Kc - Cintura Formation (not shown)
- Kmu - Upper Mural Limestone
- Kml - Lower Mural Limestone
- Km - Morita Formation
- Kg - Glance Conglomerate

Paleozoic Sedimentary Formations
- Pc - Colina Limestone
- PPe - Earp Formation
- Phu, Phm, Phl - Horquilla Limestone
- Me - Escabrosa Limestone
- Dm - Martin Limestone
- Ca - Abrigo Limestone

See Figure 3 for Monitoring Location Names

Scale (Feet)

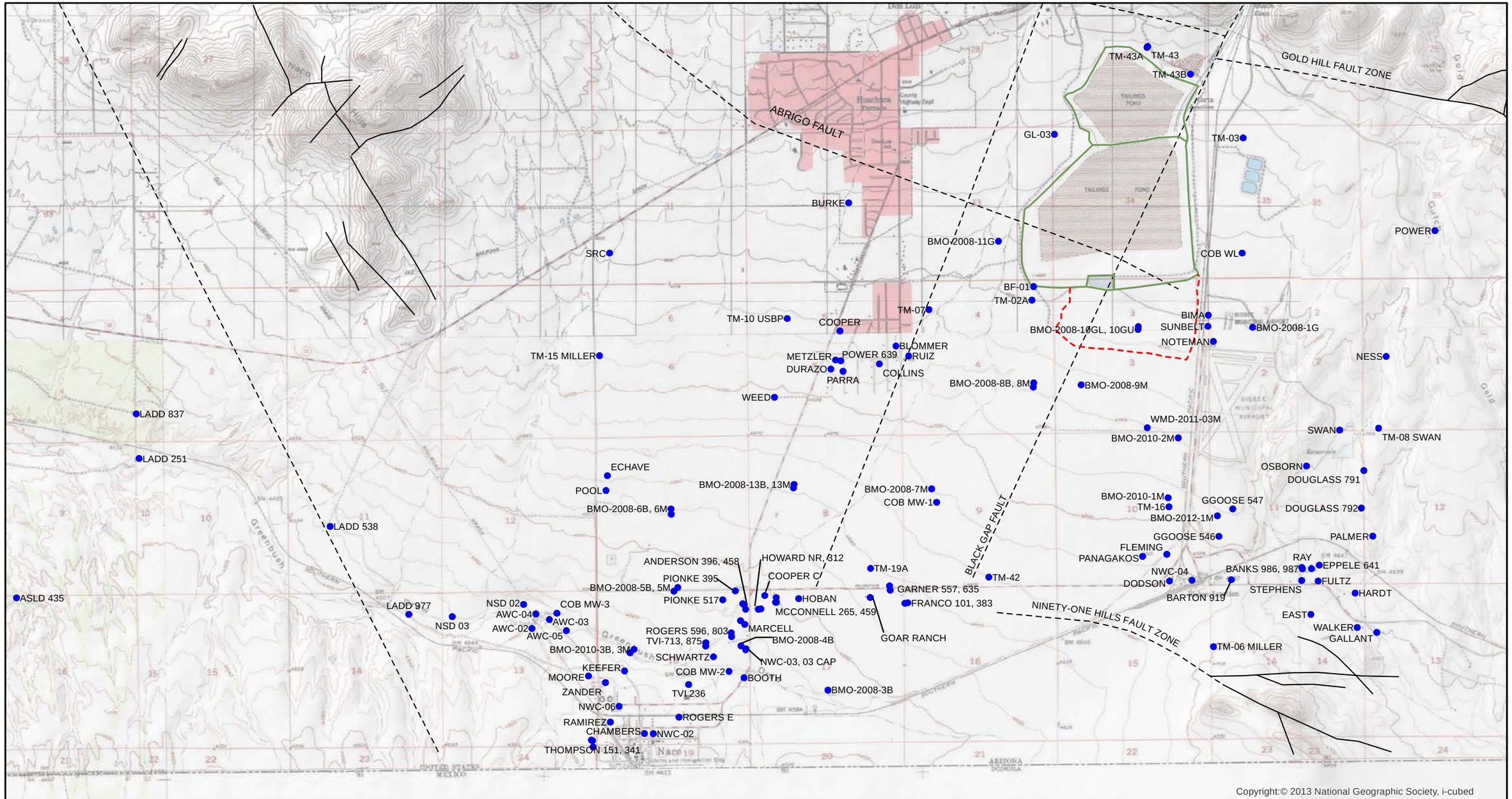
0 3,000 6,000

Projection: UTM Zone 12N NAD83
Geology reprinted from Hayes and Landis (1964) USGS Miscellaneous Geologic Investigations I-418

Date	File ID
3/16/15	055038-402

CLEAR CREEK ASSOCIATES

FIGURE 2
GEOLOGIC MAP
WITH MONITORING LOCATIONS



Legend

- Monitoring Location
- Former Evaporation Ponds
- CTSA Facility
- Fault

Scale (Feet)

0 3,000 6,000

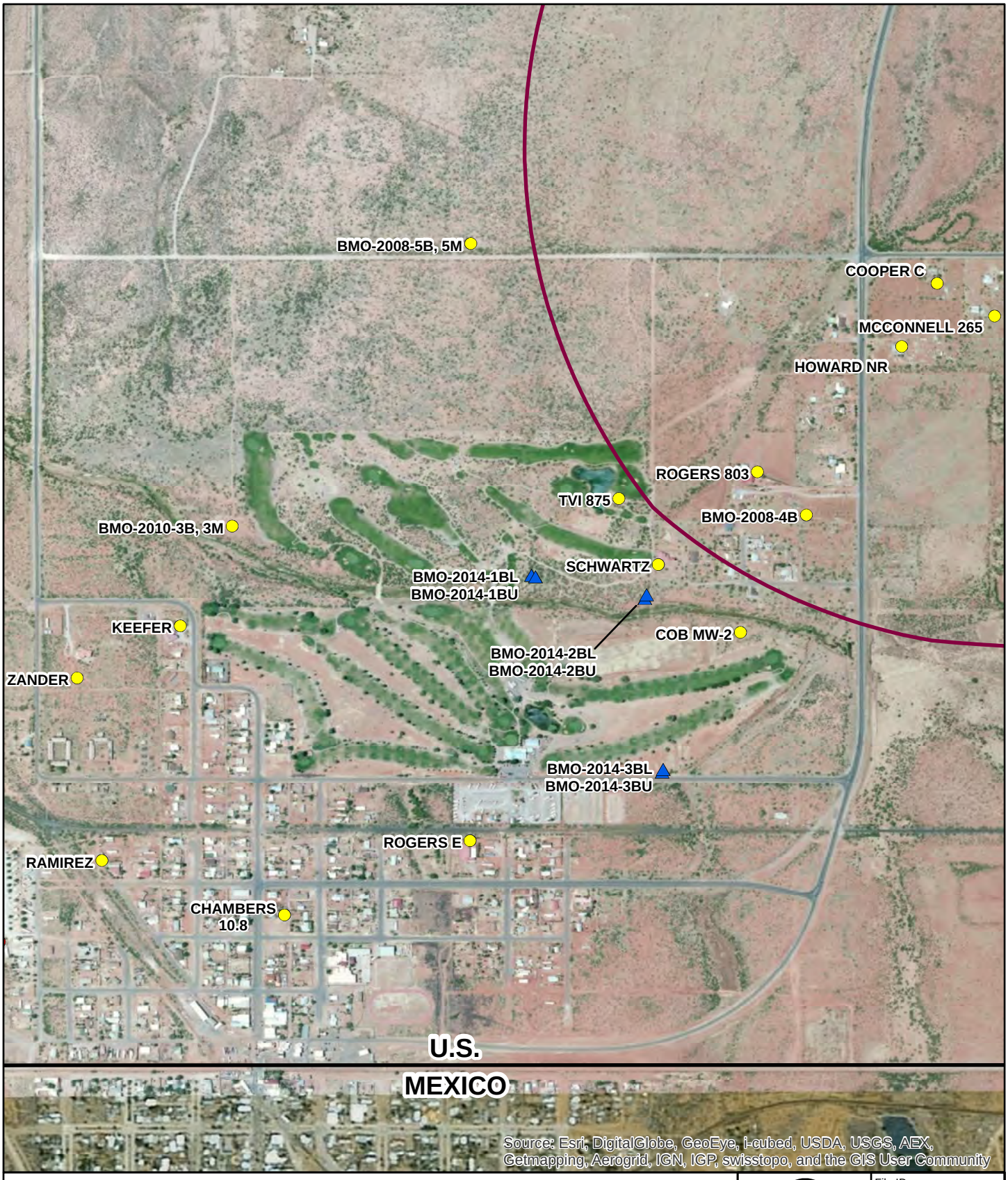
Projection: UTM Zone 12N NAD83

Date: 3/16/15

File ID: 055038-403

CLEAR CREEK ASSOCIATES

FIGURE 3
MONITORING LOCATIONS



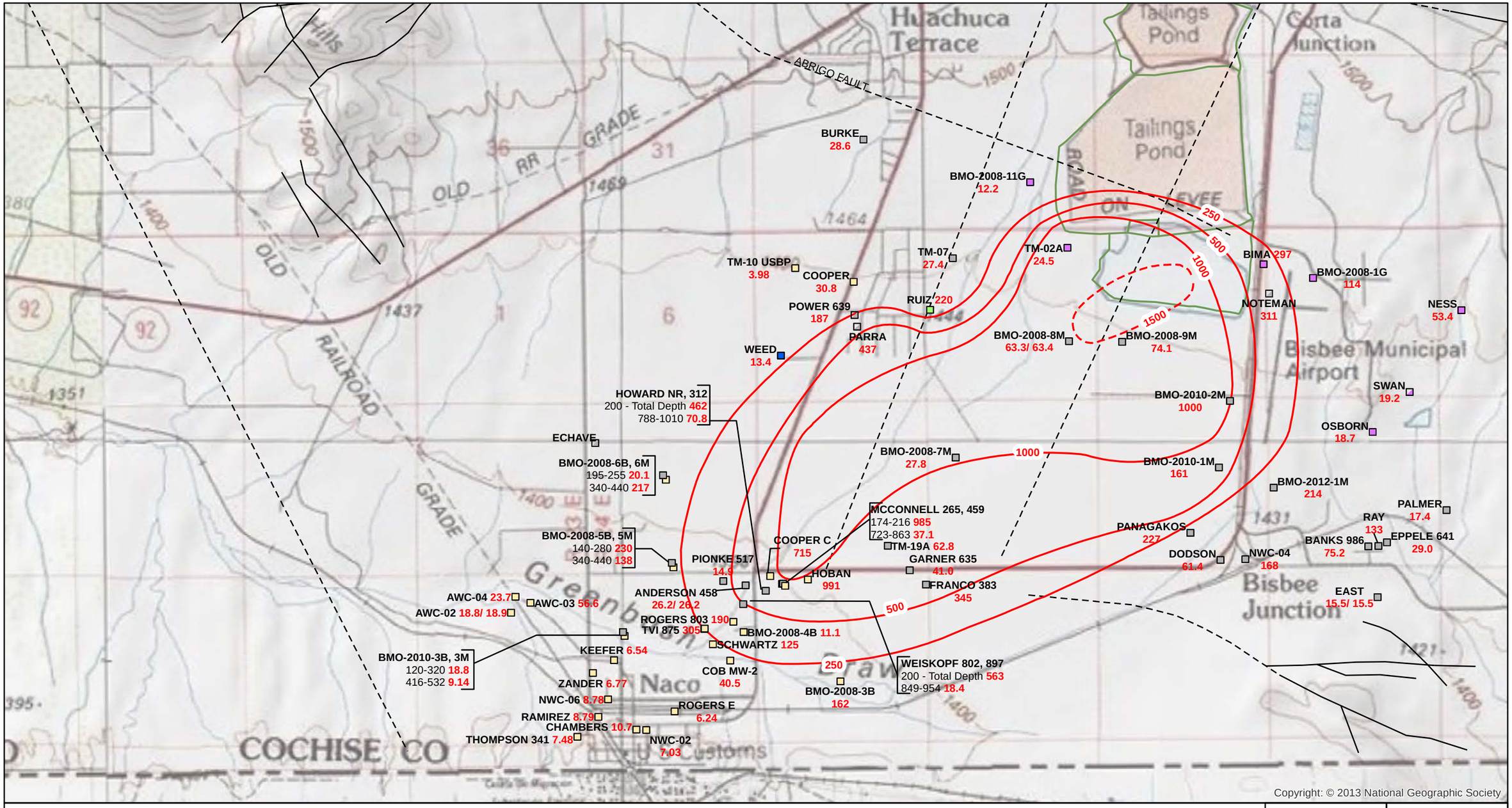
Legend

- Existing Well
- Expanded Groundwater Monitoring Well
- 4Q14 250 mg/L SO4 Concentration Contour

0 500 1,000
Feet

File ID 055038-404
Date 3/16/15

FIGURE 4
LOCATION OF SITES BMO-2014-1, BMO-2014-2, AND BMO-2014-3



Legend

- RAY / 133 — Well ID / SO4 Concentration (mg/L)
- SO4 Concentration Contours (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility

Co-located Wells
Well ID
Screen (ft bls): Sulfate Levels (mg/L)

Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate - Estimated

Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations

Scale (Feet)
0 3,000 6,000

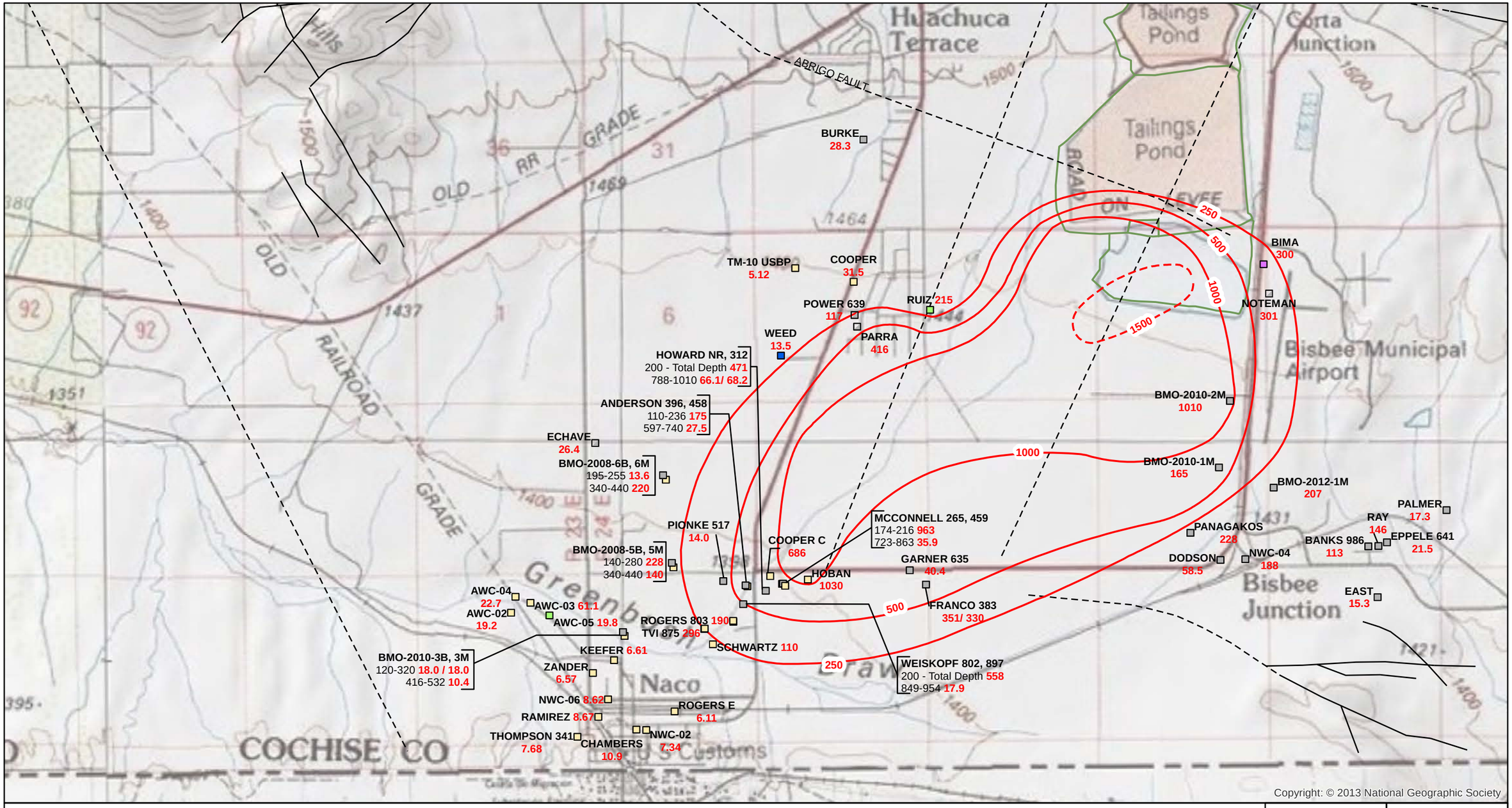
Notes:

Projection: UTM Zone 12N NAD83
mg/L = milligrams per liter
ft bls = feet below land surface

Date	3/16/15
File ID	055038-405

CLEAR CREEK ASSOCIATES

FIGURE 5
SULFATE CONCENTRATIONS IN GROUNDWATER FOR FIRST QUARTER 2014



Legend

- RAY / 146 — Well ID / SO4 Concentration (mg/L)
- SO4 Concentration Contours (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility

Co-located Wells: Well ID; Screen (ft bls): Sulfate Levels (mg/L)

Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate - Estimated

Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations

Scale (Feet): 0 — 3,000 — 6,000

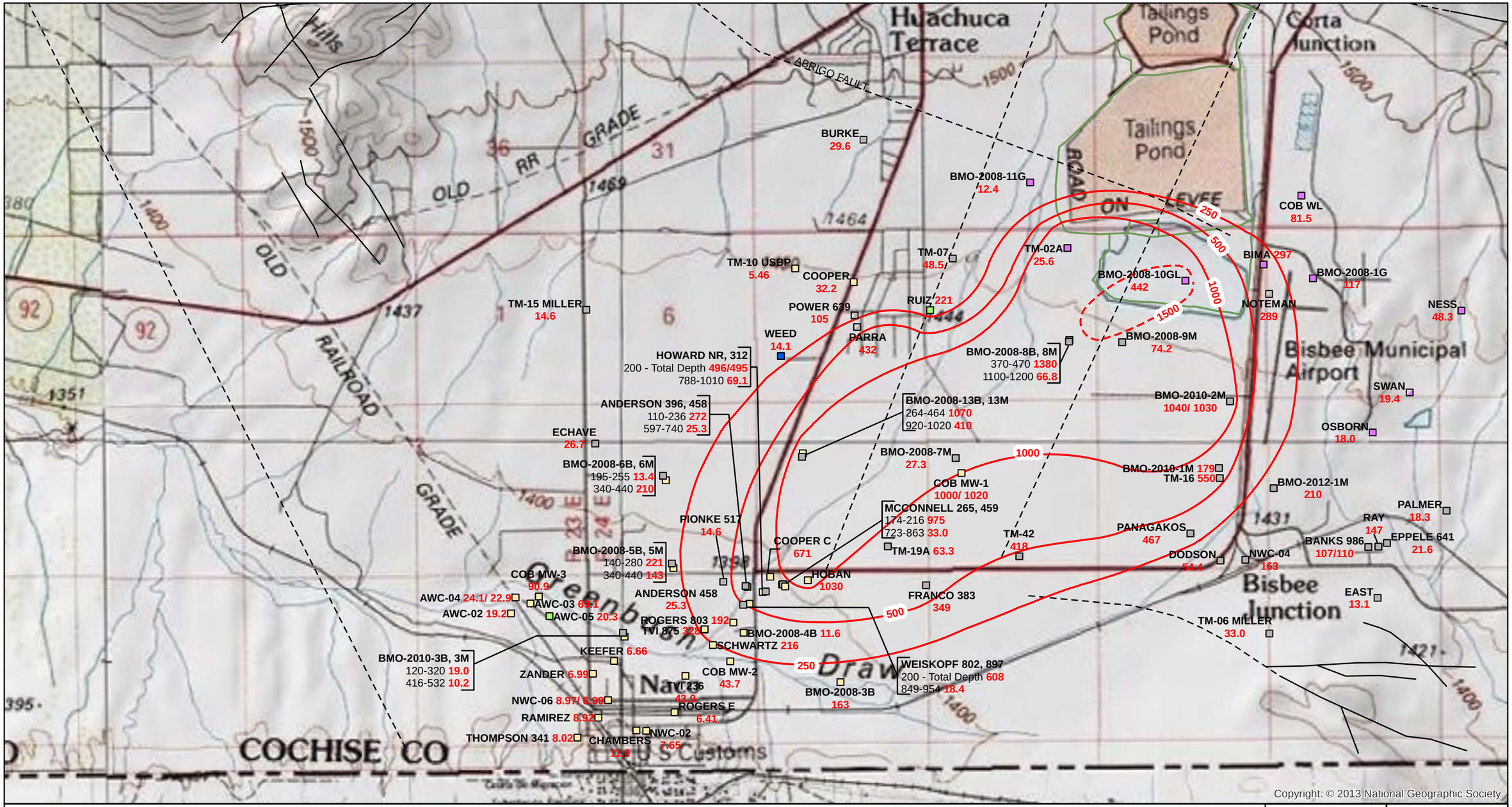
Notes:

Projection: UTM Zone 12N NAD83
mg/L = milligrams per liter
ft bls = feet below land surface

Date 3/16/15 | File ID 055038-406

CLEAR CREEK ASSOCIATES

FIGURE 6
SULFATE CONCENTRATIONS IN GROUNDWATER FOR SECOND QUARTER 2014



Legend

RAY — Well ID
147 — SO4 Concentration (mg/L)

- SO4 Concentration Contours (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility

Co-located Wells
- Well ID
- Screen (ft bls): Sulfate Levels (mg/L)

Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate - Estimated

Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations

Scale (Feet)
0 3,000 6,000

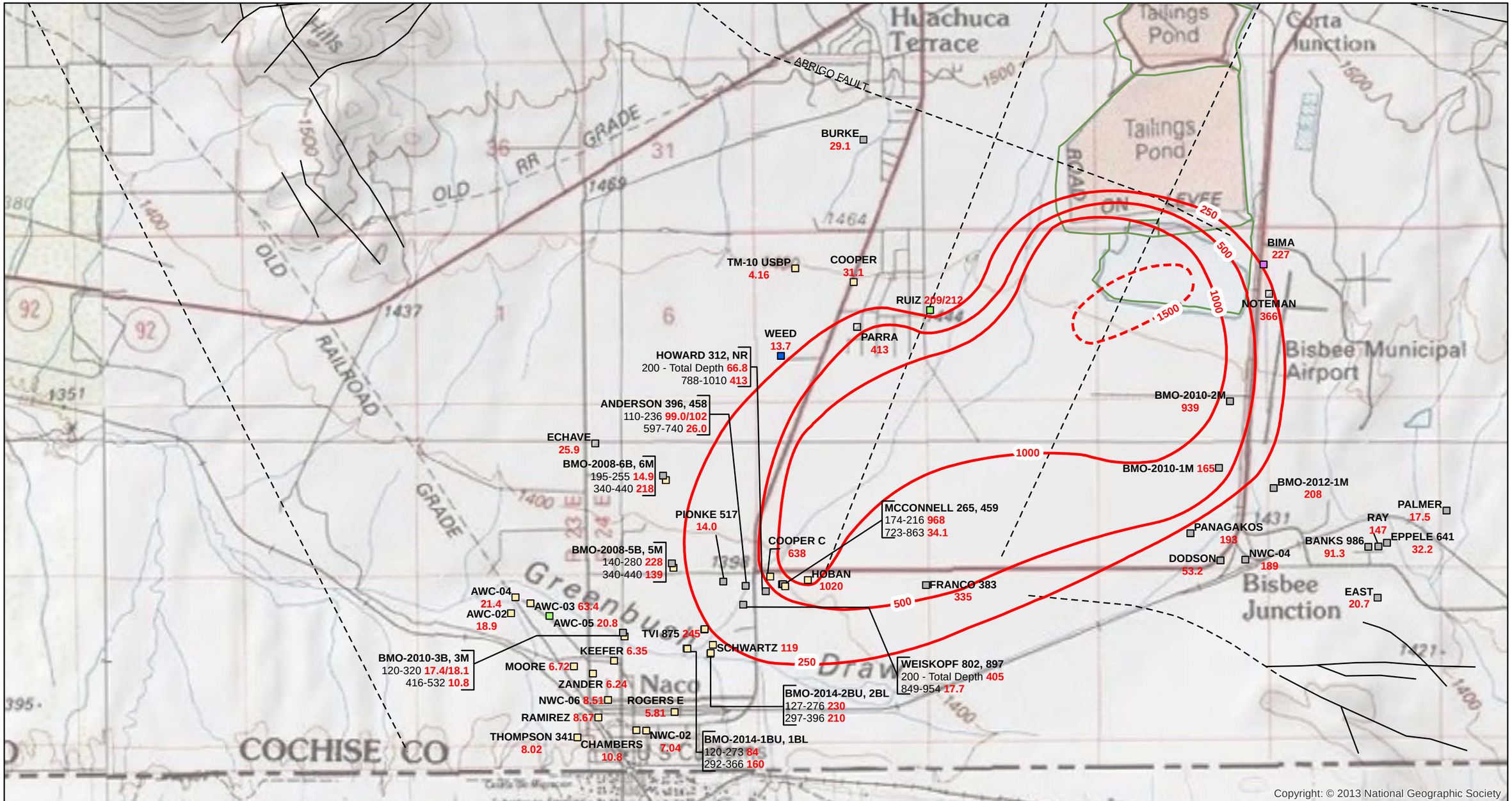
Notes:

Projection: UTM Zone 12N NAD83
mg/L = milligrams per liter
ft bls = feet below land surface
Sulfate contours are based on third quarter 2014 and historical data.

Date 3/16/15
File ID 055038-407

CLEAR CREEK ASSOCIATES

FIGURE 7
SULFATE CONCENTRATIONS IN GROUNDWATER FOR THIRD QUARTER 2014



Legend

RAY — Well ID
147 — SO4 Concentration (mg/L)

SO4 Concentration Contours
Fault

Co-located Wells
Well ID
Screen (ft bls): Sulfate Levels (mg/L)

Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate - Estimated

Undifferentiated Bisbee Group: Cintura, Mural Limestone, and Morita Formations

Scale (Feet)
0 3,000 6,000

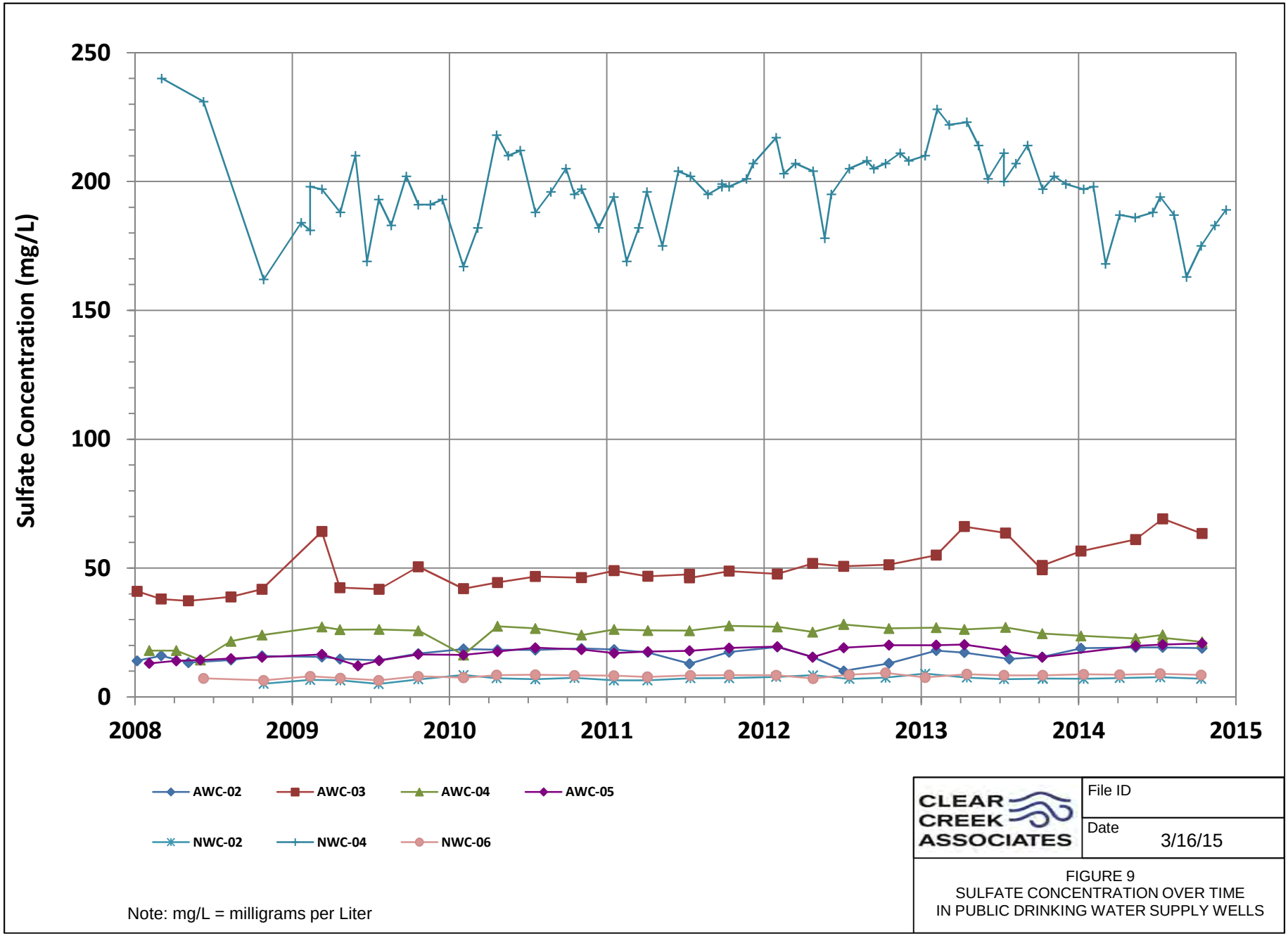
Notes:

Projection: UTM Zone 12N NAD83
mg/L = milligrams per liter
ft bls = feet below land surface
Sulfate contours are based on fourth quarter 2014 and historical data.

Date 3/16/15
File ID 055038-408

CLEAR CREEK ASSOCIATES

FIGURE 8
SULFATE CONCENTRATIONS IN GROUNDWATER FOR FOURTH QUARTER 2014



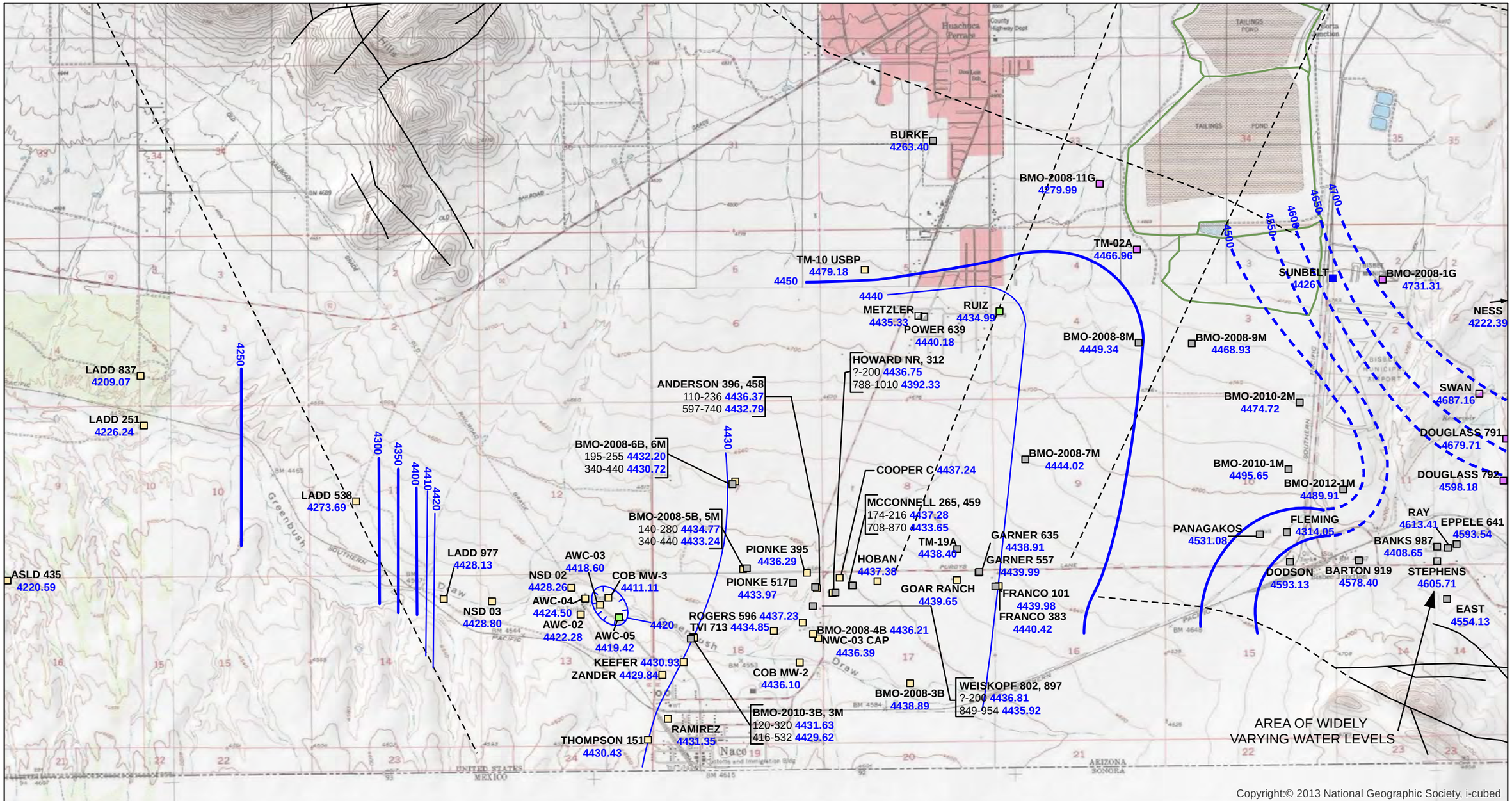
Note: mg/L = milligrams per Liter

CLEAR CREEK ASSOCIATES

File ID

Date 3/16/15

FIGURE 9
SULFATE CONCENTRATION OVER TIME
IN PUBLIC DRINKING WATER SUPPLY WELLS



Legend

RAY — Well ID
4613.41 — Groundwater Elevation (ft amsl)

- Groundwater Elevation Contours (10 ft)
- Groundwater Elevation Contours (50 ft) (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility

Screened Formation

- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate-Estimated

Scale (Feet)
0 3,000 6,000

Projection: UTM Zone 12N NAD83
ft amsl = feet above mean sea level
bls = below land surface

Date: 3/16/15
File ID: 055038-409

CLEAR CREEK ASSOCIATES

FIGURE 10
GROUNDWATER ELEVATIONS FOR FIRST QUARTER 2014

BURKE
4263.79

TM-10 USBP
4471.79

4450

4440

METZLER
4435.33

RUIZ
4434.87

POWER 639
4440.10

HOWARD NR, 312
?-200 4436.36
788-1010 4390.30

ANDERSON 396, 458
110-236 4435.95
597-740 4431.83

LADD 837
4207.58

LADD 251
4225.56

4250

4300

4350

4400

4410

4420

4430

BMO-2008-6B, 6M
195-255 4431.97
340-440 4430.57

LADD 538
4267.42

BMO-2008-5B, 5M
140-280 4434.27
340-440 4432.76

COOPER C 4437.24

MCCONNELL 265, 459
174-216 4436.91
708-870 4434.27

GARNER 557, 635
180-220 4439.87
580-660 4440.07

BMO-2010-2M
4475.51

BMO-2010-1M 4495.75

BMO-2012-1M
4489.87

4500

4550

4600

4650

4700

PANAGAKOS
4532.65

RAY
4611.19

EPPELE 641
4590.83

BANKS 987
4416.69

DODSON
4591.70

LADD 977
4427.52

NSD 02
4424.32

AWC-03
4418.02

PIONKE 395
4435.92

HOBAN
4436.99

ASLD 435
4220.41

AWC-04 4425.16

NSD 03
4427.51

AWC-02
4422.75

PIONKE 517
4434.14

FRANCO 101, 383
180-200 4439.89
612-711 4439.99

EAST
4554.98

ROGERS 596 4436.79

TVI 713 4434.29

4420

AWC-05
4195.76

SCHWARTZ
4434.72

NWC-03 CAP
4435.89

KEEFER 4431.12

ZANDER 4430.13

BMO-2010-3B, 3M
120-320 4431.19
416-532 4428.63

WEISKOPF 802, 897
?-200 4436.14
849-954 4435.20

RAMIREZ
4431.76

ROGERS E
4434.69

THOMPSON 151
4430.64

AREA OF WIDELY
VARYING WATER LEVELS

Legend

- RAY — Well ID
- 4611.19 — Groundwater Elevation (ft amsl)
- Groundwater Elevation Contours (10 ft)
- Groundwater Elevation Contours (50 ft) (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility

Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate-Estimated

Scale (Feet)
0 3,000 6,000

Projection: UTM Zone 12N NAD83
ft amsl = feet above mean sea level
bls = below land surface

Date: 3/16/15
File ID: 055038-410

CLEAR CREEK ASSOCIATES

FIGURE 11
GROUNDWATER ELEVATIONS
FOR SECOND QUARTER 2014

BURKE
4263.95

BMO-2008-11G
4280.43

COB WL
4753.94

TM-02A
4469.93

NESS
4166.81

TM-10 USBP
4470.15

BMO-2008-10GL
4285.00

SUNBELT
<4426

BMO-2008-1G
4730.96

METZLER
4435.08

POWER 639
4439.91

BMO-2008-8B, 8M
370-470 4451.39
1100-1200 4448.97

BMO-2008-9M
4469.08

LADD 837
4206.43

HOWARD NR, 312
200 - Total Depth 4435.99
788-1010 4387.97

ANDERSON 396, 458
110-236 4436.49
597-740 4428.71

BMO-2010-2M
4475.38

SWAN
4682.91

LADD 251
4224.79

BMO-2008-13B, 13M
264-464 4436.53
920-1020 4434.01

DOUGLASS 791
4675.05

BMO-2008-6B, 6M
195-255 4431.08
340-440 4429.50

BMO-2008-7M
4443.67

COB MW-1
4443.23

BMO-2010-1M 4495.41
TM-16 4655.16

BMO-2012-1M
4489.82

DOUGLASS 792
4599.30

LADD 538
4278.37

COOPER C 4436.47

MCCONNELL 265, 459
174-216 4436.67
708-870 4434.18

PANAGAKOS
4531.71

FLEMING
4320.71

RAY
4604.53

EPPELE 641
4576.24

BMO-2008-5B, 5M
140-280 4433.97
340-440 4432.24

TM-19A
4435.31

BANKS 987
4419.33

LADD 977
4427.25

PIONKE 395
4435.47

HOBAN
4436.70

TM-42
4448.34

DODSON
4590.91

BARTON 919
4578.94

STEPHENS
4605.83

ASLD 435
4220.37

NSD 02
4426.61

COB MW-3
4414.44

NSD 03
4429.18

AWC-03
4416.02

AWC-04 4422.04

PIONKE 517
4433.65

GOAR RANCH
4439.40

FRANCO 101, 383
180-200 4439.67
612-711 4440.01

EAST
4553.98

ROGERS 596 4436.71

TVI 713 4434.65

BMO-2008-4B 4435.68

AWC-02
4423.15

AWC-05
4196.17

SCHWARTZ
4434.68

NWC-03 CAP
4435.52

TM-06 MILLER
4545.28

WEISKOPF 802, 897
200 - Total Depth 4436.04
849-954 4435.15

KEEFER 4430.06

ZANDER 4428.92

COB MW-2
4434.89

TVI 236
4432.74

BMO-2008-3B
4438.61

BMO-2010-3B, 3M
120-320 4430.53
416-532 4428.61

THOMPSON 151
4429.84

AREA OF WIDELY
VARYING WATER LEVELS

Legend

RAY — Well ID
4604.53 — Groundwater Elevation (ft amsl)
Groundwater Elevation Contours (10 ft)
Groundwater Elevation Contours (50 ft) (dashed where inferred)
Faults (dashed where inferred)
CTSA Facility

Co-located Wells
Well ID
Screen (ft bls): Water Elevation (ft amsl)

Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate-Estimated

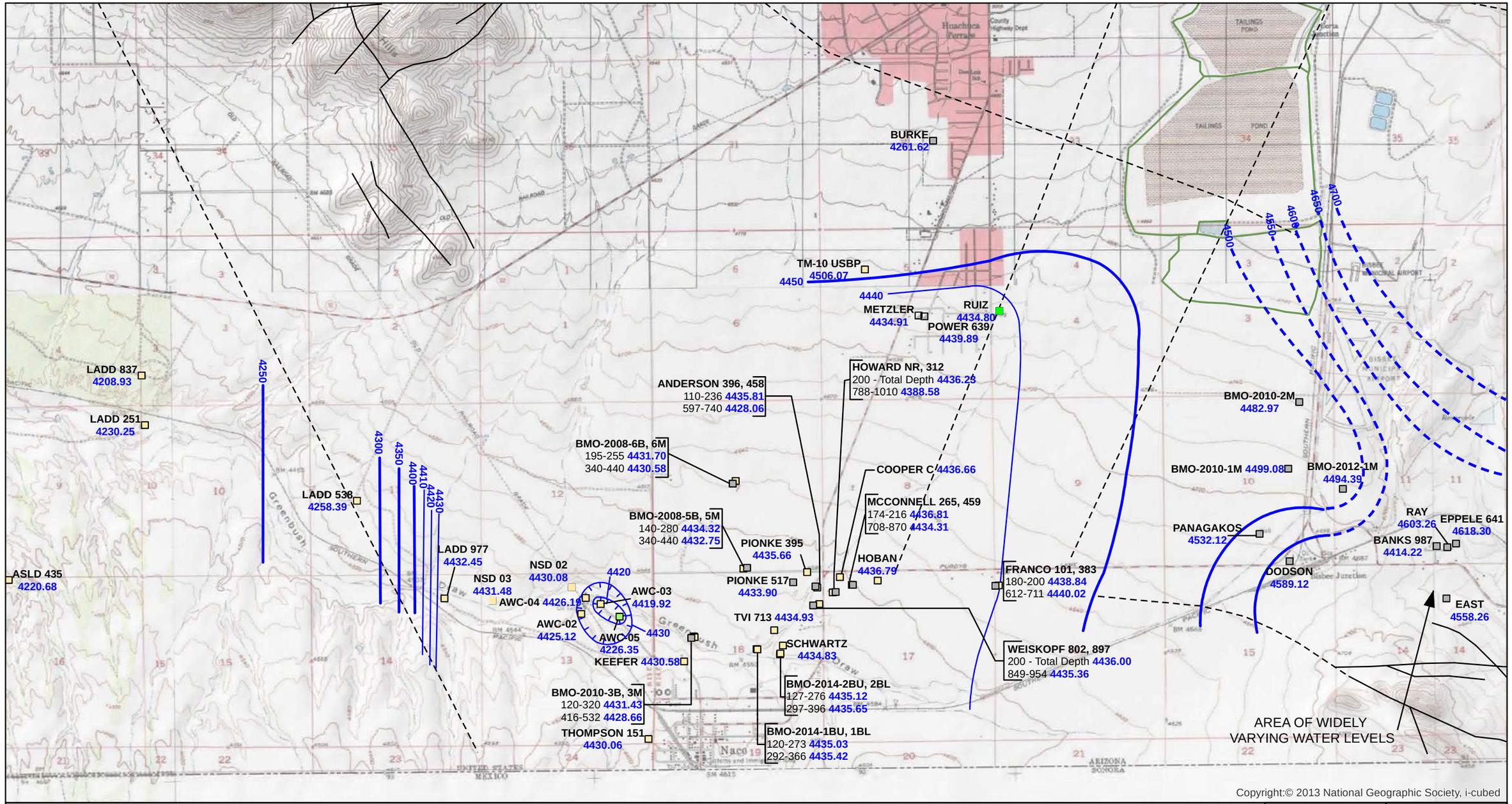
Scale (Feet)
0 3,000 6,000

Projection: UTM Zone 12N NAD83
ft amsl = feet above mean sea level

Date: 3/16/15
File ID: 055038-411

CLEAR CREEK ASSOCIATES

FIGURE 12
GROUNDWATER ELEVATIONS FOR THIRD QUARTER 2014



Legend

- RAY — Well ID
- 4603.26 — Groundwater Elevation (ft amsl)
- Groundwater Elevation Contours (10 ft)
- Groundwater Elevation Contours (50 ft) (dashed where inferred)
- Faults (dashed where inferred)
- CTSA Facility

Co-located Wells
- Well ID
- Screen (ft bls): Water Elevation (ft amsl)

Screened Formation
- Basin Fill
- Basin Fill and Undifferentiated
- Bisbee Group
- Undifferentiated Bisbee Group
- Undifferentiated Bisbee Group - Estimated
- Undifferentiated Bisbee Group and Glance Conglomerate
- Glance Conglomerate
- Glance Conglomerate-Estimated

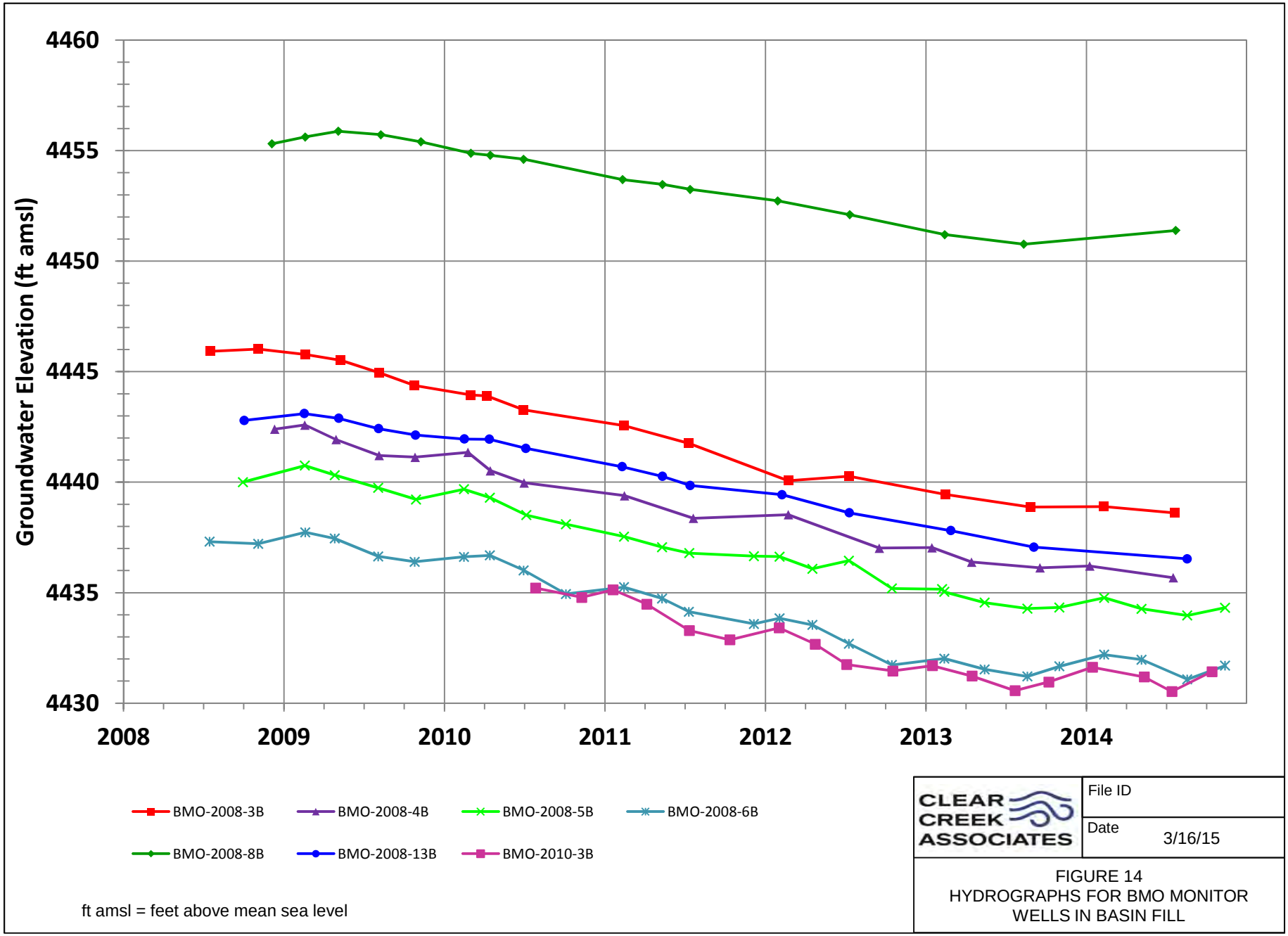
Scale (Feet)
0 3,000 6,000

Projection: UTM Zone 12N NAD83
ft amsl = feet above mean sea level
ft bls = feet below land surface

Date 3/16/15
File ID 055038-412

CLEAR CREEK ASSOCIATES

FIGURE 13
GROUNDWATER ELEVATIONS
FOR FOURTH QUARTER 2014



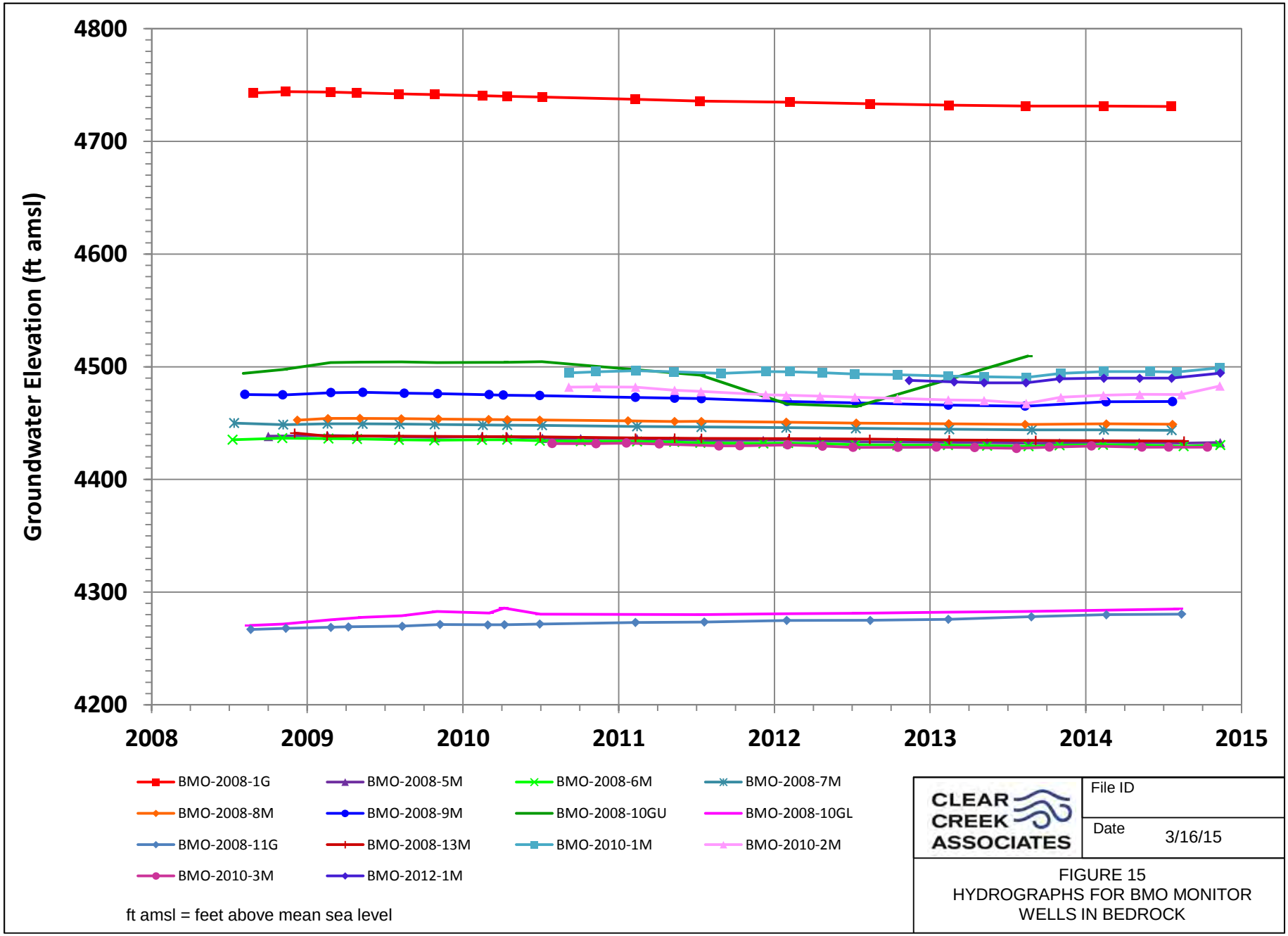
ft amsl = feet above mean sea level

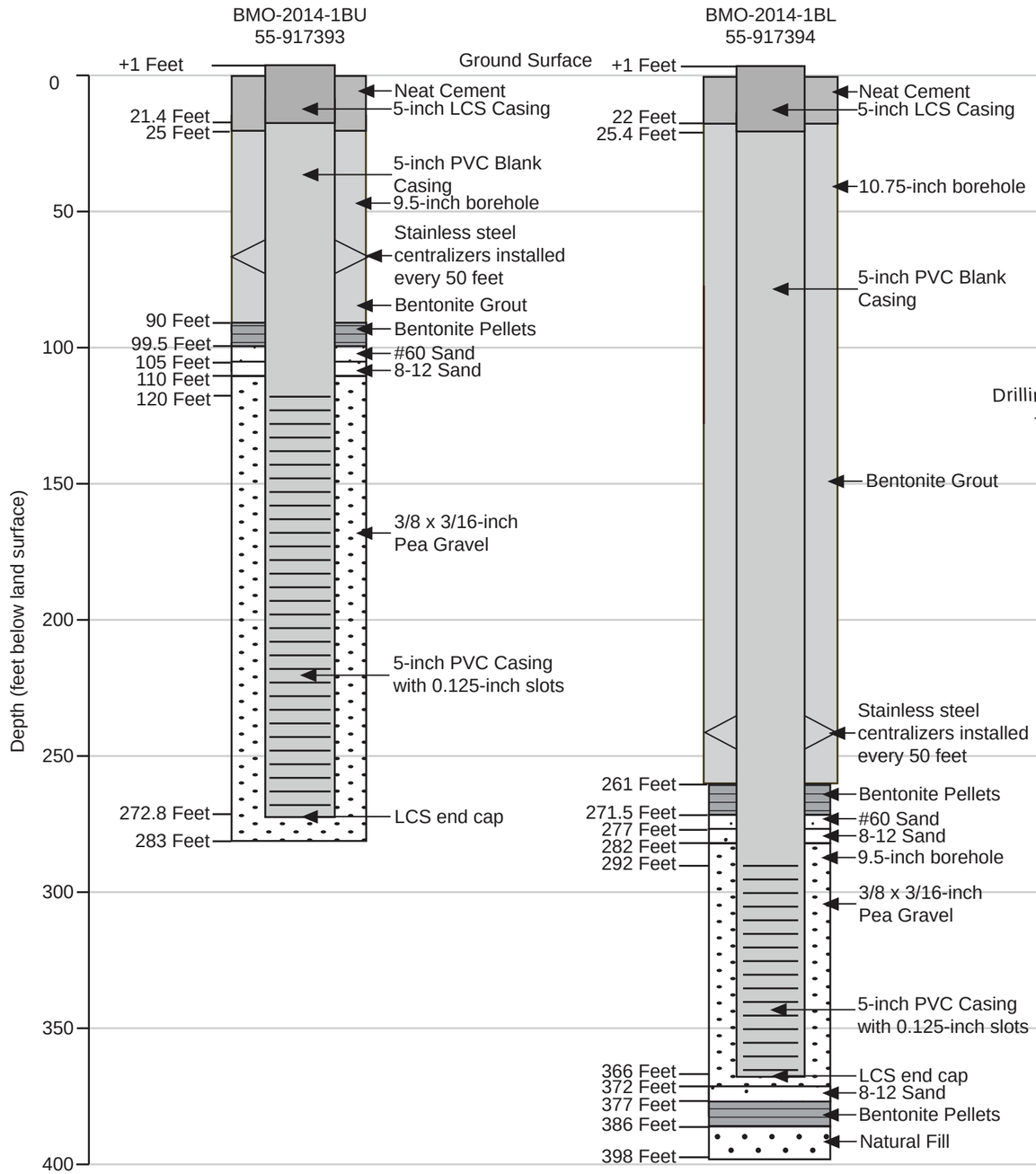
CLEAR CREEK ASSOCIATES

File ID

Date 3/16/15

FIGURE 14
HYDROGRAPHS FOR BMO MONITOR WELLS IN BASIN FILL


Groundwater Elevation (ft amsl)
4800
4700
4600
4500
4400
4300
4200
2008
2009
2010
2011
2012
2013
2014
2015
BMO-2008-1G
BMO-2008-5M
BMO-2008-6M
BMO-2008-7M
BMO-2008-8M
BMO-2008-9M
BMO-2008-10GU
BMO-2008-10GL
BMO-2008-11G
BMO-2008-13M
BMO-2010-1M
BMO-2010-2M
BMO-2010-3M
BMO-2012-1M
ft amsl = feet above mean sea level
CLEAR CREEK ASSOCIATES
File ID
Date 3/16/15
FIGURE 15
HYDROGRAPHS FOR BMO MONITOR WELLS IN BEDROCK



DEPTH-SPECIFIC GROUNDWATER SAMPLING DURING DRILLING

	pH (s.u.)	Electrical Conductivity (uS/cm)	Field Sulfate (mg/L)	Laboratory Sulfate (mg/L)	Sampling Method Bailer (B) or Push Ahead (P)
140 Feet	7.46	533.2	54	64	P
180 Feet	6.46	607.4	No Sample	No Sample	
235 Feet	7.22	651.0	160	150	B
248 Feet	6.65	555.2	96	120	B
280 Feet	7.56	559.4	134	180	B
300 Feet	7.89	603.4	128	170	B
320 Feet	8.27	598.5	82	180	B
360 Feet	8.03	539.3	106	140	B
398 Feet	8.09	609.2	146	200	B

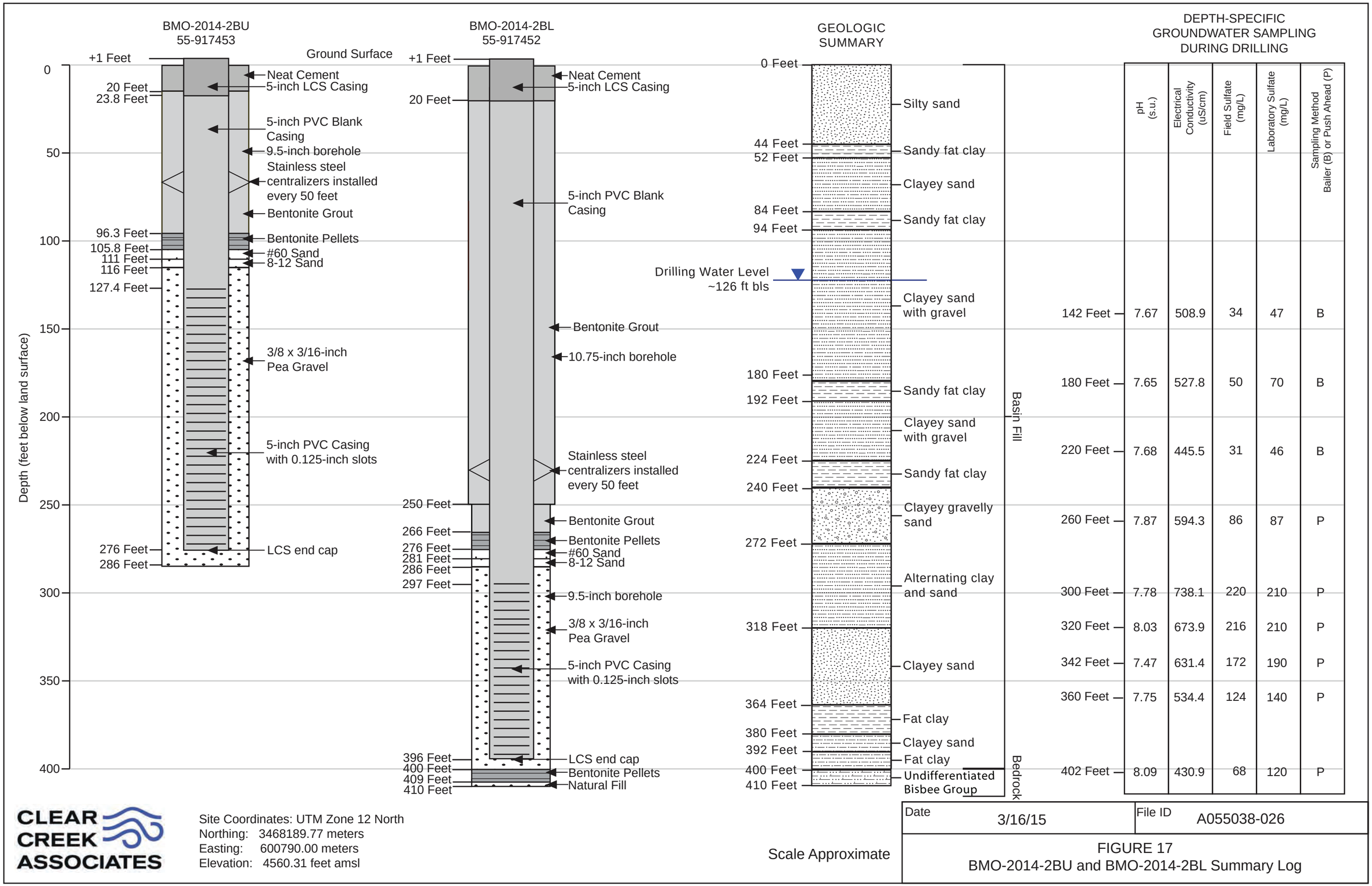
CLEAR CREEK ASSOCIATES

Site Coordinates: UTM Zone 12 North
Northing: 3468232.37 meters
Easting: 600566.18 meters
Elevation: 4557.18 feet amsl

Scale Approximate

Date	3/16/15	File ID	A055038-025

FIGURE 16
BMO-2014-1BU and BMO-2014-1BL Summary Log



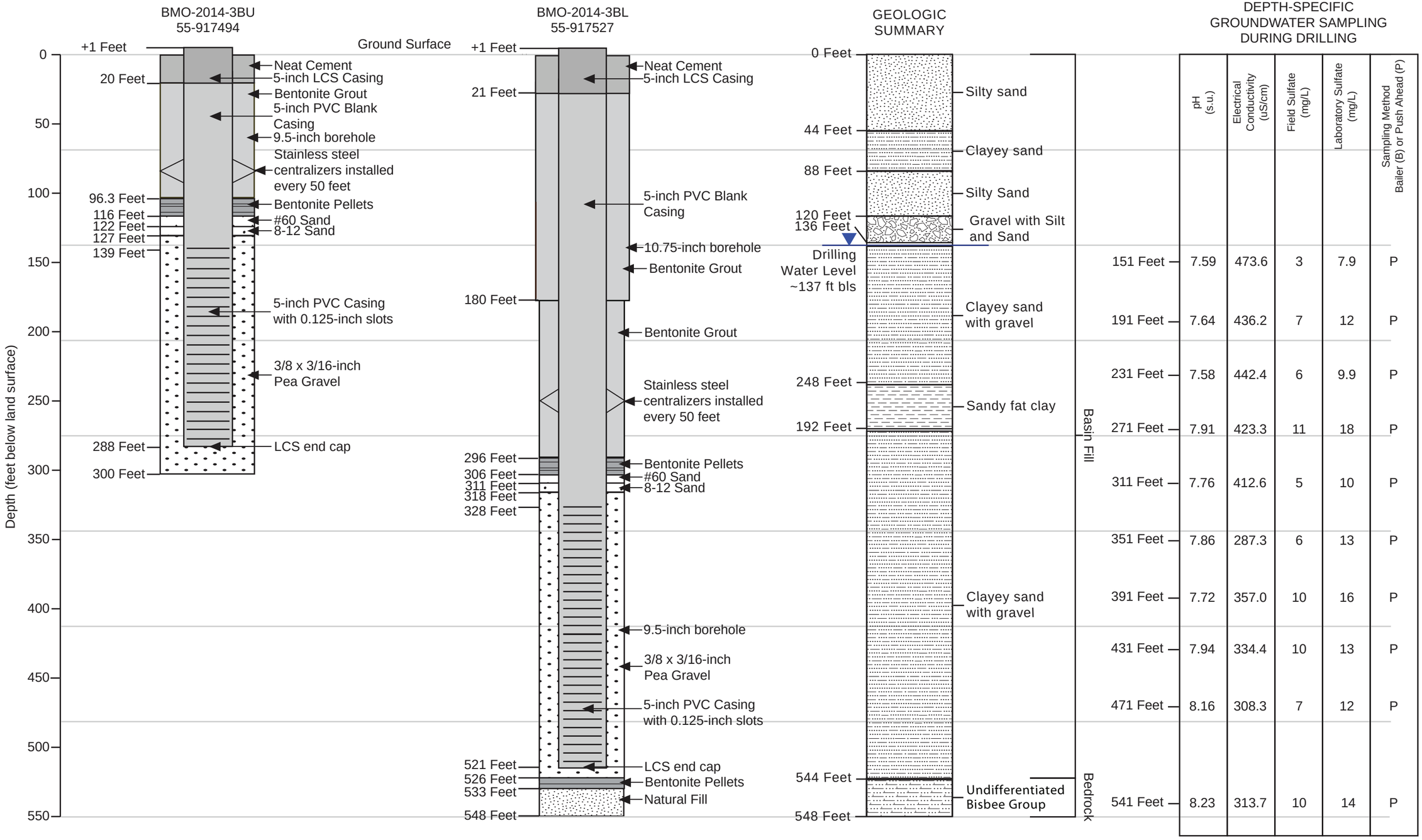
CLEAR CREEK ASSOCIATES

Site Coordinates: UTM Zone 12 North
Northing: 3468189.77 meters
Easting: 600790.00 meters
Elevation: 4560.31 feet amsl

Scale Approximate

Date	File ID
3/16/15	A055038-026

FIGURE 17
BMO-2014-2BU and BMO-2014-2BL Summary Log



CLEAR CREEK ASSOCIATES

Site Coordinates: UTM Zone 12 North
Northing: 3467789.33 meters
Easting: 600822.70 meters
Elevation: 4572.21 feet amsl

Scale Approximate

Date	File ID
3/16/15	A055038-027

FIGURE 18
BMO-2014-3BU and BMO-2014-3BL Summary Log

APPENDIX A

EXPANDED GROUNDWATER MONITORING PROGRAM DATA

APPENDIX A

TABLE OF CONTENTS

APPENDIX A.1

GEOLOGIC LOGS

Project No.: 287051	Boring Name: BMO-2014-1BL	* Percentages of fines, sand, & gravel based on visual estimates of volume
Project Name: Expanded Groundwater Monitoring	Date/ Time Started: 9/30/14 19:52	
ADWR Number: 55-917394	Date/Time Completed: 10/9/14 08:35	■ Relative % fines (F < 0.074 mm)
Location Cadastral: T24 R24 S18 ACC	Drilling Equipment: GP24-300RS	
Location NAD 83: 31° 20' 39.12" N, 109° 56' 34.04" W	Drilling Method: Rotosonic	□ Relative % sand (S >0.074 < 4.8 mm)
Drill Company: Cascade Drilling	Bit Size/Type: 10-inch (0-260 ft bls), 9-inch (260-398)	
Driller(s): C Rockhill and J Maples	Conductor Casing (type; diameter; depth): None	▨ Relative % gravel (G > 4.8 mm)
Logged By: V Hermosilla / M Lindsey / B Daigneau	Total Borehole Depth: 398 feet	

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
0	70	20	10				Weak	5YR 4/3	ML		Sandy Silt. Reddish brown, poorly graded, moist sample. Sand is very fine to medium-grained (with occasional coarse grain), subround, felsic (mostly quartz and plagioclase). Silt-sized fines.	MML logging - start drilling at 19:52 on 9/30/14 (24hr drilling). Munsell (Yr. 2000 revised) color by artificial light. Samples received in 2 foot core bags. T = Trace
4	60	30	10				None	7.5YR 4/4	ML		Sandy Silt. Brown, well-graded, moist. Gravel fine to very coarse (up to 70 mm). Subangular to subround, weathered felsic igneous rock. Sand is very fine to coarse subround, felsic with oxide staining.	
8	80	20	T				None	5YR 4/4	ML		Silt with Sand. Reddish brown, well-graded, moist. Mostly fine gravel (<2 cm), subround, weathered felsic rock. Sand is very fine to medium, predominantly felsic, subangular to subround. Silt fines with some weak plasticity.	
12	80	20	T				None	5YR 5/4	ML		Silt with Sand. Reddish brown, well-graded, moist. Trace gravel is fine (<2 cm). Subangular, felsic. Sand is mostly very fine to medium, subangular to subround, felsic silt fines, forms clumps that can be difficult to break between fingers.	
16	60	40	T				None	5YR 5/3	ML		Sandy Silt. Reddish brown, well-graded, moist. Silty fines form clumps with low to medium strength. Gravel is up to 4 cm, subround to subangular and includes a mafic volcanic rock. Sand is very fine to coarse, subround (from approximately 18 to 19 feet there is a pinkish grey (5YR 7/2) silt coating gravel), less sand in this interval.	
20	60	40	T				Moderate	5YR 5/3	ML/CL		Sandy Silt and Clay. Reddish brown, poorly graded, moist. Sand is very fine to medium. Silt with some clay, clumps have some plasticity. Some calcite veins going through core. Increasing HCl reaction.	

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
24	70	30	0				Strong	5YR 7/3	ML		Sandy Silt. Pink, poorly graded, moist. Sand is very fine to medium grained. Sections with higher calcite content are pinkish white (5YR 8/2). Clumps break apart, not plastic	
28	20	60	20				None	5YR 5/4	SM		Silty Sand with Gravel. Reddish brown, very well-graded, moist. Few cobbles are present (mostly felsic volcanic rock). Gravel is dominated by 2 cm sized gravels, subround to subangular of mixed lithology. Sand is fine to coarse, subangular to subround with mixed lithology. Oxide staining present.	Few cobbles present
32	30	70	T				Strong	5YR 5/4	SM		Silty Sand. Reddish brown, well-graded, moist. Overall, this interval fines downward. Fines are predominantly silt, some clumping from compaction but breaks fairly easily. Sand is very fine to medium.	
36	100	T	0				Strong	5YR 4/6	CL	42/48	Lean Clay and Silt, trace sand. Yellowish red, poorly graded, moist. Fairly uniform lean clay with silt, trace sand. Clay in clumps, breaks under moderate pressure. From 39 to 40 feet clay is harder and covered in white with a very strong HCl reaction.	36ft - Logging by VNH in sunlight.
40	20	70	10				Strong	10R 7/3, 10R 5/4	SM	46/48	Silty Sand. Pale red to weak red, medium to fine sand. Silt is dominant fine with approximately 5% clay. Gravel is coarse, dusky red (10R 3/3) fine sandstone/mudstone. Some secondary mineralization (calcite) on some grains. Trace gravel from 40 to 42 feet.	
44	60	30	10				Strong	5YR 4/4	CL	37/48	Sandy Lean Clay. Reddish brown lean clay coarsening down to well graded yellowish red (5YR 4/6) sand. Sand is fine to coarse, subangular. Gravel is fine, subangular, gray siltstone with secondary calcite coating.	
48	20	40	40				Moderate	5YR 4/4	SC/SG	43/48	Clayey Sand and Gravel. Reddish brown, well-graded gravel, coarse dominant, angular to subangular, gray siltstones and light gray limestone. Calcite secondary mineralization on gravels. Well-graded reddish brown sand, subangular.	
52	20	40	40				Moderate	5YR 4/4	SC/SG	40/48	Same as above. Some cobbles, highly angular.	

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
56	20	10	70				Strong	5YR 5/3	GC	42/48	Clayey Gravel. Reddish brown, angular to subangular, coarse gravel consisting of light gray limestone and gray siltstone, with secondary mineralization of calcite. Clay is reddish brown, lean. Sand is subangular, medium to coarse. Cobbles present up to 4 inches, very angular.	
60	30	50	20				Moderate	5YR 4/4	SC	45/48	Clayey Sand with Gravel. Reddish brown, poorly graded, angular to subangular sand. Clay is reddish brown (same) lean. Gravel is fine to medium, angular, light gray limestone and gray siltstone with secondary mineralization of calcite.	
64	30	50	20				Strong	5YR 4/4	SC	42/48	Same as above.	
68	30	50	20				Strong	5YR 4/4	SC	40/48	Same as above. Some cobbles, same composition as gravel.	
72	40	50	10				Strong	5YR 4/4	SC	42/48	Clayey Sand. Reddish brown, poorly graded, angular to subangular sand. Section fines downward to fat clay, also reddish brown. Bottom 4 inches is 95% fat clay. Gravel is angular, light yellowish brown (2.5Y 6/3), fine sandstone with secondary mineralization of calcium coating exterior.	
76	70	30	T				Strong	5YR 5/4	CH	40/48	Sandy Fat Clay. Reddish brown fat clay with well-graded sand. Sand is subangular to subrounded. Trace gravel. Whitish patches of calcium in clay and sand. Clay predominantly from 76 to 78 feet.	
80	50	40	10				Strong	5YR 4/4	CH/ML	42/48	Sandy Fat Clay/Silt. Reddish brown fat clay and silt (50/50) with poorly graded, subrounded sand. Gravel is angular, gray, siltstone with calcium mineralization on exterior.	
84	40	40	20				Strong	5YR 4/4	SC/SM	42/48	Clayey, Silty Sand with Gravel. Reddish brown well-graded subrounded sand with lean clay and silt. Gravel is subangular to subrounded, gray limestone, gray siltstone with calcium mineralization on surface. Calcium deposited with sand and fines.	

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
88	50	40	10				Strong	5YR 4/6	CL	36/36	Sandy Lean Clay. Yellowish red, lean clay and silt with poorly graded, subangular sand. Sand is polylithic deriving from local strata (sandstone, mudstone, limestone). Gravel is well graded, angular to subangular, limestone and siltstone. Secondary mineralization present throughout sediment, and coating gravel (calcium).	88ft - 10/1/14 Logging by VNH in sunlight. This interval (3 feet) determined by driller and helpers.
91	40	50	10				Strong	5YR 4/6	SC	36/48	Clayey Sand. Same description as above.	
95	30	60	10				Strong	5YR 4/6	SC	43/48	Clayey Sand. Same description as above.	
99	60	30	10				Strong	5YR 4/6	CH	45/48	Sandy Clay. Same description as above. Some cementation at 101 feet and 103 feet.	
103	70	30	T				Strong	5YR 4/6	CH	43/48	Same as above. More cementation present.	
107	40	60	T				Strong	5YR 4/4	SC	41/48	Clayey Sand. Reddish brown, poorly graded. Upper interval (107 to 109 feet) is clay dominant as above. 109 to 111 feet has increase in grain size, sand dominant, fine to coarse.	107ft - Logging by MML in artificial light.
111	40	60	T				Strong	5YR 4/4	SC	42/48	Clayey Sand. Reddish brown, well-graded, fines are weakly to moderately cemented. Sands predominantly have fine to medium grain size.	

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
115	70	20	10				Strong	5YR 4/3	CH	41/48	Sandy Fat Clay. Reddish brown, poorly graded. Fat clay is soft and plastic. Sand is predominantly fine to medium grained, gravel is fine and up to 4.5 cm. Some large gravels have calcite cemented to sides, subround and igneous. Sample coarsens downward, HCl reaction increases with depth.	
119	70	20	10				Strong	5YR 5/3	ML	43/48	Sandy Silt. Reddish brown. Very fine to medium sand, gravel fine up to approximately 3 cm, mostly volcanic, subangular with evident cemented calcite. Some clay with silt but not very fat, core is moderately to well compacted. Fines downward.	SWL = 121.97 ft bls
123	70	20	10				Strong	5YR 5/3	ML	40/48	Same as above.	
125	80	20	T				Strong	5YR 5/3	CH		Fat Clay with Sand. Reddish brown, poorly graded. Soft plastic, sticky clay that is more compact with depth, fine sand dominant. Calcite streaks and clumps present.	
127	70	20	10				Strong	5YR 5/3	CH	44/48	Sandy Fat Clay. Same as above plus polylithic (includes light grey limestone) subround to subangular gravel up to approximately 1.5 cm.	
131	80	20	T				Strong	5YR 5/3	CH	44/48	Fat Clay with Sand. Same as above.	
135							No sample collected.					unable to collect core sample
136	70	20	10				Strong	5YR 5/3	CH	37/48	Sandy Fat Clay. Reddish brown, poorly graded. Soft, sticky clay (less compacted than above). Predominantly fine sand and fine gravel, polylithic, subround.	
140	80	20	T				Strong	5YR 5/3	CH	45/48	Fat Clay with Sand. Reddish brown, poorly graded, soft clay, well compacted from 140 to 143 feet. At 143 feet, increase in grain size and calcite streaking. Less compaction.	141ft - Collected water sample 1BL-141 via push ahead: pH = 7.46, EC = 533.2µS/cm, SO_4 = 54mg/L
144	80	20	T				Strong	5YR 5/3	CH	42/48	Fat Clay with Sand. Reddish brown, slightly coarser with numerous calcite streaks, trace gravel of limestone from 44 to 146 feet. Then finer from 146 to 148 feet with greater compaction.	

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
148	70	30	T				Strong	5YR 4/3	CH	34/36	Sandy Fat Clay. Reddish brown, well-graded, well compacted. Very fine to coarse sand (angular to subangular, polylithic) but predominantly finer. Heavy calcite streaking plus oxide staining.	
151	70	30	T				Moderate	5YR 5/3	CH	38/48	Sandy Fat Clay. Reddish brown, same as above except calcite streaking is absent, increase in coarse sand (coarsens downward).	
155	70	30	T				Moderate	5YR 5/3	CH	37/48	Sandy Fat Clay. Same as above.	
159	60	20	20				Moderate	5YR 5/4	CH	39/48	Sandy Fat Clay. Reddish brown, well-graded clay to 7 cm gravel. Clay to coarse sand dominate, polylithic.	159ft - Logging by BJD in sunlight.
163	60	30	10				Moderate	5YR 5/4	CH	40/48	Sandy Fat Clay. Reddish brown, well-graded, firm clay to 3 cm gravel. Clay to coarse sand dominant.	
167	70	20	10					5YR 4/4	CH	48/48	Sandy Fat Clay. Reddish brown, well-graded, firm to hard clay. Some gravel up to 4 cm. Clay to coarse sand dominant. Limestone and decomposed limestone (calcium carbonate) present.	
171	60	40	T				Strong	5YR 7/3	CH	48/48	Sandy Fat Clay. Reddish brown, hard clay. Well-graded, subangular sand and poorly graded gravel (up to 2 cm). Composition as above, some free quartz.	
175	30	60	10				Strong	5YR7/3	ML	48/48	Silty Sand. Pink, silty sand with some gravel grades to hard sandy clay in last foot. Gravels up to 7 cm.	

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
179	60	30	10				Strong	5YR 6/3	CL		Sandy Lean Clay. Hard, silty clay with gravel up to 3 cm.	
180	40	50	10				Strong	5YR 4/4	SC	36/36	Clayey Sand. Reddish brown clay with some silt, up to 2 cm gravels, fine sand dominant.	180ft - Failed push-ahead sample attempt
182	60	30	10				Strong	5YR 4/3	CL	48/48	Sandy Clay. Reddish brown sand and gravel suspend in silty clay matrix. Well-graded with gravels up to 2 cm.	
186	60	30	10				Strong	5YR 4/3	CL	42/48	Sandy Clay. Reddish brown. As above except firm.	
190	50	40	10				Strong	5YR 4/3	CL	48/48	Sandy Clay. Reddish brown, well-graded silty clay to 3 cm gravel. Clay to medium sand dominant. Sand and gravel are polylithic.	
194	50	40	10				Strong	5YR 4/4	CL	23/24	Sandy Clay. Reddish brown, else same as above, gravels are subround and igneous dominant.	194ft - Logging by MML in artificial light.
196	50	40	10				Moderate	5YR 4/4	CL	43/48	Sandy Clay. Reddish brown, well-graded, more clay than above, forms small balls, sand and gravel are mostly igneous rock, subrounded.	
200	50	40	10				Strong	5YR 5/4	CL	40/48	Sandy Clay. Reddish brown, lots of calcite streaks, silty clay is soft, subrounded sand and gravel is polylithic. Sample is moderately well compacted and damp.	200ft - Attempted water sample with push-ahead sampler - only produced mud.
204	50	40	10				Strong	5YR 5/4	CL	42/48	Same as above, although more compacted from 206 to 208 feet.	

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
208	60	30	10				Strong	5YR 6/4	CL	40/48	Sandy Clay. Core is mostly dry, barely damp. Light reddish brown, well-graded. Silty clay (clay dominant) easily balls. Low to moderate compaction, breaks easily in hand. Mostly fine sand. Coarse sand and gravel are subrounded, polylithic. One cobble (limestone) was rounded. Calcite streaking.	
212	60	30	10				Strong	5YR 6/4	CL	40/48	Same as above, sample is dry.	
216	60	30	10				Strong	5YR 6/4	CL	39/48	Same as above.	
220	50	40	10				Strong	5YR 6/4	CL		Sample is dry, same as above with increase in sand	220ft - Sample attempted. No water in push-ahead sample tool.
224	50	40	10				Strong	5YR 6/4	CL		Same as above.	
226	50	40	10				Weak	5YR 5/3	CL		Sandy Clay. Reddish brown, very moist clay. Loss of calcite streaks, clay is softened, rollable, can feel grit of sand. Section fines downward.	
229	40	50	10				Weak	5YR 5/3	SC		Clayey Sand. Clay as above. Fine to coarse sand. Sand is subround, polylithic. Sample is wet.	
230							Moderate	5YR 5/3	SW		Poorly Graded Sand. 230 to 231 feet: sand lens fine sand to 5 cm gravel. No fines	230ft - driller noted it was easier to drill. BJD logging.
232	20	50	30				Moderate	5YR 5/6	SC		Clayey Sand with Gravel. Well-graded clay to 3 cm gravel. Polylithic including igneous and sedimentary rocks, subangular to subround.	
234	40	30	30				Moderate	5YR 5/4	SC		Clayey Sand with Gravel. Saturated silty clay with sand and gravel suspended within. Sand and gravels are polylithic, subangular to subround as above.	235ft - No water in push-ahead sampler. Bail sample: pH=7.22, EC=651.0µS/cm, field SO_4=160mg/L.

Notes: : Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak none)

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
236	10	50	40				Weak	2.5YR 5/4	SW-SC	38/48	Well-graded Sand with Clay and Gravel. Well-graded. Some clay to 5-inch cobbles. Medium sand to 3 cm gravel dominant. More clay at 236 feet grades to more coarse at 240 feet. Subangular to subround.	
240	40	40	20				Moderate	2.5YR 5/4	SC	46/48	Clayey Sand with Gravel. Reddish brown, very well-graded. Few cobbles also present with fine to coarse gravels, polylithic, subround. Fine to coarse sand, polylithic, subround to subangular. Silty clay (dominant from 241.5 to 244 feet) is sticky and plastic and saturated (fines downward).	
244	40	40	20				Moderate	2.5YR 5/4	SM	46/48	Silty Sand with Gravel. Same as above, except more silt compared to clay and it coarsens downward.	
248	40	40	20				Weak	5YR 5/4	SC	37/48	Clayey Sand with Gravel. Reddish brown, very well-graded, overall weak HCl reaction unless on a piece of limestone. Silty clay is saturated, very soft. Lots of coarse sand, and fine to coarse gravels are polylithic, subround to subangular and increases with depth. Cobbles (few) still present. Also, more clay than above unit.	248ft - collected open borehole sample: pH=6.65, EC=555.2µS/cm, field SO_4= 96mg/L.
252	40	40	20				Weak	5YR 5/4	SC	41/48	Same as above with less coarse sand.	
256	40	40	20				Weak	5YR 5/4	SC	37/48	Same as above.	
260	40	50	10				Strong	7.5YR 5/3	SC	36/48	Clayey Sand. Brown, very well-graded, saturated. Polylithic sand and gravel, subround to subangular, coarsens downward.	260ft - failed push-ahead sample attempt.
264	30	40	30				Strong	7.5YR 5/3	SC	37/48	Clayey Sand with gravel. Same as above with more gravel.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
268	30	40	30				Strong	5YR 5/3	SC	22/24	Clayey Sand with Gravel. Reddish brown, very well-graded, sand coarsens downward. Silty clay is saturated, very soft and plastic. Sands (mostly fine to medium on top) and gravels (up to approximately 3 cm) are polylithic (igneous and sedimentary) and subround to subangular.	
270	40	30	30				Moderate	5YR 4/4	SC	14/24	Clayey Sand with Gravel. Reddish brown, fat clay with well-graded, subrounded gravel and medium to coarse sand. Gravel is dark reddish brown siltstone and gray limestone. One large (6-inch) siltstone cobble in core. Secondary mineralization (calcium) on some gravel surfaces.	270ft - Stop drilling for two days off. Resume 10/6/14. Core described by VNH in sunlight. -most of 270-271 was not recovered.
272	40	30	30				Moderate	5YR 6/3	SC	44/48	Same as above, approximately four more cobbles. Some light reddish brown clay present, some oxidation present (mixed in with clay), some cementation present.	
276	40	20	40				Strong	5YR 5/4	GC	46/48	Clayey Gravel with Sand. Reddish brown, gravelly clay with sand and cobbles. Gravel is subangular to subrounded limestone, siltstone, sandstone, and some quartz. Sand is same lithology. Gravel is well-graded. Clay is fat.	
280	40	30	30				Moderate	2.5YR 5/4	SC	39/48	Clayey Sand with Gravel. Reddish brown, very well-graded. Silty clay is very soft, very sticky, plastic, springy and saturated (fat clay). Sand (mostly fine to medium) and gravel (up to 4 cm) are subround to subangular, polylithic.	280ft - collect borehole sample: pH=7.56, EC=559.4µS/cm, field SO_4= 134mg/L. Logging by MML (artificial light).
284	30	40	30				Moderate	2.5YR 5/4	SC	44/48	Clayey Sand with Gravel. Reddish brown, very well-graded. Silty clay is soft (less than above), sticky, and saturated (fat). Sand is fine to coarse (much more coarse sand than above), gravel is up to 4 cm, both are polylithic with visible cobbles.	
288	30	30	40				Moderate	5YR 5/3	GC	22/24	Clayey Gravel with Sand. Reddish brown, very well-graded. Silty clay is firm, fat, plastic, and saturated. Fine to medium sand, fine to approximately 3 cm gravel.	
290	10	40	50				Moderate	5YR 5/3	GW - GC	20/24	Well-graded Gravel with Clay and Sand. As above but with coarse sand.	
292	30	30	40				Moderate	5YR 5/3	GC	45/48	Clayey Gravel with Sand. Reddish brown, very well-graded. Silty clay is hard (softer near top), and gets leaner with depth. Gravel is up to 4 cm and sand (fine to coarse but fines downward) is subround to subangular.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
296	20	40	40				Strong	5YR 5/3	SC	43/48	Clayey Sand with Gravel. Reddish brown, very well-graded. Silty clay has fat qualities, moist (gets drier with depth). Sand (mostly fine to medium) and gravel (fine to coarse) with at least one visible cobble (approximately 8 cm) are subround to subangular and polylithic (both igneous and sedimentary rocks present).	
300	10	60	30				Strong	5YR 4/3	SW - SM	41/48	Well-graded Sand with Silt and Gravel. Reddish brown, very well-graded. Fines are predominantly silt. Very fine to coarse sand is polylithic, subangular to subround as is gravel (fine to approximately 4 cm). Core is mostly dry.	300 ft - Collect borehole sample: pH=7.89, EC=603.4µS/cm, field SO_4= 128mg/L.
304	10	60	30				Strong	5YR 4/3	SW - SM	40/48	Well-graded Sand with Silt and Gravel. Same as above except saturated.	
306	10	60	30				Strong	5YR 4/3	SW - SC	37/48	Well-graded Sand with Clay and Gravel. Same as above except fines include fat clay and sand is predominantly very fine to medium grained.	
308	10	60	30				Strong	5YR 4/3	SW - SC		Well-graded Sand with Clay and Gravel. Reddish brown, well-graded, fat clay, easily rolls, seems to be collected in pockets. Sand is fine to coarse. Gravel is fine up to approximately 5 cm (gravels coarsen downward), both are subround to subangular and polylithic.	
312	20	50	30				Strong	5YR 4/3	SC		Clayey Sand with Gravel. Same as above, increase in fat clay presence, increase in gravel size with depth to include cobbles.	
316	30	50	20				Strong	5YR 4/3	SC		Clayey Sand with Gravel. Very well-graded, reddish brown, fat clay, easily rolls. Sand is predominantly very fine to medium, giving the sample a spongy texture, fine gravel to small cobbles present, same polylithic subround to subangular, increase in calcite mineralization.	
320	20	50	30				Strong	5YR 4/3	SC		Clayey Sand with Gravel. Less clay. Sand coarsens with depth, else the same (including presence of cobbles and calcite mineralization).	320 - Collect water sample from borehole via Hydrasleeve: pH=8.27, EC=598.5µS/cm, field SO_4= 80mg/L
324	20	60	20				Strong	5YR 4/3	SC		Same as above, more sand (mostly very fine to some coarse).	

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Depth (feet)	* Est. %			* Est. %			HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
	F	S	G	F	S	G						
328	20	60	20				Strong	5 YR 4/4	SC		Clayey Sand with Gravel. Reddish brown, very well-graded. Fat clay is soft and plastic. Sand is very fine to coarse, polylithic, subround to subangular. Gravel is mostly fine (<2 cm) and gets finer with depth, polylithic (sedimentary and igneous) and subround to subangular. Core is saturated. No visible cobbles.	
332	20	60	20				Strong	5 YR 4/4	SC		Same as above except from 332 to 334 feet, core is mostly dry.	
336	20	50	30				Strong	5YR 5/3	SC		Clayey Sand with Gravel. Reddish brown, very well-graded. Silty, fat clay is harder than above (more compact). Polylithic, subround to subangular sand is very fine to coarse. Polylithic, subround/subangular gravel is fine (mostly <3 cm) and coarsens downward to small cobbles (approximately 8 cm). Core is moist.	
340	30	70	T				Moderate	5YR 5/3	SC		Clayey Sand. Reddish brown, poorly graded. Silty fat clay is soft, sticky, spongy, plastic, and saturated. Sand is fine to coarse (well-graded), polylithic, subangular to subround. The few gravels are subround. Minimal calcite mineralization.	
344	20	60	20				Strong	5YR 5/3	SC		Clayey Sand with Gravel. Reddish brown, well-graded. Silty fat clay (silt dominant from 346 to 348 feet) is soft and plastic (harder from 346 to 348 feet). Polylithic, subround to subangular sand is very fine to coarse (as above). Polylithic subangular to subround gravel is fine to coarse (up to 70 mm). Core is saturated.	
348	20	50	30				Strong	5YR 5/3	SC		Clayey Sand with Gravel. Very well-graded, same as described above except cores is dry from 350 to 352 feet.	
352	20	60	20				Strong	5YR 4/3	SM	41/48	Silty Sand with Gravel. Reddish brown, well-graded. Predominantly silty fines, highly compacted. Sand is very fine to medium. Gravel is subround to subangular, polylithic and up to approximately 3 cm, mostly. There is calcite mineralization resulting in white streaks.	
356	20	60	20				Strong	5YR 4/3	SM		Same as above.	

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Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
360	60	10	30				Moderate	10YR 6/6	CH		Gravelly Fat Clay. Brownish yellow, very well-graded. Core from 360 to 361 feet is very hard, below 361 feet it is very soft, creamy and sticky, very plastic and saturated. Sand is fine, offering very little grit to the clay. Gravels are fine to cobbles, angular to subround, sandstone (fine grained, greenish grey, non calcareous, and fossiliferous limestone).	360ft - collect borehole sample via bailer: pH=8.03, EC=539.3µS/cm, field SO_4= 106mg/L. *Color change
364	60	10	30				Moderate	10YR 6/6	CH		Same as above.	
365	50	10	40				Weak	10YR 6/4	CH		Gravelly Fat Clay. Light yellowish brown, very well-graded, fat clay, soft, plastic, and saturated. Large cobbles of a light greenish grey fine grained sandstone.	
368	50	10	40				None	7.5YR 6/6	CH		Gravelly Fat Clay. Reddish yellow, very well-graded. Very saturated clay. Fine sand (that coarsens slightly with depth). Gravels and cobbles (some larger than bit) are subangular to subround, pale red (oxidized) sandstone (fine grained).	
372							Strong	GLEY1-8/5GY			Light greenish gray, semisoft, moist. Trace fine sand. Highly weathered Cintura/Morita Formation.	**372 feet: Bedrock Contact**
373							Moderate	5YR 5/6			Fine grained sandstone. Cuttings appear as silt and sand with gravel sized pieces of sandstone.	Bedrock drilling: Cintura or Morita Formation
378							Strong	See Description			Varies from damp to dry. Color is pale olive (5Y 6/3) near top, white (5Y 8/1) in middle, to pale yellow (205Y 7/4). Some breaks down to powder, others cobble size.	
382							Strong	10YR 7/4			Light greenish gray fine grained sandstone in cobble and sand sized cuttings.	
384							Moderate	5YR 5/6			Cuttings appear as sandy fat clay. With pieces of light red fine grained sandstone.	384ft - driller notes slower drilling.

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
388							Strong	10YR 8/6, 8/4			Siltstone and fine-grained sandstone with clay. Yellow and pale yellow, friable. Some cobbles of fine sandstone with red streaks. Cintura or Morita Formation.	388ft - Logging by VNH, 10/9/14 with artificial light.
392							Strong	2.5Y 8/3 and 7.5YR 6/6			Mudstone. Pale yellow, friable, grading down to light yellowish brown (2.5Y 6/3) mudstone and clay. Some reddish yellow (7.5YR 6/6) spots. Pale yellow (5Y 8/3) mudstone and clay, friable. Some calcium cement near bottom.	
396							Strong	5Y 8/3			Mudstone and clay. Pale yellow, friable, some calcium cement	398ft - collect borehole sample via bailer: pH=8.09, EC=609.2µS/cm, field SO_4= 146mg/L.
398												**Total Depth: 398 feet** 10/9/14 08:35

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CLEAR CREEK ASSOCIATES

Project No.: 287051	Boring Name: BMO-2014-2BL
Project Name: Expanded Groundwater Monitoring	Date/ Time Started: 10/17/14, 07:16
ADWR Number: 55-917452	Date/Time Completed: 10/28/14 20:47
Location Cadastral: SE1/4of SW1/4 of NE1/4 S18 T245 R24E	Drilling Equipment: GP24-300RS
Location NAD 83: 31°20'37.67"N, 109°56'25.58"W	Drilling Method: Rotosonic
Drill Company: Cascade Drilling	Bit Size/Type: 10.75 in to 250 ft bls, 9.5 in from 250 to 410 ft bls
Driller(s): C RockHill and J Maples	Conductor Casing (type; diameter; depth): None
Logged By: M Lindsey and V Hermosilla	Total Borehole Depth: 410 feet

* Percentages of fines, sand, & gravel based on visual estimates of volume

- Relative % fines (F < 0.074 mm)
- Relative % sand (S >0.074 < 4.8 mm)
- Relative % gravel (G > 4.8 mm)

Depth (feet)	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
0	60	40	T	None	7.5YR 2.5/2	MH		Sandy Silt. Very dark brown, poorly graded. Clayey silt (clay, more present in upper 2 feet, is soft, forms balls) to very fine to fine sand. Roots are present throughout entire interval, with an organic smell. Clay balls have high dry strength.	Start Drilling 10/17/14 07:16, 16hr/day. Start logging 10/17/14 by MML. Munsell year 2000 revised. Clear skies.
4	40	60	T	None	7.5YR 4/4	SM		Silty Sand. Brown, poorly graded, no HCl reaction (except for on calcite veins). Clayey silt (less clay than above and low dry strength) to sand (very fine to medium). Sand coarsens downward to include some coarse sand. In addition to calcite streaking, black and orange oxide streaking is prevalent.	
8	40	60	T	None	7.5YR 4/4	SM		Same as above.	
10	10	70	20	None	2.5YR 4/6	SW-SM		Well-graded Sand with Silt and Gravel. Red, well-graded, highly oxidized, slight metallic odor. Fines are silty. Sand is very fine to coarse, angular to subround, gravel is fine (< 1.5 cm), mostly subround. Lithology is mixed, felsic to mafic, both igneous and sedimentary.	
12	10	80	10	None	2.5YR 4/6	SW-SM		Well-graded Sand with Silt. Description same as above except overall less gravel and less coarse sand.	
16	10	50	40	Strong	5YR 4/4	SW-SM		Well-graded Sand with Silt and Gravel. Yellowish red, very well-graded. Fines are silty. Very fine to coarse, subround to angular sand of mixed lithology. Fine gravel up to 4 cm, subround to subangular of mixed lithology. Increase in calcite presence, greatest amount of calcite from 19 to 20 feet, is also more consolidated than portion with less calcite.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
20	20	70	10				Strong	7.5YR 6/4	SM		Silty Sand. Light brown, poorly graded. Fines are silty. Predominantly fine to medium sand. The sample has low to moderate toughness. Many gravel size clumps, easily break between fingers. Coarsens with depth, majority of gravels from 22 to 24 feet.	Overcast - affects Munsell color.
24	10	60	30				None	7.5YR 4/4	SW-SM		Well-graded Sand with Silt and Gravel. Brown, well-graded. Fines are silty. Well-graded sand (fine to coarse), angular to subround of mixed composition. Fine gravel (<2 cm) is subround and also of mixed composition.	
28	10	60	30				None	7.5YR 4/4	SW-SM		Same as above, slightly more coarse.	
30	10	40	50				Strong	5YR 8/1	GW-GM		Well-graded Gravel with Silt and Sand. Well-graded. White, silty fines coat section. Mostly medium sand. Fine gravel to cobbles are subround to subangular, igneous and sedimentary rocks present (10% cobbles (fine) included in gravel percentage)	
32	10	50	40				Strong	7.5YR 6/2	SW-SM		Well-graded Sand with Silt and Gravel. Light brown, increase in sand, fine to coarse, subangular to subround of mixed lithology, else the same.	
34	10	90	T				Strong	5YR 6/4	SP-SM		Poorly Graded Sand with Silt. Light reddish brown, poorly graded. Fine sand, forms clumps with low to moderate toughness.	
36	10	90	T				Strong	5YR 6/4	SP-SM		Same as above except coarsens gradually with depth.	
40	20	60	20				Strong	5YR 5/4 and 5YR 6/4	SM	41/48	Silty Sand with Gravel. Well-graded sand with silt and gravel, trace cobbles. Reddish brown, fine to medium sand with silt, subangular to subround. Grades to more cobbly and gravelly interval, which is light reddish brown in color (5YR 6/4). Gravel is well-graded, fine to coarse, subangular grains. Mostly fine sandstone and siltstone (dark reddish brown) and some igneous rocks.	40ft - VNH logging 10/17/14, sunlight.
44	90	10	T				Strong	5YR 4/5	ML / CL	41/48	Silt/Lean Clay. Silty clay with some fine sand. Yellowish red (5YR 4/6) and reddish brown (5YR 4/4) silty lean clay with some fine sand. Crumbles easily. White streaks throughout (calcium). Grades down to slightly more cemented silty clay.	
48	80	20	T				Strong	5YR 4/5	ML / CL	40/48	Silt/Lean Clay with Sand. Same as above, slightly more sand. Sand is fine, angular to subangular.	

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
52	30	50	20				Moderate	2.5YR 5/4	SC	43/48	Clayey Sand with Gravel. Reddish brown, silty clay (clay dominant), sand is fine to coarse, subangular to subrounded. Gravel is fine to medium, subangular, greenish-grey sandstone, some dark reddish brown siltstones. White calcium streaks and some oxidation present. Trace cobbles (same lithology as gravel).	
56	30	50	20				Moderate to Strong	2.5YR 5/4	SC	42/48	Same as above.	
60	20	50	30				Moderate to Strong	2.5YR 5/4	SC	39/48	Same as above, more white calcium coating grains.	
64	30	50	20				Strong	2.5YR 5/4	SC	42/48	Same as above.	
68	20	50	30				Strong	2.5YR 5/4	SM / SC	42/48	Same as above. More white calcium coating grains and clay clumps. More cobbles. Cobbles include black metamorphic rock with quartz veins.	
72	20	50	30				Strong	5YR 5/4 and 5YR 6/4	SM	41/48	Silty Sand with Gravel. Well-graded silty sand. Pink (5YR 7/3) and reddish brown (5YR 5/4) silt and fine sand, up to coarse sand. Subangular to subrounded. Gravel is angular to subangular, grey limestone and dark reddish brown sandstone.	
76	30	50	20				Weak	5YR 4/4	SM / SC	45/48	Silty/Clayey Sand with Gravel. Well-graded silty, clayey sand. Reddish brown, silty clayey sand. Sand is fine to coarse, subangular to subrounded. Gravel is fine, angular, dark grey siltstone (breaks in flat pieces) and some reddish grey sandstone. Calcium coating on grains.	
80	30	50	20				Strong	5YR 4/4	SM / SC	44/48	Same as above, oxidation is present.	
82	50	30	20				Strong	5YR 4/4	CH		Sandy Fat Clay with Gravel. Reddish brown fat clay. Oxidation present. Sand is fine to medium, subangular. Gravel is fine, angular, greenish grey sandstone. Gravel and some sand clumps are coated in calcium.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
84	70	30	T				Weak	5YR 4/4	CH	47/48	Sandy Fat Clay. Reddish brown fat clay with moderately graded sand, fine to medium, subangular. Patches of yellow and red oxidation present. Patches of calcium present. A moderate amount of moisture present.	Continue logging by VNH, 10/17/14 in artificial light
88	80	20	T				Weak	5YR 4/4	CH	41/48	Fat Clay with Sand. Same as above. Increase in moisture. Patch of olive green sand.	
92	60	40	T				Weak	5YR 4/4	CH	43/48	Sandy Fat Clay. Brown. Clay with poorly graded, medium, subrounded sand. Sand is polylithic (limestone, sandstone, siltstone, volcanics). A lot of moisture.	
94	30	50	20				Strong	5YR 4/4	SM / SC		Silty/Clayey Sand with Gravel. Reddish brown silt and clay (50/50), well-graded (fine to coarse), subrounded sand (polylithic as above). Gravel is fine to medium, subrounded to subangular, same lithology as sand. Oxidation present. Calcium coating on grains. Mostly dry interval.	
96	20	50	30				Strong	5YR 4/4	SM / SC	44/48	Same as above.	
100	20	50	30				Strong	5YR 4/4	SM / SC	45/48	Same as above. Increased calcium and cementation.	
104	20	70	10				Weak	5YR 4/4	SM / SC	46/48	Silty/Clayey Sand. Same as above.	
108	20	70	10				Moderate	5YR 4/4	SM / SC	43/48	Same as above.	
112	10	60	30				Moderate	5YR 5/4	SW-SC	42/48	Well-graded Sand with Gravel. Reddish brown, polylithic, well-graded (fine to coarse), angular to subround, with minor calcium cementation (as white clumps and streaks). Gravel is fine to medium, subangular to subround, also polylithic (sandstone, limestone quartz, volcanics), also with some calcium coating. Clay is present throughout, clumps easily. Interval is dry.	114ft - Pause drilling 10/17/15 for 2 days off. Resume drilling 10/20/14. Begin logging 10/20/14 by VNH in shade.

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
116	20	60	20				Moderate	5YR 5/4	SC	45/48	Clayey Sand with Gravel. Reddish brown, polylithic, well-graded (fine to coarse), angular to subrounded sand. Minor calcium cementation (as white clumps and streaks coating grains). Gravel is fine to medium, polylithic, subangular to subround. Clay present throughout, clumps easily. Interval is dry.	
120	20	70	10				Strong	5YR 5/4	SC	44/48	Clayey Sand. Lithology as described above.	
124	50	50	T				Strong	2.5YR 4/4	CH	39/48	Sandy Fat Clay. Reddish brown fat clay with well-graded, polylithic, subangular to subrounded sand. Interval is moderately cemented with calcium (white coating on grains and between clay). Interval has a little bit of moisture.	SWL= 126.28 feet bls (10/20/14 09:27)
128	40	50	10				Strong	2.5YR 4/4	SC	38/48	Clayey Sand. Same as above, more calcium, clay is harder between 129 and 130 feet, dry. Interval from 130 to 132 feet is very wet, sandy clay, very plastic.	
132	30	60	10				Weak	2.5YR 4/4	SC	43/48	Same as above, less calcium. Interval is very wet. Trace cobbles.	
136	20	60	20				Strong	5YR 5/3	SC	40/48	Clayey Sand with Gravel. Reddish brown. Fat clay with well-graded polylithic sand is subangular to subround. Gravel is mostly fine (<1 cm) with few up to 3 cm, polylithic, subangular to subround. Interval is damp, drying quickly in air, with moderate cementation and medium to high toughness.	136ft - Logging by MML in sunlight.
140	20	60	20				Strong	5YR 5/3	SC	41/48	Same as above.	
142	20	70	10				Strong	5YR 5/3	SC		Clayey Sand. Same lithology as above, interval is saturated, soft, increase in coarse sand.	142ft - Collect Open borehole sample via bailer: pH=7.67, EC=508.9µS/cm, field SO_4=34mg/L (confirmed at 35mg/L).
144	30	50	20				Strong	5YR 4/3	SC	42/48	Clayey Sand with Gravel. Reddish brown fat clay with predominantly fine to medium sand. Gravel is fine to coarse (up to 6 cm), subround mostly. Interval is saturated from 144 to 146 feet, and only moist from 146 to 148 feet. The moist section has high toughness. Lots of white calcium streaking.	

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Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
148	10	80	10				Strong	5YR 4/4	SP-SC	39/48	Poorly Graded Sand with Clay. Reddish brown, interval is damp and exhibits lot of calcite mineralization. Predominantly fine to medium sand, moderate to high toughness, moderate cementation. Gravel up to 3 cm, polylithic (sedimentary and igneous rocks present), subround.	MML continues logging in artificial light.
152	30	50	20				Moderate	5YR 4/4	SC	37/48	Clayey Sand with Gravel. Much less calcite mineralization than above, sample is saturated, soft to mildly firm. Fat clay is soft and plastic. Well-graded sand is subangular to subround and polylithic as is the gravel (up to 3 cm).	
156	20	60	20				Strong	5YR 4/4	SC	44/48	Clayey Sand with Gravel. Same color as above, fat clay with well-graded sand, soft, forms sandy balls. Sample is wet from 156 to 158 feet and damp from 158 to 160 feet. Lots of calcite mineralization from 158 to 160 feet, which is also harder to break apart (moderate to high toughness).	
160	20	70	10				Strong	5YR 4/3	SC	41/48	Clayey Sand. Reddish brown fat clay forms balls where saturated, well-graded with fine to coarse sand, subround to subangular. Subangular to subround fine gravel up to 3 cm is polylithic, although mostly limestone. Lots of calcite mineralization, sample is mostly damp with a saturated pocket around 161 feet.	
164	20	70	10				Strong	5YR 4/3	SC	38/48	Same as above, less moisture.	
168	20	50	30				Weak	5YR 5/4	SC	44/48	Clayey Sand with Gravel. Reddish brown, well-graded, lack of calcite mineralization, very saturated. Silty fat clay with predominantly coarse sand (angular to subround and polylithic). Gravel is fine (<1 cm) from 168 to 170 feet and coarsens to 3 cm from 170 to 172 feet.	
172	30	20	50				Moderate	5YR 4/3	GC	41/48	Clayey Gravel with Sand. Reddish brown, overall well-graded. Fat clay with poorly graded fine sand. Fine to coarse gravel, subround and subangular. Fine cobbles are subround, mostly reddish brown sandstone (cobbles are 20% of gravel percentage).	
174	20	60	20				Strong	5YR 4/4	SC		Clayey Sand with Gravel. Reddish brown, well-graded, damp sample, lots of calcite mineralization causing moderate toughness and cementation of fine grains. Predominantly fine to medium sand. Fine gravel up to 3 cm.	
176	20	60	20				Strong	5YR 4/4	SC	45/48	Same as above, more cementation, harder.	

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Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
180	70	20	10				Weak	5YR 4/4	CH	43/48	Sandy Fat Clay. Reddish brown clay with moderately graded sand (fine to medium) and some gravel (fine). Interval is moderately cemented, streaks of calcium present, some patches of oxidation. Sand is polylithic (limestone, sandstone, volcanics, quartz), subangular to subrounded. Gravel is same as sand. Interval is fairly wet.	180ft - Collect Open borehole sample via bailer: pH=7.65, EC=527.8µS/cm, field SO_4=50mg/L Begin logging by VNH, 10/21/14 in shade.
184	50	30	20				Moderate	5YR 4/4	CH	44/48	Sandy Fat Clay with Gravel. Same as above. Trace cobbles present. Increase in cementation.	
188	50	30	20				Strong	5YR 4/4	CH	40/48	Same as above. Increase in cementation, decrease in moisture. Dry from approximately 190 to 192 feet.	190ft - Resume drilling on 10/21/14.
192	40	40	20				Weak	5YR 4/4	SC	46/48	Clayey Sand with Gravel. Same as above. Increase in moisture.	
194	30	50	20				Strong	5YR 4/4 with 7.5YR 7/1	SC		Clayey Sand with Gravel. Reddish brown clayey sand (fine to coarse) coated in pink clay/silt/fine sand, which is very reactive to HCl. Dry, poorly cemented. Sand and gravel as described above.	
196	40	40	20				Strong	5YR 4/4	SC	42/48	Clayey Sand with Gravel. Reddish brown clay with well-graded sand (fine to coarse) and some gravel. Interval is well cemented, dry. Streaks, clumps, and coating of calcium present.	
198	40	50	10				Weak	2.5YR 3/4	SC		Clayey Sand. Dark reddish brown fat clay with polylithic sand (as described above). Interval is very wet.	
200	40	30	30				Moderate	5YR 4/4	SC	44/48	Clayey Sand with Gravel. Reddish brown fat clay with polylithic, well-graded sand (fine to coarse) and gravel (fine to medium). Trace cobbles. Sand and gravel are angular to subrounded, limestone, sandstone, siltstone, cobbles, volcanics, quartz. Interval starts very wet and gets dry down to 204 feet. 200 to 202 feet is very plastic; 202 to 204 feet is more cemented. Calcium present.	
204	40	40	20				Strong	5YR 4/4	SC	38/48	Clayey Sand with Gravel. Reddish brown. Same lithology as above. Interval starts moist and is damp from 206 to 208 feet, slight coarsening of sand with depth.	204ft - Logging by MML (daylight).
208	50	40	10				Strong	5YR 4/4	CH	44/48	Sandy Fat Clay. Same as above. Interval is moist, less cemented than above.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. %			* Est. %			HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
	F	S	G	F	S	G						
212	30	60	10				Strong	5YR 4/4	SC		Clayey Sand. Reddish brown at moist center. Sand is well-graded (fine to coarse) but mostly fine to medium, subangular to subround and of mixed composition. Gravel is mostly subround and less than 2 cm.	
214	10	60	30				Strong	5YR 4/4	SW-SC		Well-graded Sand with Clay and Gravel. Reddish brown at moist center, very poorly sorted. Fine to coarse sand is polylithic (igneous and sedimentary rocks present), subangular to subround. Gravel is subround to subangular, mostly <3 cm with few up to 6 cm, polylithic. Trace cobbles. Material is loose, with greater cementation from 216 to 218 feet.	
218	20	60	20				Strong	5YR 4/4	SC		Clayey Sand with Gravel. Lithologically same as above with greater cementation.	
220	40	30	30				None and Moderate	5YR 5/4	SC	41/48	Clayey Sand with Gravel. Reddish brown fat clay with well-graded, polylithic, subangular to subrounded sands. More clay from 220 to 222 feet. More gravel from 222 to 224 feet. Gravel is well-graded, very angular to subangular, dark grey (10YR 4/1) limestone and decomposing sandstone/siltstone with calcium cement (moderate HCl reaction). Interval is wet, but gets a little dry toward bottom. Poor cementation.	220ft - Collect open borehole sample via bailer: pH=7.68, EC=445.5µS/cm, field SO_4=31mg/L Begin logging by VNH, 10/22/14 in shade.
224	60	30	10				None	5YR 4/4	CH	36/48	Sandy Fat Clay. Reddish brown, fat, plastic clay. Well-graded sand and poorly graded gravel (fine) are polylithic (limestone, sandstone, siltstone, quartz, volcanics), subangular to subround. Interval is wet, poorly cemented.	
228	50	30	20				Moderate	5YR 4/4	CH	37/48	Sandy Fat Clay with Gravel. Same as above, dry from 229 to 230 feet. Some calcium present, some cementation. Gravel is well-graded.	230ft - Resume drilling 10/22/14
232	60	30	10				Weak	5YR 4/4	CH	43/48	Sandy Fat Clay. Same as above, trace cobbles.	
236	50	40	10				Weak	5YR 4/4	CH	38/48	Same as above. Increased cementation. Gravel is predominantly fine.	
240	30	40	30				Moderate	5YR 4/4	SC	38/48	Clayey Sand with Gravel. Reddish brown. Sand is well-graded, polylithic (sandstone, limestone, quartz, volcanics), subangular to subround. Gravel is also polylithic, very angular to subround, some elongated pieces of siltstone. Interval is well cemented, calcium present as white streaks and clumps. Some oxidation present. Interval is mostly dry.	

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Depth (feet)	* Est. %			* Est. %			HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
	F	S	G	F	S	G						
244	40	40	20				Weak	5YR 4/4	SC	46/48	Clayey Sand with Gravel. Well-graded (fine to coarse), polylithic (quartz, sandstone, limestone, siltstone, volcanics), subangular to subrounded sand with reddish brown fat, plastic clay. Gravel is mostly fine, angular to subrounded, same lithology as sand. Some gravel grains are elongated pieces of grey fine grained sandstone. Interval is wet, moderately cemented.	Logging by VNH, 10/22/14 in sunlight.
248	40	40	20				Weak	5YR 4/4	SC	45/48	Same as above.	
252	30	40	30				Moderate	5YR 4/4	SC	44/48	Same as above, increase in gravel. Increase in cementation. Decrease in moisture.	
256	30	40	30				Strong	5YR 4/4	SC	36/48	Clayey Sand with Gravel. Reddish brown, well-graded sand is fine to coarse but mostly medium grains. Gravel is mostly fine (<2 cm) with few larger (plus trace cobbles from 258 to 260 feet). Largest grains are predominantly limestone but quartz, igneous rocks and sandstone also present with fat clay. Moderate cementation from 256 to 258 feet, else material is fairly loose. Interval is wet, subround to subangular grains.	256ft - Logging by MML (artificial light).
260	30	40	30				Strong	5YR 4/4	SC	37/48	Same as above with well-graded gravels.	260ft - Collect sample via push-ahead: pH=7.87, EC=594.3µS/cm, field SO4=86mg/L
264	30	40	30				Strong	5YR 4/4	SC	42/48	Clayey Sand with Gravel. Well-graded, polylithic sand, subangular to subrounded. Lithics include limestone, sandstone, siltstone, quartz, volcanics. Clay is reddish brown, lean, but well cemented with calcium. Calcium present as white streaks and clumps. Gravel is moderately graded (fine to medium), angular to subangular, polylithic. Trace cobbles present (quartzite). Interval is wet except from 264.5 to 265.5 feet. Moderate cementation throughout. Oxidation present.	264ft - Resume drilling 10/23/14. Logging by VNH 10/23/14 in shade.
268	30	20	50				Weak	2.5YR 5/4	GC	43/48	Clayey Gravel with Sand. Well-graded polylithic (as above), angular to subrounded gravel with reddish brown clay. Clay is fat and well cemented, provides cement for gravel. Sand is well-graded, polylithic (as above), subangular to subround. Interval is wet, moderately cemented. Oxidation present.	
272	50	50	T				None	2.5YR 5/4	SC	43/48	Clayey Sand. Reddish brown, fat, plastic clay with moderately graded sand (fine to coarse, predominantly medium). Sand is polylithic as above, subangular to subrounded. Trace gravel. Some calcium present, oxidation present. Interval is very wet, especially from 274 to 276 feet.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. %			* Est. %			HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
	F	S	G	F	S	G						
276	40	40	20				Strong	5YR 4/3	SC	45/48	Clayey Sand with Gravel. Reddish brown, well-graded. Interval is wet, soft with mild cementation overall. Fat clay mixed with predominantly fine sand. Some coarse sand, subangular to subround with limestone, siltstone, quartz and igneous rocks. Gravel fine to 3 cm mostly subround, also polylithic with greater abundance of limestone. Some larger gravels show cemented sand on sides.	276ft - Logging by MML in daylight.
280	40	40	20				Strong	5YR 4/3	SC	44/48	Same as above with slight coarsening of sand, also small cobbles (280 to 282 feet).	
284	50	30	20				Weak	5YR 5/4	CH	32/48	Sandy Fat Clay with Gravel. Reddish brown, well-graded, saturated. Fat, soft, sticky clay. Mostly coarse mafic sand, angular to subround. Mostly fine grained gravel (<1.5 cm) but up to 3 cm, polylithic, subangular to subround.	
288	50	30	20				Moderate	5YR 5/4	CH	36/48	Sandy Fat Clay with Gravel. Same as above, plus one large limestone cobble (wider than barrel (6-inch)) at 290 feet.	288ft - MML Logging in artificial light.
292	40	40	20				Moderate	5YR 4/3	SC	39/48	Clayey Sand with Gravel. Well-graded, reddish brown, saturated. Soft, sticky, plastic fat clay with well-graded sands, angular to subround, polylithic but mostly mafic. Subangular to subround gravels are fine (<2 cm) and polylithic.	
296	60	30	10				Strong	5YR 4/3	CH	43/48	Sandy Fat Clay. Well-graded, reddish brown, damp, light cementation (breaks easily by hand). Wetting the sample shows fat sticky clay. Mostly fine sand. Sparse gravels are polylithic (lots of limestone) and subangular.	
300	30	50	20				Strong	5YR 5/3	SC	44/48	Clayey Sand with Gravel. Well-graded, reddish brown, dry to damp, weak to moderate toughness. Fat clay. Well-graded sand, polylithic as above, angular to subround. Mostly fine gravel with few to 4 cm, subround to subangular, polylithic. Trace cobble (300 to 302 feet).	300ft - Collect sample via push-ahead: pH=7.78, EC=738.1µS/cm, field SO_4=220mg/L
304	60	30	10				None	5YR 4/4	CH	41/48	Sandy Fat Clay with Gravel. Reddish brown fat, plastic clay with well-graded, polylithic (sandstone, quartz, limestone, siltstone, mudstone, volcanics), subangular to subrounded sand. Gravel is poorly graded (mostly fine), polylithic, angular to subangular. Interval is wet, poorly cemented.	304ft - Logging 10/24/14, VNH in shade.

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
308	40	40	20				None	5YR 4/4	SC	41/48	Clayey Sand with Gravel. Reddish brown fat clay and well-graded polylithic (sandstone, limestone, quartz, siltstone), subangular to subrounded sand. Gravel is fine to coarse, predominantly fine sandstone, angular to subround. Interval is wet, poorly cemented. Some oxidation present. Trace cobble.	
312	40	40	20				Weak	5YR 4/4	SC	36/48	Same as above. Some calcium present.	
314	10	70	20				None	5YR 4/4	SP-SC		Poorly Graded Sand with Gravel and Clay. Polylithic (siltstone, sandstone, limestone, quartz, mudstone, volcanics) sands and gravels are well-graded (fine to coarse), angular to subround. Some silt present. Interval is very wet, no cementation.	314ft - Resume drilling 10/24/14
316											No Sample.	316-318ft lost during trip-out and clean-out.
318	40	50	10				Strong	5YR 4/2	SC	23/24	Clayey Sand. Well-graded. Fat, soft, sticky, plastic clay. Reddish brown, saturated. Fine to coarse sand (mostly medium), angular to subround, polylithic. Gravel up to approximately 3 cm, mostly elongated, polylithic (limestone and sandstone), subround to subangular.	318 to 320ft is very disturbed. Logging by MML (artificial light)
320	40	50	10				Strong	5YR 4/2	SC	44/48	Same as above.	320ft - Collect sample via push-ahead: pH=8.03, EC=673.9µS/cm, field SO_4=216mg/L (confirmed at 224mg/L)
324	30	50	20				Moderate	5YR 4/2	SC	42/48	Clayey Sand with Gravel. Same description as above.	
328	40	50	10				Strong	5YR 4/4	SC	43/48	Clayey Sand. Same as above with color change at 330 to reddish brown.	
332	40	50	10				Strong	5YR 4/4	SC	39/48	Clayey Sand. Reddish brown, well-graded, wet (gets drier with depth), mild cementation with depth. Fat clay (sticky and soft when hydrated). Polylithic sand is mostly fine to medium. Polylithic gravel is mostly fine with few up to 4 cm, subround.	
336	40	50	10				Strong	5YR 4/4	SC	38/48	Same as above with coarser sand. Interval is moist.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. %			* Est. %			HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
	F	S	G	F	S	G						
340	40	50	10				Moderate	5YR 4/4	SC	44/48	Clayey Sand. Well-graded, reddish brown. Fat, soft, plastic clay. Saturated. No cementation. Well-graded sand, subangular to subround, polylithic (limestone, sandstone, siltstone, igneous rocks). Gravel fine to coarse, polylithic, subangular to subround. Some green alteration. Sand coarsens downward. Some cemented calcite and sand visible on larger grains.	340ft - Logging 10/27/14 by MML (partly cloudy skies). 342ft - Collect sample via push-ahead: pH=7.47, EC=631.4µS/cm, field SO_4=172mg/L
344	30	50	20				Moderate	5YR 5/4	SC	42/48	Clayey Sand with Gravel. Reddish brown. Fat, soft, saturated clay. Fine to coarse sand, polylithic, angular to subround. Gravel mostly fine (<2 cm), polylithic, subangular to subround.	
348	30	50	20				Strong	2.5YR 5/4	SC	42/48	Clayey Sand with Gravel. Reddish brown. Same lithology as above. More coarse sand from 348 to 350 feet. More clay and fine sand from 350 to 352 feet. Some gravel up to 5 cm.	350ft - Pause drilling 10/24/14 for 2 days off. Resume drilling 10/27/14.
352	20	50	30				Strong	2.5YR 5/4	SC	43/48	Clayey Sand with Gravel. Well-graded, reddish brown. Soft, saturated fat clay, very sticky. Predominantly fine sand, some coarse, subangular to subround. Gravel is fine to 5 cm, subangular to subround, polylithic but primarily limestone and siltstone.	
356	30	50	20				Strong	2.5YR 5/4	SC	41/48	Description same as above.	
360	40	30	30				None	5YR 5/4	SC	43/48	Clayey Sand with Gravel. Reddish brown fat clay with well-graded, polylithic (quartz, siltstone, limestone, sandstone), subangular to subrounded sand. Gravel is moderately graded (fine to medium) and primarily located from 362 to 364 feet. Gravel is subangular to subround, same lithics as sand. Interval is wet, poorly cemented.	360ft - Collect sample via push-ahead: pH=7.75, EC=534.4µS/cm, field SO4=124mg/L (confirmed at 120mg/L); - Begin logging 10/28/14, VNH, shade. -
364	50	30	20				None	5YR 4/4	CH	40/48	Sandy Fat Clay with Gravel. Reddish brown fat clay with sand (as above). Gravel is poorly graded, mostly fine. Lithics as above. Increase in cementation, interval is wet. Some calcium streaks.	
368	50	40	10				None	5YR 4/4	CH	41/48	Sandy Fat Clay. Same description as above, some cobbles present. Quartzite and fine sandstone.	370ft - Resume drilling 10/28/14.

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
372	50	40	10				None	5YR 4/4	CH	39/48	Sandy Fat Clay with Gravel. Reddish brown fat clay with moderately graded polylithic (quartz, sandstone, limestone, siltstone, volcanics), subangular to subrounded sand. Sand is medium to coarse from 372 to 374 feet and mostly fine from 374 to 376 feet. Some grey (10YR 5/1) fine grained sandstone, cobbles near 376 feet. Interval is moderately cemented, wet, some calcium streaks.	
376	50	40	10				None	5YR 4/4	CH	41/48	Same as above. Gravel primarily in the interval from 376 to 378 feet. Very, very wet from 378 to 380 feet.	
380	20	70	10				Moderate	5YR 4/4	SC	42/48	Clayey Sand. Poorly graded, polylithic (as above), subangular to subrounded sand is fine to coarse, but predominantly fine. Fine gravel, angular to subrounded. Trace cobbles. Clay is lean. Interval is wet, moderate cementation.	
384	20	70	10				Weak	5YR 4/4	SC	46/48	Same as above. Gravel primarily from 386 to 388 feet.	
388	20	70	10				Weak	5YR 4/4 and 7.5YR 7/2	SC	43/48	Same as above. Most sand is as described above however, some seems to be derived from very friable light grey (pinkish grey) fine sandstone, gravel, and cobbles. Some gravel and cobbles are dark reddish brown, harder sandstone. Still reddish brown fat clay present. Interval is wet, moderately cemented. Oxidation present.	
392	80	20	T				Strong	2.5YR 5/4	CH	48/48	Fat Clay with Sand. Reddish brown fat clay with moderately graded (very fine to medium) sand. Interval is moist to dry, well cemented, oxidation present.	Sharp decrease in moisture, sharp increase in cementation.
396	70	30	T				Strong	2.5YR 5/4	CH	45/48	Sandy Fat Clay. Same description as above. Interval is dry to moist, well cemented. Sand is mostly very fine to fine.	Sharp decrease in moisture, sharp increase in cementation.
400											Dry to moist, transition from basin fill to bedrock. Fine to coarse gravel consist mostly of very brittle limestone.	**400ft - Bedrock, Limestone**
402												402ft - Collect sample via push-ahead: pH=8.09, EC= 430.9 µS/cm, field SO4=68mg/L (confirmed at 74mg/L)
403								5YR 7/3			Light green limestone covered in pink rock flour (material pulverized from vibration and drilling method)	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. %			* Est. %			HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
	F	S	G	F	S	G						
404											Limestone. White to light green, limestone has fine grained, uniform crystals with orange streaks (oxidation), however fewer streaks with depth.	Bedrock - Limestone
408												
410												**Total Depth: 410 ft bls**, 10/28/14 20:47

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CLEAR CREEK ASSOCIATES

Project No.: 287051	Boring Name: BMO-2014-3BL
Project Name: Expanded Groundwater Monitoring	Date/ Time Started: 11/10/14 16:55
ADWR Number: 55-917527	Date/Time Completed: 12/5/14 22:30
Location Cadastral: SW1/4of NE1/4 of SE1/4 S18 T245 R24E	Drilling Equipment: 0-516 ft: PS600T; 516-549 ft: GP24-300RS
Location NAD 83: 31° 20' 24.8"W, 109° 56' 24.6"W	Drilling Method: Rotosonic
Drill Company: Cascade Drilling L.P.	Bit Size/Type: 0-180 ft: 10.75-in; 180-549 ft: 9.5-in
Driller(s): G Cain / J Maples / C Rockhill	Conductor Casing (type; diameter; depth): None
Logged By: M Lindsey and V Hermosilla	Total Borehole Depth: 549 feet

* Percentages of fines, sand, & gravel based on visual estimates of volume

■ Relative % fines (F < 0.074 mm)

□ Relative % sand (S >0.074 < 4.8 mm)

▨ Relative % gravel (G > 4.8 mm)

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
0	10	70	20				None	7.5YR 3/4 and 10YR 4/4	SP-SM	42/48	Poorly Graded Sand with Silt and Gravel. Upper 10-in of core is soil - dark brown (7.5YR 3/4). Core is dry and overall well-graded and dark yellowish brown (10YR 4/4). Mostly fine to medium sand with silt. Gravel is mostly fine, up to 3cm, subangular to subround, mostly dark purple siltstone and highly weathered/oxidized sandstone.	Start drilling 11/10/14, 16:55; 16hr/day. Logging by MML in artificial light. Munsell color chart year 2000 revised.
4	10	80	10				None	10YR 5/4 and 7.5YR 4/6	SP-SM	44/48	Poorly Graded Sand with Silt. Dry interval. Fine to medium sand, that slightly coarsens downward. Gravel as described above. Dark yellowish brown (10YR 4/4) from 4 to 6 feet, and strongly brown (7.5YR 4/6) from 6 to 8 feet. Moderately poorly graded.	
8	10	80	10				None	7.5YR 4/6	SP-SM	44/48	Poorly Graded Sand with Silt. Dry interval, moderately poorly graded. Fine to medium sand that forms small clumps, easily broken between fingers. Few small gravels present. Strong brown.	
12	20	80	T				None	5YR 4.5/6	SM	43/48	Silty Sand. Fine to medium sand, yellowish red.	
14	10	60	30				None	5YR 4.5/6	SW-SM		Well-graded Sand with Silt and gravel. Dry, overall well-graded. Fine to coarse sand, angular to subround, 50% Quartz. Gravel is fine to 4 cm, subangular to subround, mostly comprised of siltstone and sandstone, lots of yellow oxidation staining.	
16	10	60	30				None	5YR 4.5/6	SW-SM	45/48	Well-graded Sand with Silt and Gravel. Same as described above with an increase in fine sand with depth.	
20											No sample recovered.	20-21ft Not recovered
21	20	70	10				Strong	5YR 5/4	SM	31/36	Silty Sand. Moderately poorly graded. Silt with fine to medium sand that forms small clumps easily broken in hand, reddish brown. Fine gravels present (less so with depth).	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
24	20	60	20				Strong	7.5YR 4/6	SM	44/48	Silty Sand with Gravel. Overall well-graded. Strongly brown. Silt with fine to coarse sand (mostly fine to medium sand), coarsens with depth, angular to subround. Gravel is fine to 3 cm, mostly sandstone and siltstone, subangular to round. Lots of white calcite streaking 27 to 28 feet. Coarsens with depth.	
28	20	70	10				Moderate	7.5YR 4/6	SM	42/48	Silty Sand. Overall well-graded, strong brown. Silt with fine to coarse sand (mostly fine to medium). Fine gravel, subangular to subround, as above. Lots of calcite streaking at top of interval, decreases with depth.	
32	40	60	0				Weak	7.5YR 4/6	SM	40/48	Silty Sand. Overall poorly graded, strong brown. Silt with fine to medium sand, forms small clumps that are easily broken by hand. Minor white calcite streaking.	
36	40	60	0				Weak	7.5YR 4/6	SM	45/48	Same as above.	
38	10	70	20				Moderate	7.5YR 4/6	SW-SM		Well-graded Sand with Silt and Gravel. Overall well-graded, strong brown. Fine to coarse sand, subangular to subround, quartz dominated grains. Gravel is fine to 3 cm, subangular to subround. Mostly sandstone and siltstone with some plutonic rocks.	
40	30	60	10				Strong	7.5YR 4/6	SM	37/48	Silty Sand. Moderately poorly graded, strong brown. Fine to medium sand from 40 to 43 feet, forms clumps that easily break. Coarsens from 43 to 44 feet to include coarse sand and gravel - quartz, plagioclase, siltstone, angular to subround.	
44	10	60	30				Moderate	7.5YR 4/4	SW-SM	40/48	Well-graded Sand with Silt and Gravel. Well-graded, brown. Fine to coarse sand. Subangular to subround, quartz, plagioclase, and siltstone. Gravel is predominantly fine, subangular to subround, with siltstone, sandstone, and plutonic rocks, minor calcite streaking.	
48	10	70	20				Moderate	7.5YR 4/4	SW-SM	43/48	Well-graded Sand with Silt and Gravel. Well-graded (very fine to coarse), polylithic (limestone, sandstone, siltstone, quartzite, mudstone, volcanics), subangular to subrounded sand. No dominant rock. Some calcium cement on larger grains, gravel is fine to medium, same lithics as sand, angular to subangular. Fines are predominantly silt, minor amounts of clay. Trace cobble.	48ft - Begin logging 11/11/14, VNH in sunlight.
52	10	60	30				Moderate	7.5YR 4/4	SW-SM	39/48	Same as above, increase in cobbles (still trace), and increase in calcium streaking.	

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
56	20	70	10				Strong	5YR 4/4	SC	43/48	Clayey Sand. Moderately graded (very fine to medium), polylithic (quartz, limestone, mudstone, siltstone, schist), subangular to subrounded sand, fines are predominantly clay, reddish brown, clumps easily. Several moderately cemented medium, gravel-sized clumps of clay and sand. Gravel is mostly fine, polylithic, subangular to subround. Streaks of calcium present.	
60	10	60	30				Strong	5YR 4/4	SW-SC	41/48	Well-graded Sand with Clay and Gravel. Sand as above (very fine to coarse). Increase in angular to subrounded gravel is moderately to poorly graded (fine to medium). No cementation. Trace cobbles, subangular, fine sandstone, quartzite, mudstone. Cobbles and some gravel have calcium cement present on surface.	
64	10	70	20				Strong	5YR 4/4	SW-SC	44/48	Well-graded Sand with Clay and Gravel. Same as above, decrease in cobbles, increase in calcium presence, minor oxidation present.	66ft - Resume drilling 11/11/14.
68	20	50	30				Strong	2.5YR 4/4	SC	42/48	Clayey Sand with Gravel. Well-graded sand (same as above) with reddish brown clay. Some cemented clumps present. Gravel is as above, fine to coarse. Cobbles are angular, fine-grained sandstone, quartzite, and mudstone. Calcium coating on 90% of gravel and cobbles.	
72	10	80	10				Strong	2.5YR 4/4	SW-SC	47/48	Well-graded Sand with Clay. Same as above, no cobbles.	
76	10	70	20				Strong	2.5YR 4/4	SW-SC	46/48	Well-graded Sand with Clay and Gravel. Same as above, increase in calcium coating and cementation. Gravel is poorly graded (mainly medium). Trace oxidation (<0.1%)	
80	20	70	10				Moderate	2.5YR 4/4	SC	48/48	Clayey Sand. Moderately poorly graded sand (very fine to medium), same as above. Increase in cementation. No cobbles.	
84	20	70	10				Strong	2.5YR 4/4	SC	43/48	Clayey Sand. Same as above.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
88	10	70	20				Strong	5YR 5.5/4	SW-SM	44/48	Well-graded Sand with Silt and Gravel. Overall well-graded, light reddish brown. Fines are silt dominant. Well-graded sand (very fine to coarse), subangular to subround, sandstone and siltstone dominant, also loose quartz and plagioclase (~70% of which show yellow oxide staining). Gravel is mostly fine (few up to 3 cm), angular to subround, same lithology as coarse sand. Some large grains show calcite cementation on sides.	88ft - Logging by MML in sunlight
92	20	70	10				Moderate	2.5YR 5/4	SM	48/48	Silty Sand. Overall well-graded, reddish brown, coarsening of sand and gravel with depth. Very fine to coarse sand, angular to subround. Gravel is mostly fine with a few up to 4 cm, subangular to subround. Sand and gravel have same lithology and above.	
96	20	70	10				Moderate	2.5YR 5/4	SM	45/48	Silty Sand. Same as above except it gets finer with depth. Silty clumps are more difficult to break apart. Some larger gravel.	
100	30	60	10				Moderate	2.5YR 5/4	SM	48/48	Silty Sand. Moderately poorly graded, reddish brown. Silty, clayey fines, help form mild to moderate cementation. Very fine to coarse sand, angular to subround. Fine gravels are present, subangular to subround. No change in sand/gravel composition. Calcite mineralization on ~30% of interval.	Continue logging in artificial light.
104	30	50	20				Strong	5YR 5/4	SM	47/48	Silty Sand with Gravel. Well-graded, reddish brown. Silty clayey fines, interval fines with depth, also greater cementation and calcite mineralization with depth. Sand is very fine to coarse, angular to subround, and consists of sandstone, siltstone, and loose quartz and plagioclase. Gravel is fine to 4 cm, angular to subround, consisting of sandstone and siltstone, and lesser amounts of limestone and quartzite. Some grains have cemented sand on sides.	
108	20	60	20				Moderate	5YR 5/4	SM	44/48	Silty Sand with Gravel. Description same as above.	
112	20	60	20				Strong	5YR 5/4	SM	48/48	Silty Sand with Gravel. Description same as above with gravel up to 5 cm, mostly fine to medium from 114 to 116 feet.	
116	10	60	30				Strong	5YR 5/4	SW-SM	46/48	Well-graded Sand with Silt and Gravel. Overall well-graded, reddish brown. Silty clayey fines. Fine to coarse sand, angular to subround, polylithic. Polylithic gravel fine to 3 cm, angular to subround. Increase in limestone.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
120	10	60	30				Moderate	5YR 4/4	SW-SM	48/48	Well-graded Sand with Silt and Gravel. Well-graded overall, reddish brown. Sand is fine to coarse, angular to subround, polylithic (sandstone, siltstone, limestone, loose quartz and plagioclase). Gravel is mostly fine with rare few up to 5 cm, subangular to subround and polylithic as well. 70% of sand/gravel show oxide staining.	
124	10	30	60				Strong	5YR 6/4	GW-GM	45/48	Well-graded Gravel with Silt and Sand. Very fine to coarse sand, angular to subround, polylithic as above. Gravel is fine to 5 cm, angular to round (limestone grains tend to be more jagged). Light reddish brown.	
128	10	40	50				Moderate	5YR 6/4	GW-GM	48/48	Well-graded Gravel with Silt and Sand. Same as above with trace cobble present at end of interval.	
132	10	40	50				Strong	7.5YR 5/4	GP-GM	44/48	Poorly Graded Gravel with Sand and Silt. Gravel is mostly fine, up to 2.5 cm with rare few up to 4 cm, polylithic, angular to subround. Well-graded overall, brown. Fine to coarse sand as above.	
136	30	50	20				Moderate	7.5YR 4/4	SC	44/48	Clayey Sand with Gravel. Well-graded, brown. Clay with some silt. Fine to coarse sand, angular to subround, polylithic. Fine polylithic, subangular to subround gravel, sample is wet from 139 to 140 feet.	SWL = 137.34' bls on 11/11/14 at 12:51
140	30	60	10				Strong	7.5YR 4/4	SC	47/48	Clayey Sand. Well-graded overall, brown. Clayey, silty fines. Sand is mostly fine to medium, with some coarse grains, angular to sub round, polylithic. Gravel same as above with trace larger grains, and trace cobbles present. Sample is wet, finer sand with depth.	
144	30	60	10				Strong	7.5YR 4/4	SC	44/48	Clayey Sand. Same as above with fine to medium sand and fine gravel.	
148	20	70	10				Strong	7.5YR 4/4	SC	41/48	Clayey Sand. Overall well-graded, brown. Clayey, silty fines. Fine to coarse sand, subangular to subround, polylithic, coarsens with depth. Gravels are fine to 5 cm. Only fine gravel present from 148 to 150 feet, larger gravel 150 to 152 feet, is polylithic, subangular to subround. Sample is dry to moist.	151ft - Collected sample via push-ahead: pH= 7.59, EC=473.6 µS/cm, field SO_4=3mg/L (confirmed at 3mg/L)

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
152	50	40	10				None	2.5YR 5/4	CH	41/48	Sandy Fat Clay. Reddish brown, fat clay with moderately poorly graded (fine to medium), polylithic (quartz, quartzite, siltstone, sandstone, mudstone, schist), angular to subround sand. Gravel is primarily fine, with ~5% coarse clasts (~6 cm), dark-gray fine-grained sandstone is dominant rock. Trace cobbles (approximately five, 10 cm sized pieces), also dark-gray fine-grained sandstone. Interval is poorly cemented, moist.	152ft - Logging 11/12/14, VNH, sunlight
156	40	40	20				Weak	5YR 5/4	SC	41/48	Clayey Sand with Gravel. Reddish brown fat clay with well-graded (fine to coarse) sand, as above. Gravel similar to sand; no dominant rock, well-graded (fine to coarse). Only 1-2 cobbles, Bisbee Group (fine-grained sandstone, pink and yellow), moderately well cemented, calcium streaks throughout. Red and yellow oxidation present.	
160	40	40	20				Weak	5YR 5/4	SC	44/48	Clayey Sand with Gravel. Same as above, cobbles include dark-gray fine grained sandstone.	
164	40	40	20				Weak	5YR 5/4	SC	40/48	Clayey Sand with Gravel. Same as above.	
168	40	40	20				Weak	5YR 5/4	SC	40/48	Clayey Sand with Gravel. Same as above. Gravel is very coarse. Some large (15 to 20 cm) cobbles present. Dark gray and yellow fine-grained sandstone.	
172	30	60	10				None	5YR 5/4	SC	41/48	Clayey Sand. Same as above.	
176	30	50	20				None	5YR 5/4	SC	39/48	Clayey Sand with Gravel. Same as above. Cobbles include Glance Conglomerate.	
180	50	40	10				Weak	2.5YR 4/4	CH	45/48	Sandy Fat Clay. Reddish brown fat clay with sand (as described above). Gravel is moderately poorly graded (fine to medium). No cobbles, poorly cemented interval.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
184	30	50	20				Weak	2.5YR 4/6	SC	42/48	Clayey sand with gravel. Well-graded, angular to subround, polylithic (quartz, limestone, sandstone, mudstone, schist, volcanics) sand with red fat clay. Gravel also well-graded (fine to coarse), largest pieces are 7 cm. Trace cobble. Interval is poorly cemented.	
188	40	40	20				Moderate	5YR 4/4	SC	40/48	Clayey Sand with Gravel. Overall well-graded, reddish brown. Fat clay is saturated, soft, and plastic. Fine to coarse sand, subangular to subround, mixed composition as above. Fine gravel up to 7 cm, subangular to subround, mixed composition, some show cemented sand and calcite mineralization on side.	
192	20	60	20				Moderate	5YR 4/4	SC	44/48	Clayey Sand with Gravel. Overall well-graded. Same as above with gravel fine to 3 cm, subangular to round. Less coarse sand.	188ft - Logging by MML (artificial light) 190ft - Resume drilling 11/12/14 191ft - Collect sample via push-ahead: pH= 7.64, EC= 436.2 µS/cm, field SO_4= 7mg/L (confirmed at 7mg/L)
196	30	50	20				Strong	5YR 4/4	SC	44/48	Clayey Sand with Gravel. Overall well-graded, reddish brown. Fat clay, soft and plastic. Fine to coarse sand, subangular to subround, mixed composition. Fine to 5 cm gravel, subangular to subround, also of mixed composition as above.	
200	30	60	10				Moderate	5YR 4/4	SC	43/48	Clayey Sand. Well-graded, reddish brown. Fat clay is soft, plastic. Very fine to coarse sand (less coarse sand with depth), subangular to subround, grains of mixed composition. Gravel is fine to 3 cm, subangular to subround, mixed composition. Increase in orange oxide staining.	
204	30	70	T				Moderate (204-206) Strong (206-208)	7.5YR 4/4	SC	42/48	Clayey Sand. Well-graded, brown. Soft, fat, saturated clay. Fine to medium sand. Mostly fine gravel (<1.5 cm) with a few up to 4 cm, subround, polylithic.	
208	40	50	10				Moderate	7.5YR 4/4	SC	43/48	Clayey Sand. Well-graded, brown. Fat clay. Unit is damp from 208 to 210 feet, wet from 210 to 212 feet. Fine to medium sand from 208 to 210 feet, fine to coarse (210 to 212 feet). Sand is angular to subround, of mixed composition. Gravel component mostly from 208 to 210 feet, is fine to 3 cm, polylithic, subangular to subround with trace cobble.	
212	30	50	20				Moderate	7.5YR 4/4	SC	46/48	Clayey Sand with Gravel. Brown, well-graded. Fat clay, plastic. Fine to coarse sand, subangular to subround, mixed composition. Fine gravels are mostly <1.5 cm, subround, mixed composition.	

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Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
216	40	50	10				Moderate	7.5YR 4/4	SC	40/48	Clayey Sand. Overall well-graded, brown. Fat, saturated, plastic clay. Mostly fine to medium sand, some coarse from 216 to 217 feet (subangular to subround). Gravel is mostly fine with few up to 4 cm, mixed composition (sandstone, siltstone, limestone, loose quartz) subround mostly.	
220	40	50	10				Strong	7.5YR 4/4	SC	45/48	Clayey Sand. Overall well-graded, increase in calcite mineralization, else same as above, and interval is damp.	
224	40	50	10				Strong	7.5YR 4/4	SC	43/48	Clayey Sand. Same as above, slight increase in coarse sand. Interval is moist.	
228	40	50	10				Strong	7.5YR 4/4	SC	44/48	Clayey Sand. Same as above.	231ft - Collect sample via push-ahead: pH.= 7.58, EC= 442.4 µS/cm, field SO_4= 6mg/L (confirmed at 6mg/L)
232	30	40	30				Moderate	7.5YR 4/4	SC	45/48	Clayey Sand with Gravel. Overall well-graded. Fat clay present. Unit is moist. Very fine to coarse sand (predominantly very fine to medium), subangular to subround, mixed composition. Mostly very fine gravel (<1 cm) with some up to 2.5 cm, subangular to subround, polylithic as above.	
236	40	40	20				Weak	5YR 4/4	SC	40/48	Clayey Sand with Gravel. Overall well-graded, reddish brown. Fat clay with silt. Unit is moist. Very fine to medium sand. Polylithic, fine (<2 cm) gravel is subangular to subround. Unit coarsens with depth.	
240	40	40	20				Moderate	5YR 4/4	SC	44/48	Clayey Sand with Gravel. Wet from 242 to 244 feet, else same as above.	
244	30	50	20				Moderate	5YR 4/4	SC	39/48	Clayey Sand with Gravel. Overall well-graded, brown. Fat clay. Sample is wet from 244 to 246 feet, moist from 246 to 248 feet. Very fine to coarse sand, is subangular to subround, and polylithic. Gravel is very fine to 5cm, subangular to subround, and polylithic as above.	

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
248	60	40	T				None	5YR 5/4	CH	43/48	Sandy Fat Clay. Reddish brown, fat clay with well-graded (very fine to coarse), angular to subround, polylithic (quartz, limestone, sandstone, siltstone, mudstone, volcanics, schist) sand. Gravel is fine to medium, primarily quartz, gray siltstone, and conglomerate. Interval is poorly cemented and very wet.	248ft - Logging 11/13/14, VNH, sunlight
250	20	70	10				None	5YR 4/4	SC		Clayey Sand. Sand is moderately graded (medium to coarse), though ~20% is fine, as above. Gravel is poorly graded, mostly fine as above. Clay is reddish brown, fat. Interval is poorly cemented, and has a lot of moisture.	
252	30	50	20				Weak	5YR 4/4	SC	37/48	Clayey Sand with Gravel. Moderately graded sand (described above) with reddish brown fat clay. Sand is predominantly very fine to fine from 252 to 254 feet, and medium from 254 to 256 feet. Gravel is fine, 90% of grains are dark gray sandstone. Cobbles present (trace), similar to gravel. Gravel and cobbles are subround. Calcium and yellow oxidation present, mostly from 252 to 254 feet. Interval is poorly cemented and moist.	
256	60	40	T				None	2.5YR 5/3	CH	39/48	Sandy fat clay. Reddish brown fat clay with moderately graded (fine to medium) sand (as above). Some yellow oxidation present. Interval is poorly cemented, wet. Trace gravel is fine.	
260	60	40	T				None	2.5YR 5/3	CH	39/48	Sandy Fat Clay. Same as above.	
262	30	40	30				Weak	2.5YR 5/6	SC		Clayey Sand with Gravel. Well-graded sand (very fine to coarse), as above, with red clay. Gravel is moderately graded (fine to medium), similar to sand. Interval has calcium streaks, red and yellow oxidation, and is mostly dry. Moderately cemented.	
264	30	40	30				Weak	2.5YR 5/6	SC	44/48	Clayey Sand with Gravel. Same as above.	
266	40	50	10				Strong	5YR 7/3	SM		Silty Sand. Well-graded (very fine to coarse) sand (as above), with silt and clay. Fines are approximately 75% silt & pink. Gravel is fine to medium, similar to sand. Interval is dry, poorly cemented.	
268	50	40	10				Moderate	2.5YR 5/4	CH	40/48	Sandy Fat Clay. Reddish brown fat clay with well-graded sand (as above). Gravel is similar to sand, is fairly poorly graded, mostly fine. Approximately 10% of gravel is medium. Interval has some moisture, is poorly cemented, and has calcium streaks. One 20 cm dark gray sandy siltstone cobble with some calcium cement present.	271ft - Collect sample via push-ahead: pH.= 7.91, EC= 423.3 µS/cm, field SO_4= 11 mg/L (confirmed at 9mg/L)
272	50	40	10				Strong	2.5YR 5/4	CH	43/48	Sandy Fat Clay. Same as above. Some moisture from 272 to 274 feet as above. From 274 to 276 feet is very dry, but is the same material. Interval is moderately cemented, increase in calcium streaks.	
276	50	40	10				Moderate	2.5YR 5/4	CH	45/48	Sandy Fat Clay. Same as above. Increase in moisture.	

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
280	30	50	20				Moderate	5YR 5/4	SC	40/48	Clayey Sand with Gravel. Well-graded (very fine to coarse), angular to subround, polylithic (quartz, schist, limestone, sandstone, siltstone, mudstone, volcanics) sand, with reddish brown fat clay. Gravel is well-graded (fine to coarse) with approximately 40% coarse, similar lithology to sand. Gravel is mostly subangular. Interval is poorly cemented, and has some moisture.	
284	30	50	20				Moderate	5YR 5/4	SC	39/48	Clayey Sand with Gravel. Same as above.	
288	30	50	20				Moderate	5YR 5/4	SC	46/48	Clayey Sand with Gravel. Same as above. Interval is very dry.	
290	30	40	30				None	2.5YR 5/4	SC		Clayey Sand with Gravel. Moderately poorly graded (fine to medium), angular to subangular, polylithic (as above) sand with reddish brown fat clay, and fine to medium, polylithic gravel. Gravel is angular to subangular. Calcium cement on some surfaces. Interval is wet, poorly cemented.	
292	30	60	10				weak	5YR 5/4	SC	47/48	Clayey Sand. Well-graded sand (as above) with reddish brown fat clay. Gravel is mostly fine, similar to sand. Interval is moist, poorly cemented, 2 to 3 calcium streaks present.	
296	40	40	20				Moderate	7.5YR 4/6	SC	45/48	Clayey Sand with Gravel. Very well-graded. Strong brown. Soft, fat clay. Interval is wet, poorly cemented. Sand is fine to coarse (fine to medium from 298 to 300 feet), subangular to subround, polylithic. Gravel is also fine to coarse with trace cobbles, subangular to subround, polylithic.	296ft - Logging by MML, artificial light
300	30	40	30				Weak	5YR 4/4	SC	41/48	Clayey Sand with Gravel. Very well-graded, reddish brown. Interval is wet and coarsens with depth. Sand is fine to coarse, subangular to subround, polylithic. Gravel is fine to 5 cm, subangular to subround and polylithic as above.	
304	30	40	30				Strong	5YR 4/3	SC	44/48	Clayey Sand with Gravel. Well-graded, reddish brown. Interval starts wet, loses moisture with depth. Predominantly fine to medium sand. Fine to coarse gravel with trace cobbles throughout. Polylithic, subangular to subround.	
308	40	40	20				Moderate	5YR 5/4	SC	44/48	Clayey Sand with Gravel. Well-graded, reddish brown. Interval is damp from 308 to 310 feet, wet from 310 to 312 feet. Fat, sticky clay. Polylithic, fine to coarse sand is subangular to subround. Gravel is fine to 4cm, but 80% fine, subangular to subround and polylithic.	311ft - Collect sample via push-ahead: pH= 7.76, EC= 412.6µS/cm, field SO_4= 5mg/L (confirmed at 4mg/L)

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
312	20	50	30				Weak	5YR 4/3	SC	41/48	Clayey Sand with Gravel. Well-graded, reddish brown. Interval is wet. Sand is fine to coarse, angular to subround, mixed composition (loose quartz, sandstone, limestone, siltstone quartzite). Gravel is predominantly <2 cm but up to 6 cm, subangular to subround with mixed composition as sand. Fat clay.	
316	20	50	30				Moderate	5YR 4/3	SC	44/48	Clayey Sand with Gravel. Same as described above.	
320	30	50	20				Moderate	5YR 5/4	SC	41/48	Clayey Sand with Gravel. Well-graded, reddish brown. Interval is wet. Fat, sticky clay. Fine to coarse sand, angular to subround, polylithic. Gravel is fine with rare few up to 5 cm, angular to subround, mixed composition as above.	
324	40	50	10				Moderate	5YR 4/4	SC	45/48	Clayey Sand. Well-graded, reddish brown. Interval is wet. Fat clay. Sand is fine to coarse, angular to subround, mixed composition. Gravel is fine to 3 cm, mostly elongated, subangular to subround, mixed composition.	
328	40	40	20				Moderate	5YR 4/4	SC	42/48	Clayey Sand with Gravel. Well-graded, reddish brown. Interval is wet. Sand is fine to coarse, mixed composition, angular to subround. Gravel is fine to coarse with trace cobbles from 330 to 332 feet, subangular to subround, of mixed composition.	
332	30	40	30				Moderate	5YR 4/3	SC	41/48	Clayey Sand with Gravel. Well-graded, wet, reddish brown. Fat clay. Fine to coarse sand, angular to subround, mixed composition. Gravel, mostly fine, up to 4 cm, subangular to subround, mixed composition.	
334	20	80	T				Weak	5YR 4/3	SC		Clayey Sand. Moderately poorly graded. Fat clay, fine to coarse sand is of mixed composition and angular to subround.	
336	40	40	20				Weak	5YR 4/4	SC	42/48	Clayey Sand with Gravel. Well-graded, reddish brown. Fat clay. Fine to coarse, polylithic sand is angular to subround. Gravel is mostly fine with few up to 4 cm (larger gravel from 338 to 340 feet), subangular to subround and of mixed composition.	
340	50	40	10				Strong	5YR 4/4	CH	40/48	Sandy Fat Clay. Well-graded, reddish brown. Fat clay. Predominantly fine to medium sand, some coarse (polylithic), angular to subangular. Gravel is mostly fine with rare few up to 5 cm, subangular to subround, of mixed composition.	

Notes: Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak, none)

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
344	40	40	20				Moderate	5YR 4/4	SC	41/48	Clayey Sand with Gravel. Very well-graded, reddish brown. Fat clay. Interval is wet and fines with depth. Sand is fine to coarse, angular to subangular, polylithic (sandstone, siltstone, limestone, loose quartz). Gravel is mainly fine with few to 3 cm, subangular to subround, with same composition as sand.	
348	30	60	10				Moderate	5YR 5/4	SC	41/48	Clayey Sand. Moderately poorly graded sand (very fine to fine). Gravel is fine to medium, and 80% is from 350 to 352 feet with 4 to 5 large (5 to 8 cm) pieces. Clay is reddish brown, fat. Interval is poorly cemented.	348ft - Begin logging 11/14/14, VNH. 350ft - Resume drilling 11/14/14. 351ft - Collect sample via push-ahead: pH= 7.86, EC= 289.3 µS/cm, field SO_4= 6 mg/L (confirmed at 8 mg/L)
352	30	50	20				Weak	5YR 5/4	SC	44/48	Clayey Sand with Gravel. Very well-graded, angular to subangular, polylithic (as above) sand with reddish brown fat clay. Gravel is also well-graded (fine to medium), angular to subangular, polylithic. Interval has some moisture, is moderately cemented and has red and yellow oxidation, two to three streaks of calcium present.	
356	30	50	20				None	5YR 5/4	SC	45/48	Clayey Sand with Gravel. Same as above with increase in red oxidation patches (about 12 of 1 cm^2 size). Gravel includes several (20%) light greenish-grey, friable, fine sandy siltstone.	
360	10	80	10				None	5YR 4/4	SW-SC	44/48	Well-graded Sand with Clay. Well-graded sand (very fine to coarse) as above with reddish brown clay (approximately 30% silt). Gravel is mostly fine, similar to sand. Interval is wet, poorly cemented.	
362	30	40	30				Strong	2.5YR 4/4	SC		Clayey Sand with Gravel. Well-graded sand (fine to coarse) and moderately poorly graded gravel (fine to medium), as described above, with fat reddish brown clay. Interval is well cemented and dry.	
364	30	40	30				Strong	2.5YR 4/4	SC	40/48	Clayey Sand with Gravel. Same as described above. Interval is very dry.	
366	30	60	10				Weak	5YR 5/4	SC		Clayey Sand. Very well-graded sand (very fine to coarse) and gravel (only fine or coarse) as described above, with clay and silt (60/40 respectively). Clay is reddish brown. Interval is very wet, water poured from bag when opened.	
368	30	60	10				Weak	2.5YR 5/4	SC	48/48	Clayey Sand. Very well-graded (very fine to coarse) sand poorly graded gravel (90% fine) as described above. Clay is reddish brown, fat. Presence of black friable mudstone. Interval is moderately cemented, moist.	
372	30	60	10				Strong	5YR 4/4	SC	44/48	Clayey Sand. Very well-graded, reddish brown. Silty, fat clay. Mostly fine to medium sand (some coarse) is subangular to subround. Gravel is mostly fine with few up to 3 cm plus trace cobble from 374 to 376 feet, subangular to subround.	372ft - Logging by MML, sunlight

Notes: Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak, none)

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
376	30	50	20				Strong	5YR 5/4	SC	45/48	Clayey Sand with Gravel. Very well-graded, reddish brown. Silty, fat clay. Interval is wet from 378 to 380 feet and damp from 380 to 382 feet. Predominantly very fine to medium sand with some coarse. Gravel is fine to 5 cm, subangular to subround, and of mixed composition (sandstone, siltstone, limestone, plutonic rocks, loose quartz). Moderately cemented, increases with dryness.	
380	50	30	20				Moderate	5YR 4/4	CH	44/48	Sandy Fat Clay with Gravel. Very well-graded, reddish brown. Interval is wet. Fat clay is soft and plastic. Very fine to medium sand. Fine gravel to 5 cm plus one trace cobble, subangular to subround, polylithic.	
382	30	50	20				Strong	5YR 4/4	SC		Clayey Sand with Gravel. Very well-graded, reddish brown. Interval is moist. Fat clay. Very fine to coarse sand is angular to subround, mixed composition. Gravel is mostly fine, up to 3 cm, subangular to subround of mixed composition.	
384	20	60	20				Moderate	5YR 4/4	SC	48/48	Clayey Sand with Gravel. Well-graded, reddish brown. Interval is wet, fines with depth (to trace gravel from 386 to 388 feet). Fat clay. Very fine to coarse sand, polylithic, subround to subangular. Gravel is predominately fine but few up to 4 cm is subround to subangular and of mixed composition.	
388	20	60	20				Moderate	5YR 4/4	SC	39/48	Clayey Sand with Gravel. Well-graded, reddish brown. Fat clay. Fine to coarse sand is angular to subround. Gravel is fine to 3 cm, subangular to subround, mixed lithology.	388ft - continue logging in artificial light.
390	30	50	20				Moderate	5YR 4/4	SC		Clayey Sand with Gravel. Same as described above with an increase in fines and less coarse sand. Wet.	391ft - Collect sample via push-ahead: pH=7.72; EC=357.0 µs/cm; field SO_4=10mg/L (confirmed at 8mg/L)
392	30	50	20				Moderate	5YR 4/4	SC	42/48	Clayey Sand with Gravel. Very well-graded, reddish brown. Interval is wet. Fat clay with silt, fine to coarse polylithic sand is angular to subround. Gravel is fine to 4 cm, subround to subangular, mixed lithology. Very little cementation.	
396	30	50	20				Moderate	5YR 4/4	SC	41/48	Clayey Sand with Gravel. Same as described above with more cementation (moderate toughness).	
400	40	40	20				Moderate	5YR 5/3	SC	40/48	Clayey Sand with Gravel. Very well-graded, reddish brown. Fat clay, wet. Fine to coarse sand is polylithic, angular to subround. Gravel is polylithic, fine to 3 cm, subround to subangular.	
404	40	50	10				Strong	5YR 4/3	SC	40/48	Clayey Sand. Well-graded, reddish brown. Fat clay. Fine to medium sand (from 404 to 406 feet) and fine to coarse (from 406 to 408 feet), angular to subround and polylithic. Fine gravel is also polylithic as above and subangular to subround.	

Notes: Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak, none)

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
408	40	50	10				None	2.5YR 5/4	SC	39/48	Clayey Sand. Well-graded (very fine to coarse), subangular to subround polylithic sand (quartz, sandstone, quartzite, volcanics, limestone, mudstone, schist) sand with reddish brown fat clay. Gravel is mostly (90%) fine to medium, similar to sand, angular to subround. Interval is poorly cemented, moist, no oxidation or calcium.	408ft - Logging 11/17/14, VNH, sunlight. 410ft - Pause drilling 11/14/14 for 2 days off. Resume drilling 11/17/14
412	40	50	10				None	2.5YR 5/4	SC	44/48	Clayey Sand. Same as described above with some cobbles present (2 to 3), primarily dark reddish brown fine sandstone and quartzite.	
416	30	50	20				None	2.5YR 5/4	SC	46/48	Clayey Sand with Gravel. Well-graded sand as above with reddish brown fat clay. Gravel is also well-graded (fine to coarse), no dominant size, as described above. Trace cobble, reddish brown sandstone. Interval is moist, poorly cemented. Trace calcium streaks (2 to 3), no oxidation.	
420	40	50	10				None	2.5YR 5/4	SC	44/48	Clayey Sand. Well-graded sand as above with reddish brown fat clay. Gravel is moderately poorly graded (medium to coarse), dominant clast size is 3 to 4 cm (about 70% of gravel). Mostly (70%) sandstone. Trace cobbles. Interval is moist, moderately cemented.	
424	30	50	20				Strong	2.5YR 5/4	SC	44/48	Clayey Sand with Gravel. Well-graded sand as above with reddish brown fat clay. Gravel is well-graded, as described above. Large (13 cm) dark reddish brown fine sandstone cobbles present (about 5). Interval is well cemented, has little moisture, trace oxidation.	
428	30	50	20				Moderate	7.5YR 4/4	SC	42/48	Clayey Sand with Gravel. Very well-graded, brown. Fat clay, wet. Very fine to coarse sand, polylithic, angular to subangular. Gravel also polylithic, angular to subround, fine to coarse, trace cobble (8 cm). Poorly cemented.	428ft - Logging by MML, artificial light. 431ft - Collect sample via push-ahead: pH=7.94; EC= 334.4µs/cm; field SO_4=10mg/L (confirmed at 6mg/L)
432	40	40	20				Moderate	7.5YR 4/4	SC	46/48	Clayey Sand with Gravel. Very well-graded, brown. Fat, wet clay. Fine to coarse sand, angular to subround, fines with depth. Polylithic gravel is fine to 4 cm, angular to subround. Poorly cemented.	
436	40	40	20				Moderate	7.5YR 4/4	SC	40/48	Clayey Sand with Gravel. Very well-graded, brown. Fat, wet clay. Sand is fine to coarse (coarsens with depth), polylithic, angular to subround. Gravel is fine to coarse with trace cobble (fines with depth).	

Notes: Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak, none)

CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
440	30	50	20				Moderate	7.5YR 4/4	SC	42/48	Clayey Sand with Gravel. Very well-graded, brown. Saturated, fat clay. Fine to coarse sand, angular to subround, slightly coarsens with depth. Gravel is fine to 5 cm, subangular to subround, polylithic (sandstone, siltstone, quartzite, loose quartz and plagioclase).	
444	40	40	20				Moderate	7.5YR 4/3	SC	42/48	Clayey Sand with Gravel. Very well-graded, brown. Saturated fat clay. Fine to coarse sand, angular to subround. Gravel fine to 5 cm, subangular to subround, polylithic as above. Majority of gravel from 444 to 446 feet.	
448	30	50	20				Moderate	7.5YR 4/3	SC	45/48	Clayey Sand with Gravel. Very well-graded, brown. Saturated fat clay. Fine to coarse sand (less coarse sand with depth), angular to subround, polylithic. Mostly fine gravel with few up to 5 cm, subround to subangular, polylithic. Poorly cemented from 448 to 450 feet, moderate cementation from 450 to 452 feet.	
452	30	50	20				Moderate	7.5YR 4/3	SC	42/48	Clayey Sand with Gravel. Very well-graded, brown. Saturated fat clay. Fine to coarse sand but predominantly medium. Gravel is fine with few up to 3 cm, polylithic, subangular to subround.	
456	30	50	20				Weak	5YR 4/4	SC	43/48	Clayey Sand with Gravel. Well-graded (very fine to coarse), angular to subround, polylithic (quartz, sandstone, limestone, siltstone, volcanics) sand with reddish brown fat clay. Gravel is well-graded, angular to subround, polylithic, trace cobbles (2 cobbles are about 13 cm, greenish-grey sandstone). Interval is moderately cemented, moist.	456ft - Logging 11/18/14 by VNH, sunlight.
460	40	60	T				None	5YR 5/4	SC	33/48	Clayey Sand. Well-graded (very fine to coarse) sand as above, with reddish brown fat clay. Trace gravel, fine, dark grey sandstone. Interval is poorly cemented, wet.	
464	40	50	10				Weak	5YR 5/4	SC	35/48	Clayey Sand. Same as described above with increase in gravel. Gravel is mostly (90%) fine, some medium, quartz and sandstone. Interval is poorly cemented, wet.	466ft - Resume drilling 11/18/14
468	30	50	20				Moderate	5YR 5/4	SC	48/48	Clayey Sand with Gravel. Well-graded, reddish brown. Fat clay. Sand is fine to coarse (but mostly fine). Gravel is fine to 3 cm, comprised mostly of quartz rich plutonic rock, quartzite and sandstone, subangular to subround. Interval is poorly cemented, moist.	468ft - Logging by MML, sunlight.

Notes: Unified Soil Classification System (ASTM D2488-00)
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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
472	40	50	10				Moderate	5YR 4/3	SC	47/48	Clayey Sand. Very well-graded, reddish brown. Fat clay. Predominantly fine sand, some coarse. Gravel is mostly fine with few up to 4 cm, subangular to subround. Present lithology includes sandstone, siltstone, quartz-rich plutonic rock, loose quartz and plagioclase. Interval is damp with moderate cementation/toughness, fines with depth.	
476	30	50	20				Moderate	5YR 4/4	SC	46/48	Clayey Sand with Gravel. Well-graded, reddish brown. Fat clay. Fine to coarse sand is polylithic, angular to subround. Gravel is mostly fine with rare few up to 3 cm, subround to subangular, polylithic as above. Interval starts dry, moist from 478 to 480 feet, poorly cemented.	
480	30	50	20				Moderate	5YR 4/4	SC	43/48	Clayey Sand with Gravel. Same description as above except, interval is moist from 480 to 483 feet and dry from 483 to 484 feet.	
484	40	40	20				Moderate	5YR 4/4	SC	42/48	Clayey Sand with Gravel. Well-graded, reddish brown. Fat clay. Sand is fine to coarse (coarsens with depth), angular to subround, polylithic. Gravel is fine, subangular to subround, polylithic. Interval is poorly cemented, moist.	484ft - continue logging in artificial light.
488	40	40	20				Moderate	5YR 4/4	SC		Clayey Sand with Gravel. Same as described above except sand is mostly fine with some coarse. Few gravel up to 4 cm.	488ft - Resume logging 11/20/14, MML, artificial light 490ft - Pause drilling 11/18/14 - rig broken down. Resume drilling 11/20/14.
492	40	40	20				Moderate	5YR 4/4	SC		Clayey Sand with Gravel. Same as described above.	
494										40/48	Disturbed sample - no major changes in lithology are visible - sample also extremely watery	*494 to 498ft is very saturated, disturbed - sat submerged in core barrel overnight, the barrel was also dropped during trip out. 494ft - Logging by MML, 11/21/14, overcast.
498											No sample recovered.	No core retrieved.
500	40	40	20				Strong	5YR 5/4	SC	44/48	Clayey Sand with Gravel. Very well-graded, reddish brown. Fat clay. Mostly fine sand with some coarse. Fine gravel with few up to 4 cm (rare). In addition to previously mentioned lithology a couple of well cemented conglomerate are found. Interval is wet with a dry pocket around 503 feet.	502ft - Resume drilling 11/21/14.

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
504	30	50	20				Moderate	7.5YR 4/4	SC	42/48	Clayey Sand with Gravel. Very well-graded, brown. Fat clay with silt. Predominantly fine sand with some coarse (angular to subround and polylithic). Fine to 3 cm gravel, subangular to subround and polylithic (limestone, sandstone, siltstone, quartzite, loose quartz and plagioclase). Interval is moist and poorly cemented.	
508	30	50	20				Strong	7.5YR 4/4	SC	43/48	Clayey Sand with Gravel. Very well-graded, brown. Fat clay. Sand as described above. Gravel is fine to 5 cm, subangular to subround, polylithic. Interval is moist and coarsens with depth, poorly cemented.	510ft - Resume logging by MML 11/24/14, daylight.
512	20	60	20				Moderate	7.5YR 4.5/4	SC	39/48	Clayey Sand with Gravel. Very well-graded, brown. Fine to coarse sand (predominantly fine to medium), subround to subangular and polylithic. Gravel is mainly <3 cm, but up to 5 cm, subangular to subround, polylithic. Interval is dry from 512 to 514 feet, damp from 514 to 516 feet, poorly cemented, fines with depth.	
516	30	60	10				Moderate	7.5YR 4/4	SC	46/48	Clayey Sand. Brown, fat clay with silt, well-graded sand (fines with depth), angular to subround. Fine (<2 cm), polylithic subangular to subround gravel. Poorly cemented, wet.	516ft - Pause drilling 11/21/14 for 2 days off. Resume drilling 11/25/14 - Switched Rigs on 11/24/14 from PS600T to the GP24-300RS. Logging by MML 11/25/14, daylight.
518	40	40	20				Weak	7.5YR 4/4	SC		Clayey Sand with Gravel. Brown, fat clay is sticky. Fine to medium sand, fine gravel with few up to 5 cm, subround and polylithic. Poorly cemented and wet.	
520	40	30	30				Moderate	7.5YR 5/4	SC	46/48	Clayey Sand with Gravel. Brown, fat clay with poorly graded sand (fine to medium). Well-graded gravel (fine to coarse) with few cobbles (weathered medium to coarse grained sandstone).	
522	40	40	20				Moderate	7.5YR 5/4	SC		Clayey Sand with Gravel. As described above with loss of cobbles. Only fine gravel (< 2 cm).	
524	40	30	30				Moderate	5YR 4/4	SC	48/48	Clayey Sand with Gravel. Reddish brown, fat, sticky clay. Well-graded sand that is predominantly fine to medium grained, subangular to subround and polylithic. Well-graded gravel to include trace cobble (12 cm sandstone). Gravels are subangular to subround and polylithic. Interval is firm and saturated.	524ft - Pause drilling for 5 days off. -Casing stuck on 12/1/14 -Resume drilling 12/5/14, logging by MML, overcast.
526	30	40	30				Moderate	5YR 4/4	SC		Clayey Sand with Gravel. Same as above except less clay and more sand (also an increase in medium sand).	
528	30	40	30				Moderate	5YR 4/4	SC	44/48	Clayey Sand with Gravel. Reddish brown, fat clay is sticky and plastic. Well-graded sand is of mixed lithology is subangular to subround. Gravel is mostly fine (< 2 cm) with few larger, plus one cobble (10 cm sandstone). Gravel is subround and polylithic. Interval is firm and saturated.	
532	20	60	20				Strong	5YR 5/3	SC	22/24	Clayey Sand with Gravel. Reddish brown, fat clay with poorly graded sand (fine to medium) although minor amounts of coarse sand are present. Fine to 3 cm gravel is polylithic and subround to subangular. Interval coarsens with depth.	
534	20	50	30				Moderate	5YR 5/3	SC	N/A	Clayey Sand with Gravel. Reddish brown, fat clay. Well-graded polylithic sand is angular to subround with trace cobbles (sandstone).	*534-540ft - core was dropped on deck. Bagged sample is highly disturbed.

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CLEAR CREEK ASSOCIATES

Depth (feet)	* Est. % F	S	G	* Est. % F	S	G	HCl Rxn	Munsell Color	USCS	Recovery (inches)	Sample Description	Remarks
536	20	50	30				Moderate	5YR 5/3	SC	N/A	Clayey Sand with Gravel. Reddish brown, fat clay. Well-graded polylithic (quartz, sandstone, siltstone, plagioclase) sand is angular to subround. Interval is watery, trace cobbles (about 9 cm).	*534-540ft - core was dropped on deck. Bagged sample is highly disturbed.
540	40	40	20				Moderate	7.5YR 5/3	SC	33/48	Clayey Sand with Gravel. Well-graded (very fine to coarse), angular to subround, polylithic (quartz, sandstone, mudstone, siltstone) sand with brown, fat clay. Gravel is fine to 4 cm, subangular to subround and similar lithology to sand. Interval is poorly cemented, and gets drier with depth. From 542 to 544 feet is very dry and has strong HCL reaction. White calcium streaks throughout interval.	
544	60	40	T				None	7.5YR 7/2	CH		Sandy Clay. Slippery, pinkish grey clay with some polylithic sand (as above) and more angular grey (10YR 6/1) sand.	
546										40/48	Bedrock, as evidenced by very angular grey silty limestone with some red streaks and yellow streaks. All fragments are same limestone material, grey, very angular. From 547 to 548 interval is dry.	**546ft - BEDROCK - Limestone** *****The "fine" material starting at 545 feet is termed "rock flour" (per driller) from being drilled on with regular and auger drill shoes in three attempts to retrieve core. Furthermore drill was very slow per driller.
548										12/12		
549												**TD = 549 ft** 12/5/14 22:30

Notes: Unified Soil Classification System (ASTM D2488-00)
bls = below land surface; HCL Rxn = Hydrochloric acid reaction (strong, moderate, weak, none)

CLEAR CREEK ASSOCIATES

APPENDIX A.2

LABORATORY REPORTS

December 02, 2014

Ben Daigneau
Clear Creek Associates
221 N. Court Ave., Suite 101
Tucson, AZ 85701

TEL (520) 622-3222
FAX (520) 622-4040

Work Order No.: 14K0338
Order Name: 287051

RE: Exp GW Monitoring

Dear Ben Daigneau,

Turner Laboratories, Inc. received 1 sample(s) on 11/07/2014 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Terri Garcia
Technical Director

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0338
Date Received: 11/07/2014

Order: 287051

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
14K0338-01	BMO-2014-1BL	Ground Water	11/07/2014 1346

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0338
Date Received: 11/07/2014

Case Narrative

C4	Confirmatory analysis was past holding time
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
L2	The associated LCS/LCSD recovery was below laboratory acceptance limits.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

ND	Not Detected at or above the PQL
PQL	Practical Quantitation Limit
DF	Dilution Factor

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0338
Lab Sample ID: 14K0338-01

Client Sample ID: BMO-2014-1BL
Collection Date/Time: 11/07/2014 1346
Matrix: Ground Water
Order Name: 287051

Analyses	Result	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
ICP Dissolved Metals-E 200.7								
Calcium	89	4.0		mg/L	1	11/10/2014 1130	11/12/2014 1135	RAD
Magnesium	12	3.0		mg/L	1	11/10/2014 1130	11/12/2014 1135	RAD
Potassium	ND	5.0		mg/L	1	11/10/2014 1130	11/12/2014 1135	RAD
Sodium	37	5.0		mg/L	1	11/10/2014 1130	11/12/2014 1135	RAD
pH-E150.1								
pH (pH Units)	7.4	0.0	H5	-	1	11/07/2014 1653	11/07/2014 1656	AC
Temperature (°C)	16		H5	-	1	11/07/2014 1653	11/07/2014 1656	AC
Anions by Ion Chromatography-E300								
Chloride	25	1.0		mg/L	1	11/07/2014 1350	11/07/2014 2228	AC
Fluoride	0.56	0.50		mg/L	1	11/07/2014 1350	11/07/2014 2228	AC
Nitrogen, Nitrate (As N)	2.6	0.50		mg/L	1	11/07/2014 1350	11/07/2014 2228	AC
Nitrogen, Nitrite (As N)	ND	0.10	C4	mg/L	1	11/07/2014 1350	12/02/2014 1242	AC
Sulfate	160	130		mg/L	25	11/22/2014 1700	11/23/2014 0908	AC
Specific Conductance-SM2510 B								
Conductivity	730	0.10		µmhos/cm	1	11/10/2014 1315	11/10/2014 1359	AC
Total Dissolved Solids (Residue, Filterable)-SM2540 C								
Total Dissolved Solids (Residue, Filterable)	480	20		mg/L	1	11/11/2014 0820	11/11/2014 1715	CC

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0338
Date Received: 11/07/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411091 - E 200.7										
Blank (1411091-BLK1)				Prepared: 11/10/2014 Analyzed: 11/12/2014						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
LCS (1411091-BS1)				Prepared: 11/10/2014 Analyzed: 11/12/2014						
Calcium	9.9	4.0	mg/L	10.00		99	85-115			
Magnesium	10	3.0	mg/L	10.00		101	85-115			
Potassium	10	5.0	mg/L	10.00		102	85-115			
Sodium	11	5.0	mg/L	10.00		108	85-115			
LCS Dup (1411091-BSD1)				Prepared: 11/10/2014 Analyzed: 11/12/2014						
Calcium	9.8	4.0	mg/L	10.00		98	85-115	0.2	20	
Magnesium	10	3.0	mg/L	10.00		101	85-115	0.03	20	
Potassium	10	5.0	mg/L	10.00		103	85-115	1	20	
Sodium	11	5.0	mg/L	10.00		110	85-115	2	20	
Matrix Spike (1411091-MS1)	**Source: 14K0338-01**			Prepared: 11/10/2014 Analyzed: 11/12/2014						
Calcium	97	4.0	mg/L	10.00	89	79	70-130			
Magnesium	22	3.0	mg/L	10.00	12	100	70-130			
Potassium	12	5.0	mg/L	10.00	2.7	95	70-130			
Sodium	46	5.0	mg/L	10.00	37	93	70-130			

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0338
Date Received: 11/07/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411099 - SM2540 C										
Duplicate (1411099-DUP1)		**Source: 14K0292-01**		Prepared: 11/11/2014 Analyzed: 11/12/2014						
Total Dissolved Solids (Residue, Filterable)	370	20	mg/L		370			0.3	5	
Batch 1411113 - E150.1										
Duplicate (1411113-DUP1)		**Source: 14K0331-01**		Prepared & Analyzed: 11/07/2014						
pH (pH Units)	7.4	0.0	-		7.4			0.5	200	
Temperature (°C)	21		-		21			1	200	
Batch 1411138 - SM2510 B										
Duplicate (1411138-DUP1)		**Source: 14J0867-01**		Prepared & Analyzed: 11/10/2014						
Conductivity	540	0.10	µmhos/cm		520			2	10	

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0338
Date Received: 11/07/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411058 - E300										
Blank (1411058-BLK1)				Prepared & Analyzed: 11/07/2014						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (1411058-BS1)				Prepared & Analyzed: 11/07/2014						
Chloride	11	1.0	mg/L	12.50		91	90-110			
Fluoride	1.9	0.50	mg/L	2.000		95	90-110			
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		96	90-110			
Nitrogen, Nitrite (As N)	2.2	0.10	mg/L	2.500		87	90-110			L2
Sulfate	13	5.0	mg/L	12.50		102	90-110			
LCS Dup (1411058-BSD1)				Prepared & Analyzed: 11/07/2014						
Chloride	11	1.0	mg/L	12.50		90	90-110	0.4	10	
Fluoride	1.8	0.50	mg/L	2.000		92	90-110	3	10	
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		96	90-110	0.06	10	
Nitrogen, Nitrite (As N)	2.2	0.10	mg/L	2.500		87	90-110	0.8	10	L2
Sulfate	13	5.0	mg/L	12.50		102	90-110	0.1	10	
Matrix Spike (1411058-MS2)	**Source: 14K0324-01**			Prepared: 11/07/2014 Analyzed: 11/23/2014						
Chloride	12		mg/L	12.50	ND	95	80-120			
Fluoride	2.4		mg/L	2.000	ND	118	80-120			
Nitrogen, Nitrate (As N)	5.0		mg/L	5.000	ND	99	80-120			
Nitrogen, Nitrite (As N)	2.5		mg/L	2.500	ND	99	80-120			
Matrix Spike (1411058-MS3)	**Source: 14J0784-15RE1**			Prepared: 11/22/2014 Analyzed: 11/23/2014						
Chloride	12		mg/L	12.50	0.34	91	80-120			
Fluoride	2.1		mg/L	2.000	0.041	104	80-120			
Nitrogen, Nitrate (As N)	4.9		mg/L	5.000	ND	98	80-120			
Nitrogen, Nitrite (As N)	2.4		mg/L	2.500	ND	97	80-120			
Sulfate	18		mg/L	12.50	7.1	90	80-120			
Matrix Spike Dup (1411058-MSD2)	**Source: 14K0324-01**			Prepared: 11/07/2014 Analyzed: 11/23/2014						
Chloride	12		mg/L	12.50	ND	94	80-120	0.7	10	
Fluoride	2.3		mg/L	2.000	ND	116	80-120	2	10	
Nitrogen, Nitrate (As N)	4.9		mg/L	5.000	ND	98	80-120	1	10	
Nitrogen, Nitrite (As N)	2.5		mg/L	2.500	ND	100	80-120	0.6	10	
Matrix Spike Dup (1411058-MSD3)	**Source: 14J0784-15RE1**			Prepared: 11/22/2014 Analyzed: 11/23/2014						
Chloride	12		mg/L	12.50	0.34	90	80-120	1	10	
Fluoride	2.1		mg/L	2.000	0.041	101	80-120	3	10	
Nitrogen, Nitrate (As N)	4.8		mg/L	5.000	ND	96	80-120	1	10	
Nitrogen, Nitrite (As N)	2.5		mg/L	2.500	ND	98	80-120	1	10	
Sulfate	18		mg/L	12.50	7.1	89	80-120	0.8	10	

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Fax: (520) 882-9788
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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 14K0338 DATE 11/7/14 PAGE 1 OF 1

PROJECT NAME Exp GW Monitoring # 287051
CONTACT NAME Ben Dunaway
COMPANY NAME Clear Creek Associates
ADDRESS 221 N Court Ave Tucson, AZ
ZIP 85701 PHONE 622-3322 EMAIL bdunaway@clearcreekassociates.com
SAMPLER'S SIGNATURE

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Base Neutrals ☐ Acids ☐ 625/8270	Volatile Organics ☐ 624 ☐ 524.2 ☐ 8260	TTHMS ☐ HAA5 ☐	Chloride ☒ Sulfate ☒ Resistivity ☐	NO_2 ☒ NO_3 ☒ TKN ☐	TPH ☐ 1664 ☐ Oil & Grease ☐	VOA ☐ TCLP Analysis Semi-VOA ☐ Pest. ☐	TCLP ☐ Dissolved ☒ Metals Total ☐ RCRA8 ☐	Total ☐ Cyanide Amen. ☐ WAD ☐	SDWA-INORGANICS PRIMARY ☐ SECONDARY ☐	MPN ☐ Coliform PA ☐ Fecal ☐	pH ☐ Cl_2 ☐ C_6 ☐ Turb ☐	COD ☐ TSS ☐ BOD ☐	pH, Temp(SU), Cond, TDS	F, Ca, Mg, K, Na
BMO-2014-1BL	11/7/14	1316		GW	3				X	X			X						X	X

1. RELINQUISHED BY:
Signature
Melanie Lindsey
Printed Name
Clear Creek
Firm
11/7/14 16:30
Date/Time

2. RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

3. RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

4. RECEIVED BY:
Signature
Printed Name
TURNER LABORATORIES, INC.
Firm
11/7/14 1630
Date/Time

TURNAROUND REQUIREMENTS:
____ Standard (approx. 10 days)*
____ Next Day ____ 2 Day ____ 5 Day*
____ Email Preliminary Results
* Working Days

REPORT REQUIREMENTS:
____ I. Routine Report
____ II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
____ III. Date Validation Report (Includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION:
Account ____Y ____N
P.O. #
Bill to:

SAMPLE RECEIPT:
Total Containers 3
Temperature 8.7
☒ Wet Ice
☐ Ambient
☐ Blue Ice

* LEGEND
SAMPLE MATRIX
DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

Compliance Analysis: ☐ Yes ☐ No
ADEQ Forms: ☐ Yes ☐ No
Mail ADEQ Forms: ☐ Yes ☐ No

Custody Seals ☐
Container Intact ☒
COC / Labels Agree ☒

Preservation Confirmation ☒
Appropriate Head Space ☒
Received Within Hold Time ☒

SPECIAL INSTRUCTIONS/COMMENTS:

December 12, 2014

Ben Daigneau
Clear Creek Associates
221 N. Court Ave., Suite 101
Tucson, AZ 85701

TEL (520) 622-3222
FAX (520) 622-4040

Work Order No.: 14K0487
Order Name: 287051

RE: Exp GW Monitoring

Dear Ben Daigneau,

Turner Laboratories, Inc. received 1 sample(s) on 11/14/2014 for the analyses presented in the following report.

The attached report has been revised. Please refer to the Case Narrative page for an explanation of the changes. We apologize for any inconvenience this may have caused you.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Terri L. Garcia

Terri Garcia
Technical Director

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0487
Date Received: 11/14/2014

Order: 287051

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
14K0487-01	BMO-2014-1BU	Ground Water	11/13/2014 1429

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0487
Date Received: 11/14/2014

Case Narrative

This report was originally generated on 12/2/2014. It is being revised on 12/12/2014 to include corrected sample name, which was not on the original report.

H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

ND	Not Detected at or above the PQL
PQL	Practical Quantitation Limit
DF	Dilution Factor

Turner Laboratories, Inc.

Date: 12/12/2014

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0487
Lab Sample ID: 14K0487-01

Client Sample ID: BMO-2014-1BU
Collection Date/Time: 11/13/2014 1429
Matrix: Ground Water
Order Name: 287051

Analyses	Result	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
ICP Dissolved Metals-E 200.7								
Calcium	72	4.0		mg/L	1	11/17/2014 1440	11/18/2014 1646	RAD
Magnesium	9.7	3.0		mg/L	1	11/17/2014 1440	11/18/2014 1646	RAD
Potassium	ND	5.0		mg/L	1	11/17/2014 1440	11/18/2014 1646	RAD
Sodium	27	5.0		mg/L	1	11/17/2014 1440	11/18/2014 1646	RAD
pH-E150.1								
pH (pH Units)	7.6	0.0	H5	-	1	11/14/2014 0925	11/14/2014 0930	AC
Temperature (°C)	10		H5	-	1	11/14/2014 0925	11/14/2014 0930	AC
Anions by Ion Chromatography-E300								
Chloride	20	1.0		mg/L	1	11/14/2014 1600	11/15/2014 0609	AC
Fluoride	ND	0.50		mg/L	1	11/14/2014 1600	11/15/2014 0609	AC
Nitrogen, Nitrate (As N)	4.4	0.50		mg/L	1	11/14/2014 1600	11/15/2014 0609	AC
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/14/2014 1600	11/15/2014 0609	AC
Sulfate	84	50		mg/L	10	11/14/2014 1600	11/17/2014 2118	AC
Alkalinity-SM2320B								
Alkalinity, Bicarbonate (As CaCO3)	160	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Alkalinity, Carbonate (As CaCO3)	ND	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Alkalinity, Hydroxide (As CaCO3)	ND	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Alkalinity, Total (As CaCO3)	160	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Specific Conductance-SM2510 B								
Conductivity	590	0.10		µmhos/cm	1	11/17/2014 1215	11/17/2014 1232	AC
Total Dissolved Solids (Residue, Filterable)-SM2540 C								
Total Dissolved Solids (Residue, Filterable)	360	20		mg/L	1	11/18/2014 0820	11/19/2014 1320	CC

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0487
Date Received: 11/14/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411175 - E 200.7										
Blank (1411175-BLK1)				Prepared & Analyzed: 11/18/2014						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
LCS (1411175-BS1)				Prepared & Analyzed: 11/18/2014						
Calcium	10	4.0	mg/L	10.00		102	85-115			
Magnesium	10	3.0	mg/L	10.00		102	85-115			
Potassium	10	5.0	mg/L	10.00		102	85-115			
Sodium	11	5.0	mg/L	10.00		111	85-115			
LCS Dup (1411175-BSD1)				Prepared & Analyzed: 11/18/2014						
Calcium	11	4.0	mg/L	10.00		105	85-115	3	20	
Magnesium	10	3.0	mg/L	10.00		105	85-115	3	20	
Potassium	10	5.0	mg/L	10.00		104	85-115	2	20	
Sodium	11	5.0	mg/L	10.00		110	85-115	0.4	20	
Matrix Spike (1411175-MS1)	**Source: 14K0487-01**			Prepared & Analyzed: 11/18/2014						
Calcium	76	4.0	mg/L	10.00	72	47	70-130			M3
Magnesium	19	3.0	mg/L	10.00	9.7	90	70-130			
Potassium	12	5.0	mg/L	10.00	2.3	94	70-130			
Sodium	36	5.0	mg/L	10.00	27	81	70-130			

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0487
Date Received: 11/14/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411158 - E150.1										
Duplicate (1411158-DUP1)		**Source: 14K0487-01**		Prepared & Analyzed: 11/14/2014						
pH (pH Units)	7.5	0.0	-		7.6			0.5	200	
Temperature (°C)	11		-		10			10	200	
Batch 1411179 - SM2510 B										
Duplicate (1411179-DUP1)		**Source: 14K0394-01**		Prepared & Analyzed: 11/17/2014						
Conductivity	1100	0.10	µmhos/cm		1100			0.3	10	
Batch 1411194 - SM2540 C										
Duplicate (1411194-DUP1)		**Source: 14K0487-01**		Prepared: 11/18/2014 Analyzed: 11/19/2014						
Total Dissolved Solids (Residue, Filterable)	360	20	mg/L		360			1	5	
Batch 1411260 - SM2320B										
LCS (1411260-BS1)				Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		100	90-110			
LCS Dup (1411260-BSD1)				Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		98	90-110	2	10	
Matrix Spike (1411260-MS1)		**Source: 14K0630-03**		Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	460	2.0	mg/L	250.0	230	93	85-115			
Matrix Spike Dup (1411260-MSD1)		**Source: 14K0630-03**		Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	450	2.0	mg/L	250.0	230	90	85-115	1	10	

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0487
Date Received: 11/14/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411129 - E300										
Blank (1411129-BLK1)				Prepared & Analyzed: 11/14/2014						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (1411129-BS1)				Prepared & Analyzed: 11/14/2014						
Chloride	12	1.0	mg/L	12.50		97	90-110			
Fluoride	2.0	0.50	mg/L	2.000		102	90-110			
Nitrogen, Nitrate (As N)	5.0	0.50	mg/L	5.000		100	90-110			
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500		101	90-110			
Sulfate	13	5.0	mg/L	12.50		101	90-110			
LCS Dup (1411129-BSD1)				Prepared & Analyzed: 11/14/2014						
Chloride	12	1.0	mg/L	12.50		97	90-110	0.3	10	
Fluoride	2.1	0.50	mg/L	2.000		103	90-110	0.7	10	
Nitrogen, Nitrate (As N)	5.0	0.50	mg/L	5.000		100	90-110	0.1	10	
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500		102	90-110	0.3	10	
Sulfate	13	5.0	mg/L	12.50		101	90-110	0.6	10	
Matrix Spike (1411129-MS1)		**Source: 14K0419-03**		Prepared & Analyzed: 11/14/2014						
Chloride	100	1.0	mg/L	12.50	100	43	80-120			M3
Nitrogen, Nitrate (As N)	5.0	0.50	mg/L	5.000	0.25	95	80-120			
Nitrogen, Nitrite (As N)	2.1	0.10	mg/L	2.500	ND	86	80-120			
Sulfate	110	5.0	mg/L	12.50	100	76	80-120			M3
Matrix Spike (1411129-MS2)		**Source: 14K0419-03**		Prepared & Analyzed: 11/14/2014						
Fluoride	3.0		mg/L	2.000	1.1	94	80-120			
Matrix Spike (1411129-MS3)		**Source: 14K0487-01**		Prepared: 11/14/2014 Analyzed: 11/15/2014						
Fluoride	2.2	0.50	mg/L	2.000	0.23	96	80-120			
Nitrogen, Nitrate (As N)	9.6	0.50	mg/L	5.000	4.4	103	80-120			
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500	ND	99	80-120			
Matrix Spike (1411129-MS4)		**Source: 14K0487-01RE1**		Prepared & Analyzed: 11/17/2014						
Chloride	14		mg/L	12.50	2.0	94	80-120			
Sulfate	20		mg/L	12.50	8.4	96	80-120			
Matrix Spike Dup (1411129-MSD1)		**Source: 14K0419-03**		Prepared & Analyzed: 11/14/2014						
Chloride	100	1.0	mg/L	12.50	100	44	80-120	0.06	10	M3
Nitrogen, Nitrate (As N)	5.0	0.50	mg/L	5.000	0.25	95	80-120	0.3	10	
Nitrogen, Nitrite (As N)	2.2	0.10	mg/L	2.500	ND	87	80-120	1	10	
Sulfate	110	5.0	mg/L	12.50	100	77	80-120	0.1	10	M3
Matrix Spike Dup (1411129-MSD2)		**Source: 14K0419-03**		Prepared & Analyzed: 11/14/2014						
Fluoride	3.0		mg/L	2.000	1.1	94	80-120	0.03	10	

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0487
Date Received: 11/14/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411129 - E300										
Matrix Spike Dup (1411129-MSD3)	**Source: 14K0487-01**			Prepared: 11/14/2014 Analyzed: 11/15/2014						
Fluoride	2.1	0.50	mg/L	2.000	0.23	96	80-120	0.05	10	
Nitrogen, Nitrate (As N)	9.5	0.50	mg/L	5.000	4.4	102	80-120	0.7	10	
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500	ND	98	80-120	0.5	10	
Matrix Spike Dup (1411129-MSD4)	**Source: 14K0487-01RE1**			Prepared & Analyzed: 11/17/2014						
Chloride	14		mg/L	12.50	2.0	94	80-120	0.4	10	
Sulfate	20		mg/L	12.50	8.4	95	80-120	0.7	10	

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 14K0487 DATE 11/13/14 PAGE 1 OF 1

PROJECT NAME Exp. GW Monitoring # 287051
CONTACT NAME Ben Daigneau + Victoria Hermosilla
COMPANY NAME Clear Creek Associates
ADDRESS 221 N. Court Ave. #101 Tucson, AZ
ZIP 85701 PHONE (520) 622-3222 EMAIL bdaigneau@cleavcreekassociates.com
SAMPLER'S SIGNATURE David Pence

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Base Neutrals 625/8270 ☐ Acids ☐	Volatile Organics ☐ 624 ☐ 524.2 ☐ 8260	TTHMS ☐ HAA5 ☐	☒ Chloride ☒ Sulfate ☐ Resistivity	NO2 ☒ NO3 ☒ TKN ☐	☐ TPH 1664 ☐ Oil & Grease	TCLP Analysis VOA ☐ Semi-VOA ☐ Pest. ☐	Metals See quote TCLP ☐ Dissolved ☒ RCRA8 ☐ Total ☐	Cyanide Total ☐ Amen. ☐	SDWA-INORGANICS PRIMARY ☒ SECONDARY ☐ See quote WAD ☐	Coliform MPN ☐ P/A ☐	pH ☒ Cl2 ☐ Fecal ☐	COD ☐ Cl2 ☐ Turb ☐	TSS ☐ BOD ☐	TDS, Total Alkalinity as CaCO3	Fluoride		
BMO-2014-1BU	11/13/14	14:29		GW	3				✓	✓		✓	✓		✓		✓			✓	✓		

1. RELINQUISHED BY:
Signature: David Pence
Printed Name: David Pence
Firm: CCA
Date/Time: 11/13/14 14:40

2. RECEIVED BY:
Signature: Ben Daigneau
Printed Name: Ben Daigneau
Firm: Clear Creek
Date/Time: 11/13/14 14:40

3. RELINQUISHED BY:
Signature: Ben Daigneau
Printed Name: Ben Daigneau
Firm: Clear Creek
Date/Time: 11/14/14 08:11

4. RECEIVED BY:
Signature: [signature]
Printed Name: [signature]
Firm: TURNER LABORATORIES, INC.
Date/Time: 11/14/14 8:11A

TURNAROUND REQUIREMENTS:
X Standard (approx. 10 days)*
___ Next Day ___ 2 Day ___ 5 Day*
___ Email Preliminary Results
* Working Days

REPORT REQUIREMENTS:
X I. Routine Report
___ II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
___ III. Date Validation Report (Includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION:
Account ___ Y ___ N
P.O. #
Bill to: Clear Creek

SAMPLE RECEIPT:
Total Containers 3
Temperature 2.5
☒ Wet Ice
☐ Ambient
☐ Blue Ice

* LEGEND
SAMPLE MATRIX
DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

Compliance Analysis: ☐ Yes ☐ No
ADEQ Forms: ☐ Yes ☐ No
Mail ADEQ Forms: ☐ Yes ☐ No

Custody Seals ☐
Container Intact ☒
COC / Labels Agree ☒

Preservation Confirmation ☒
Appropriate Head Space ☒
Received Within Hold Time ☒

SPECIAL INSTRUCTIONS/COMMENTS:

December 19, 2014

Ben Daigneau
Clear Creek Associates
221 N. Court Ave., Suite 101
Tucson, AZ 85701

TEL (520) 622-3222
FAX (520) 622-4040

Work Order No.: 14K0634
Order Name: 287051

RE: Exp GW Monitoring

Dear Ben Daigneau,

Turner Laboratories, Inc. received 1 sample(s) on 11/21/2014 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Terri Garcia
Technical Director

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0634
Date Received: 11/21/2014

Order: 287051

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
14K0634-01	BMO-2014-2BL	Ground Water	11/20/2014 1338

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0634
Date Received: 11/21/2014

Case Narrative

H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

ND Not Detected at or above the PQL

PQL Practical Quantitation Limit

DF Dilution Factor

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0634
Lab Sample ID: 14K0634-01

Client Sample ID: BMO-2014-2BL
Collection Date/Time: 11/20/2014 1338
Matrix: Ground Water
Order Name: 287051

Analyses	Result	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
ICP Dissolved Metals-E 200.7								
Calcium	110	4.0		mg/L	1	11/21/2014 1010	12/02/2014 1340	RAD
Magnesium	15	3.0		mg/L	1	11/21/2014 1010	12/02/2014 1340	RAD
Potassium	ND	5.0		mg/L	1	11/21/2014 1010	12/02/2014 1340	RAD
Sodium	34	5.0		mg/L	1	11/21/2014 1010	12/02/2014 1340	RAD
pH-E150.1								
pH (pH Units)	7.5	0.0	H5	-	1	11/21/2014 1026	11/21/2014 1036	AC
Temperature (°C)	21		H5	-	1	11/21/2014 1026	11/21/2014 1036	AC
Anions by Ion Chromatography-E300								
Chloride	22	1.0		mg/L	1	11/21/2014 1220	11/21/2014 1954	AC
Fluoride	ND	0.50		mg/L	1	11/21/2014 1220	11/21/2014 1954	AC
Nitrogen, Nitrate (As N)	2.6	0.50		mg/L	1	11/21/2014 1220	11/21/2014 1954	AC
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/21/2014 1220	11/21/2014 1954	AC
Sulfate	210	130		mg/L	25	11/21/2014 1220	11/24/2014 1824	AC
Alkalinity-SM2320B								
Alkalinity, Bicarbonate (As CaCO3)	180	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Alkalinity, Carbonate (As CaCO3)	ND	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Alkalinity, Hydroxide (As CaCO3)	ND	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Alkalinity, Total (As CaCO3)	180	2.0		mg/L	1	11/25/2014 1320	11/25/2014 1445	CC
Specific Conductance-SM2510 B								
Conductivity	870	0.10		µmhos/cm	1	11/25/2014 1412	11/25/2014 1420	AC
Total Dissolved Solids (Residue, Filterable)-SM2540 C								
Total Dissolved Solids (Residue, Filterable)	550	20		mg/L	1	11/25/2014 0800	11/26/2014 1240	CC

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0634
Date Received: 11/21/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1412018 - E 200.7										
Blank (1412018-BLK1)				Prepared: 12/01/2014 Analyzed: 12/02/2014						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
LCS (1412018-BS1)				Prepared: 12/01/2014 Analyzed: 12/02/2014						
Calcium	10	4.0	mg/L	10.00		104	85-115			
Magnesium	10	3.0	mg/L	10.00		104	85-115			
Potassium	10	5.0	mg/L	10.00		102	85-115			
Sodium	11	5.0	mg/L	10.00		109	85-115			
LCS Dup (1412018-BSD1)				Prepared: 12/01/2014 Analyzed: 12/02/2014						
Calcium	9.9	4.0	mg/L	10.00		99	85-115	4	20	
Magnesium	10	3.0	mg/L	10.00		102	85-115	2	20	
Potassium	10	5.0	mg/L	10.00		100	85-115	3	20	
Sodium	11	5.0	mg/L	10.00		114	85-115	5	20	
Matrix Spike (1412018-MS1)	**Source: 14K0630-03**			Prepared: 11/21/2014 Analyzed: 12/02/2014						
Calcium	62	4.0	mg/L	10.00	54	79	70-130			
Magnesium	22	3.0	mg/L	10.00	12	101	70-130			
Potassium	13	5.0	mg/L	10.00	2.9	97	70-130			
Sodium	67	5.0	mg/L	10.00	57	95	70-130			
Matrix Spike (1412018-MS2)	**Source: 14K0641-01**			Prepared: 12/01/2014 Analyzed: 12/02/2014						
Calcium	160	4.0	mg/L	10.00	160	4	70-130			M3
Magnesium	52	3.0	mg/L	10.00	44	77	70-130			
Potassium	12	5.0	mg/L	10.00	2.4	100	70-130			
Sodium	190	5.0	mg/L	10.00	200	NR	70-130			M3

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0634
Date Received: 11/21/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411229 - E150.1										
Duplicate (1411229-DUP1)		**Source: 14K0634-01**		Prepared & Analyzed: 11/21/2014						
pH (pH Units)	7.5	0.0	-		7.5			0.3	200	
Temperature (°C)	21		-		21			0	200	
Batch 1411253 - SM2540 C										
Duplicate (1411253-DUP1)		**Source: 14K0641-01**		Prepared: 11/25/2014 Analyzed: 11/26/2014						
Total Dissolved Solids (Residue, Filterable)	1300	20	mg/L		1300			0.4	5	
Batch 1411257 - SM2510 B										
Duplicate (1411257-DUP1)		**Source: 14K0634-01**		Prepared & Analyzed: 11/25/2014						
Conductivity	860	0.10	µmhos/cm		870			0.5	10	
Batch 1411260 - SM2320B										
LCS (1411260-BS1)				Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		100	90-110			
LCS Dup (1411260-BSD1)				Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		98	90-110	2	10	
Matrix Spike (1411260-MS1)		**Source: 14K0630-03**		Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	460	2.0	mg/L	250.0	230	93	85-115			
Matrix Spike Dup (1411260-MSD1)		**Source: 14K0630-03**		Prepared & Analyzed: 11/25/2014						
Alkalinity, Total (As CaCO3)	450	2.0	mg/L	250.0	230	90	85-115	1	10	

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0634
Date Received: 11/21/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411215 - E300										
Blank (1411215-BLK1)				Prepared & Analyzed: 11/21/2014						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (1411215-BS1)				Prepared & Analyzed: 11/21/2014						
Chloride	12	1.0	mg/L	12.50		97	90-110			
Fluoride	2.0	0.50	mg/L	2.000		98	90-110			
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		98	90-110			
Nitrogen, Nitrite (As N)	2.4	0.10	mg/L	2.500		97	90-110			
Sulfate	13	5.0	mg/L	12.50		101	90-110			
LCS Dup (1411215-BSD1)				Prepared & Analyzed: 11/21/2014						
Chloride	12	1.0	mg/L	12.50		97	90-110	0.2	10	
Fluoride	1.9	0.50	mg/L	2.000		97	90-110	1	10	
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		98	90-110	0.04	10	
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500		100	90-110	3	10	
Sulfate	13	5.0	mg/L	12.50		100	90-110	0.5	10	
Matrix Spike (1411215-MS1)	**Source: 14K0630-08**			Prepared & Analyzed: 11/21/2014						
Fluoride	3.9	0.50	mg/L	2.000	2.0	94	80-120			
Nitrogen, Nitrate (As N)	9.8	0.50	mg/L	5.000	4.7	102	80-120			
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500	ND	92	80-120			
Matrix Spike (1411215-MS2)	**Source: 14K0630-08**			Prepared & Analyzed: 11/21/2014						
Chloride	19		mg/L	12.50	6.8	96	80-120			
Matrix Spike (1411215-MS3)	**Source: 14K0630-08RE1**			Prepared & Analyzed: 11/21/2014						
Sulfate	26		mg/L	12.50	14	93	80-120			M3
Matrix Spike (1411215-MS4)	**Source: 14K0448-01**			Prepared & Analyzed: 11/21/2014						
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000	0.24	91	80-120			
Matrix Spike (1411215-MS5)	**Source: 14K0630-08**			Prepared: 11/21/2014 Analyzed: 11/24/2014						
Sulfate	18		mg/L	12.50	6.4	90	80-120			
Matrix Spike (1411215-MS6)	**Source: 14K0448-01**			Prepared: 11/21/2014 Analyzed: 12/18/2014						
Chloride	0.0		mg/L	12.50	2.6	NR	80-120			
Matrix Spike Dup (1411215-MSD1)	**Source: 14K0630-08**			Prepared & Analyzed: 11/21/2014						
Fluoride	3.9	0.50	mg/L	2.000	2.0	94	80-120	0.4	10	
Nitrogen, Nitrate (As N)	9.7	0.50	mg/L	5.000	4.7	102	80-120	0.5	10	
Nitrogen, Nitrite (As N)	2.4	0.10	mg/L	2.500	ND	94	80-120	2	10	
Matrix Spike Dup (1411215-MSD2)	**Source: 14K0630-08**			Prepared & Analyzed: 11/21/2014						
Chloride	19		mg/L	12.50	6.8	95	80-120	0.5	10	
Matrix Spike Dup (1411215-MSD3)	**Source: 14K0630-08RE1**			Prepared & Analyzed: 11/21/2014						
Sulfate	25		mg/L	12.50	14	92	80-120	0.5	10	M3

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14K0634
Date Received: 11/21/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1411215 - E300										
Matrix Spike Dup (1411215-MSD4)	**Source: 14K0448-01**			Prepared & Analyzed: 11/21/2014						
Nitrogen, Nitrate (As N)	4.7	0.50	mg/L	5.000	0.24	89	80-120	1	10	
Matrix Spike Dup (1411215-MSD5)	**Source: 14K0630-08**			Prepared: 11/21/2014 Analyzed: 11/24/2014						
Sulfate	18		mg/L	12.50	6.4	90	80-120	0.3	10	
Matrix Spike Dup (1411215-MSD6)	**Source: 14K0448-01**			Prepared: 11/21/2014 Analyzed: 12/18/2014						
Chloride	0.0		mg/L	12.50	2.6	NR	80-120		10	

2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
www.turnerlabs.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 14K0634 DATE 11/21/14 PAGE 1 OF 1

PROJECT NAME Exp. GW Monitoring# 287051
CONTACT NAME Ben Daigneau & Victoria Hermosilla
COMPANY NAME Clear Creek Associates
ADDRESS 221 N. Court Ave #101, Tucson, AZ
ZIP 85701 PHONE (520) 622-3222 EMAIL bdaigneau@clearcreekassociates
SAMPLER'S SIGNATURE David Pence

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Base Neutrals 625/8270 ☐ Acids ☐	Volatile Organics ☐ 624 ☐ 524.2 ☐ 8260	TTHMS ☐ HAA5 ☐	☒ Chloride ☒ Sulfate ☐ Resistivity	NO2 ☒ NO3 ☒ TKN ☐	☐ TPH 1664 ☐ Oil & Grease	VOA ☐ TCLP Analysis Semi-VOA ☐ Pest. ☐	TCLP ☐ Dissolved ☒ Metals RCRA8 ☐ Total ☐	Total ☐ Cyanide Amen. ☐ WAD ☐	SDWA-INORGANICS PRIMARY ☐ SECONDARY ☐	MPN ☐ Coliform PIA ☐ Fecal ☐	pH ☐ Cr6 ☐ Cl2 ☐ Turb ☐	COD ☐ TSS ☐ BOD ☐	Fluoride, Calcium	Magnesium, Potassium, Sodium	Total Alkalinity as CaCO3	*See Quote*
BMO-2014-2BL	11/20/14	13:38		GW	3				X	X			X						X	X	X	X

1. RELINQUISHED BY:	2. RECEIVED BY:
Signature: David Pence	Signature: [signature]
Printed Name: David Pence	Printed Name: Victoria Hermosilla
Firm: CCA	Firm: CCA
Date/Time: 11/20/14 / 13:50	Date/Time: 11/20/14, 13:50

3. RELINQUISHED BY:	4. RECEIVED BY:
Signature: [signature]	Signature: [signature]
Printed Name: Victoria Hermosilla	Printed Name: [signature]
Firm: CCA	Firm: TURNER LABORATORIES, INC.
Date/Time: 11/20/14, 14:15	Date/Time: 11/21/14 1000

TURNAROUND REQUIREMENTS:
___ Standard (approx. 10 days)*
___ Next Day ___ 2 Day ___ 5 Day*
___ Email Preliminary Results
* Working Days

REPORT REQUIREMENTS:
___ I. Routine Report
___ II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
___ III. Date Validation Report (Includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION:
Account ___ Y ___ N
P.O. # ___
Bill to: ___

SAMPLE RECEIPT:
Total Containers 3
Temperature 3.2
☒ Wet Ice
☐ Ambient
☐ Blue Ice

* LEGEND
SAMPLE MATRIX
DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

Compliance Analysis: ☐ Yes ☐ No
ADEQ Forms: ☐ Yes ☐ No
Mail ADEQ Forms: ☐ Yes ☐ No

Custody Seals ☐
Container Intact ☒
COC / Labels Agree ☒

Preservation Confirmation ☒
Appropriate Head Space ☒
Received Within Hold Time ☒

SPECIAL INSTRUCTIONS/COMMENTS:

December 19, 2014

Ben Daigneau
Clear Creek Associates
221 N. Court Ave., Suite 101
Tucson, AZ 85701

TEL (520) 622-3222
FAX (520) 622-4040

Work Order No.: 14L0162
Order Name: 287051

RE: Exp GW Monitoring

Dear Ben Daigneau,

Turner Laboratories, Inc. received 1 sample(s) on 12/02/2014 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Terri Garcia
Technical Director

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14L0162
Date Received: 12/02/2014

Order: 287051

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
14L0162-01	BMO-2014-2BU	Ground Water	12/01/2014 1305

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14L0162
Date Received: 12/02/2014

Case Narrative

H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

ND Not Detected at or above the PQL

PQL Practical Quantitation Limit

DF Dilution Factor

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14L0162
Lab Sample ID: 14L0162-01

Client Sample ID: BMO-2014-2BU
Collection Date/Time: 12/01/2014 1305
Matrix: Ground Water
Order Name: 287051

Analyses	Result	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
ICP Dissolved Metals-E 200.7								
Calcium	110	4.0		mg/L	1	12/02/2014 1140	12/06/2014 1547	RAD
Magnesium	14	3.0		mg/L	1	12/02/2014 1140	12/06/2014 1547	RAD
Potassium	ND	5.0		mg/L	1	12/02/2014 1140	12/06/2014 1547	RAD
Sodium	34	5.0		mg/L	1	12/02/2014 1140	12/06/2014 1548	RAD
pH-E150.1								
pH (pH Units)	7.3	0.0	H5	-	1	12/02/2014 1150	12/02/2014 1200	AC
Temperature (°C)	21		H5	-	1	12/02/2014 1150	12/02/2014 1200	AC
Anions by Ion Chromatography-E300								
Chloride	39	25		mg/L	25	12/02/2014 0920	12/03/2014 1150	AC
Fluoride	ND	0.50		mg/L	1	12/02/2014 0920	12/02/2014 1642	AC
Nitrogen, Nitrate (As N)	4.1	0.50		mg/L	1	12/02/2014 0920	12/02/2014 1642	AC
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/02/2014 0920	12/02/2014 1642	AC
Sulfate	230	130		mg/L	25	12/02/2014 0920	12/03/2014 1150	AC
Alkalinity-SM2320B								
Alkalinity, Bicarbonate (As CaCO3)	170	2.0		mg/L	1	12/08/2014 1445	12/08/2014 1520	CC
Alkalinity, Carbonate (As CaCO3)	ND	2.0		mg/L	1	12/08/2014 1445	12/08/2014 1520	CC
Alkalinity, Hydroxide (As CaCO3)	ND	2.0		mg/L	1	12/08/2014 1445	12/08/2014 1520	CC
Alkalinity, Total (As CaCO3)	170	2.0		mg/L	1	12/08/2014 1445	12/08/2014 1520	CC
Specific Conductance-SM2510 B								
Conductivity	860	0.10		µmhos/cm	1	12/03/2014 1420	12/03/2014 1435	AC
Total Dissolved Solids (Residue, Filterable)-SM2540 C								
Total Dissolved Solids (Residue, Filterable)	560	20		mg/L	1	12/04/2014 0800	12/05/2014 1150	CC

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14L0162
Date Received: 12/02/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1412088 - E 200.7										
Blank (1412088-BLK1)				Prepared: 12/04/2014 Analyzed: 12/06/2014						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
LCS (1412088-BS1)				Prepared: 12/04/2014 Analyzed: 12/06/2014						
Calcium	10	4.0	mg/L	10.00		100	85-115			
Magnesium	10	3.0	mg/L	10.00		100	85-115			
Potassium	9.8	5.0	mg/L	10.00		98	85-115			
Sodium	11	5.0	mg/L	10.00		111	85-115			
LCS Dup (1412088-BSD1)				Prepared: 12/04/2014 Analyzed: 12/06/2014						
Calcium	10	4.0	mg/L	10.00		100	85-115	0.4	20	
Magnesium	9.9	3.0	mg/L	10.00		99	85-115	0.9	20	
Potassium	9.9	5.0	mg/L	10.00		99	85-115	0.4	20	
Sodium	11	5.0	mg/L	10.00		109	85-115	1	20	
Matrix Spike (1412088-MS1)	**Source: 14L0162-01**			Prepared: 12/04/2014 Analyzed: 12/06/2014						
Calcium	120	4.0	mg/L	10.00	110	91	70-130			
Magnesium	25	3.0	mg/L	10.00	14	105	70-130			
Potassium	13	5.0	mg/L	10.00	2.8	103	70-130			
Sodium	45	5.0	mg/L	10.00	34	108	70-130			

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14L0162
Date Received: 12/02/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1412044 - E150.1										
Duplicate (1412044-DUP1)		**Source: 14L0162-01**		Prepared & Analyzed: 12/02/2014						
pH (pH Units)	7.3	0.0	-		7.3			0.1	200	H5
Temperature (°C)	21		-		21			2	200	H5
Batch 1412064 - SM2510 B										
Duplicate (1412064-DUP1)		**Source: 14L0241-01**		Prepared & Analyzed: 12/03/2014						
Conductivity	550	0.10	µmhos/cm		540			2	10	
Batch 1412080 - SM2540 C										
Duplicate (1412080-DUP1)		**Source: 14L0008-01**		Prepared: 12/04/2014 Analyzed: 12/05/2014						
Total Dissolved Solids (Residue, Filterable)	870	20	mg/L		880			0.5	5	
Batch 1412096 - SM2320B										
LCS (1412096-BS1)				Prepared & Analyzed: 12/08/2014						
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		100	90-110			
LCS Dup (1412096-BSD1)				Prepared & Analyzed: 12/08/2014						
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		99	90-110	0.8	10	
Matrix Spike (1412096-MS1)		**Source: 14L0241-02**		Prepared & Analyzed: 12/08/2014						
Alkalinity, Total (As CaCO3)	300	2.0	mg/L	250.0	68	94	85-115			
Matrix Spike Dup (1412096-MSD1)		**Source: 14L0241-02**		Prepared & Analyzed: 12/08/2014						
Alkalinity, Total (As CaCO3)	300	2.0	mg/L	250.0	68	93	85-115	1	10	

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14L0162
Date Received: 12/02/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1412026 - E300										
Blank (1412026-BLK1)				Prepared & Analyzed: 12/02/2014						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (1412026-BS1)				Prepared & Analyzed: 12/02/2014						
Chloride	12	1.0	mg/L	12.50		95	90-110			
Fluoride	2.0	0.50	mg/L	2.000		102	90-110			
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		99	90-110			
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500		100	90-110			
Sulfate	13	5.0	mg/L	12.50		101	90-110			
LCS Dup (1412026-BSD1)				Prepared & Analyzed: 12/02/2014						
Chloride	12	1.0	mg/L	12.50		96	90-110	0.2	10	
Fluoride	2.0	0.50	mg/L	2.000		102	90-110	0.05	10	
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		99	90-110	0.2	10	
Nitrogen, Nitrite (As N)	2.6	0.10	mg/L	2.500		102	90-110	2	10	
Sulfate	13	5.0	mg/L	12.50		101	90-110	0.06	10	
Matrix Spike (1412026-MS1)		**Source: 14L0162-01**		Prepared & Analyzed: 12/02/2014						
Fluoride	2.1	0.50	mg/L	2.000	0.23	94	80-120			
Nitrogen, Nitrate (As N)	9.1	0.50	mg/L	5.000	4.1	99	80-120			
Nitrogen, Nitrite (As N)	2.1	0.10	mg/L	2.500	ND	83	80-120			
Matrix Spike (1412026-MS2)		**Source: 14L0191-02**		Prepared & Analyzed: 12/02/2014						
Fluoride	2.0	0.50	mg/L	2.000	ND	101	80-120			
Nitrogen, Nitrite (As N)	1.9	0.10	mg/L	2.500	ND	78	80-120			
Matrix Spike (1412026-MS3)		**Source: 14L0162-01RE1**		Prepared: 12/02/2014 Analyzed: 12/03/2014						
Chloride	12		mg/L	12.50	1.6	87	80-120			
Sulfate	21		mg/L	12.50	9.2	92	80-120			
Matrix Spike (1412026-MS4)		**Source: 14L0008-01RE1**		Prepared: 12/02/2014 Analyzed: 12/03/2014						
Nitrogen, Nitrate (As N)	6.8		mg/L	5.000	1.9	99	80-120			
Nitrogen, Nitrite (As N)	2.3		mg/L	2.500		92	80-120			
Matrix Spike (1412026-MS5)		**Source: 14L0191-02**		Prepared: 12/02/2014 Analyzed: 12/03/2014						
Fluoride	2.0		mg/L	2.000	0.036	97	80-120			
Nitrogen, Nitrate (As N)	7.4		mg/L	5.000	2.6	97	80-120			
Nitrogen, Nitrite (As N)	2.0		mg/L	2.500	ND	82	80-120			
Sulfate	29		mg/L	12.50	17	95	80-120			
Matrix Spike Dup (1412026-MSD1)		**Source: 14L0162-01**		Prepared & Analyzed: 12/02/2014						
Fluoride	2.1	0.50	mg/L	2.000	0.23	94	80-120	0.7	10	
Nitrogen, Nitrate (As N)	9.1	0.50	mg/L	5.000	4.1	99	80-120	0.4	10	
Nitrogen, Nitrite (As N)	2.2	0.10	mg/L	2.500	ND	86	80-120	3	10	

Client: Clear Creek Associates
Project: Exp GW Monitoring
Work Order: 14L0162
Date Received: 12/02/2014

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1412026 - E300										
Matrix Spike Dup (1412026-MSD2)	**Source: 14L0191-02**			Prepared & Analyzed: 12/02/2014						
Fluoride	2.1	0.50	mg/L	2.000	ND	103	80-120	2	10	
Nitrogen, Nitrite (As N)	2.0	0.10	mg/L	2.500	ND	81	80-120	4	10	
Matrix Spike Dup (1412026-MSD3)	**Source: 14L0162-01RE1**			Prepared: 12/02/2014 Analyzed: 12/03/2014						
Chloride	13		mg/L	12.50	1.6	88	80-120	0.7	10	
Sulfate	21		mg/L	12.50	9.2	94	80-120	1	10	
Matrix Spike Dup (1412026-MSD4)	**Source: 14L0008-01RE1**			Prepared: 12/02/2014 Analyzed: 12/03/2014						
Nitrogen, Nitrate (As N)	6.7		mg/L	5.000	1.9	97	80-120	1	10	
Nitrogen, Nitrite (As N)	2.3		mg/L	2.500		93	80-120	0.7	10	
Matrix Spike Dup (1412026-MSD5)	**Source: 14L0191-02**			Prepared: 12/02/2014 Analyzed: 12/03/2014						
Fluoride	2.0		mg/L	2.000	0.036	97	80-120	0.3	10	
Nitrogen, Nitrate (As N)	7.4		mg/L	5.000	2.6	97	80-120	0.3	10	
Nitrogen, Nitrite (As N)	2.1		mg/L	2.500	ND	83	80-120	1	10	
Sulfate	29		mg/L	12.50	17	95	80-120	0.01	10	

TURNER LABORATORIES INC.
2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
www.turnerlabs.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1410162 DATE 12/2/14 PAGE 1 OF 1

PROJECT NAME Ex. GW Monitoring # 287051
CONTACT NAME Ben Daigneau & Victoria Hermosilla
COMPANY NAME Clear Creek Associates
ADDRESS 221 N. Court Ave. # 101 Tucson AZ
ZIP 85701 PHONE 520 622-3232 EMAIL bdaigneau@clearcreekassociates.com
SAMPLER'S SIGNATURE Melanie Lindsey

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS	Base Neutrals 625/8270 / Acids	Volatile Organics 624 / 8260	TTHMS / HAA5	Chloride / Sulfate	NO_2 / Resistivity	NO_3 / TKN	TPH / 1664	VOA / Oil & Grease	TCLP / SemiVOA / Pest.	TCLP / Dissolved / Metals / Total	RCRA8	Total / Cyanide / Amen.	SDWA-INORGANICS PRIMARY / WAD	MPN / SECONDARY / Coliform	PIA / Fecal	pH / Cl_2 / Turb	COD / TSS / BOD	F, Ca, Mg, K, Na	Total Alkalinity as $CaCO_3$	*See Quote
BMO-2014-ZBU	12/1/14	13:05		GW	3				X	X					X								X	X	

1. RELINQUISHED BY:
Signature: Melanie Lindsey
Printed Name: Melanie Lindsey
Firm: Clear Creek Assoc.
Date/Time: 12/1/14 13:37

2. RECEIVED BY:
Signature:
Printed Name:
Firm: UPS
Date/Time:

TURNAROUND REQUIREMENTS:
____ Standard (approx. 10 days)*
____ Next Day ____ 2 Day ____ 5 Day*
X Email Preliminary Results
* Working Days

REPORT REQUIREMENTS:
____ I. Routine Report
____ II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
____ III. Date Validation Report (Includes All Raw Data) Add 10% to invoice

INVOICE INFORMATION:
Account ____Y ____N
P.O. #
Bill to:

SAMPLE RECEIPT:
Total Containers 3
Temperature 13.7
☐ Wet Ice
☒ Ambient
☐ Blue Ice

3. RELINQUISHED BY:
Signature:
Printed Name:
Firm: UPS
Date/Time:

4. RECEIVED BY:
Signature:
Printed Name:
Firm: TURNER LABORATORIES, INC.
Date/Time: 12/2/14 1113

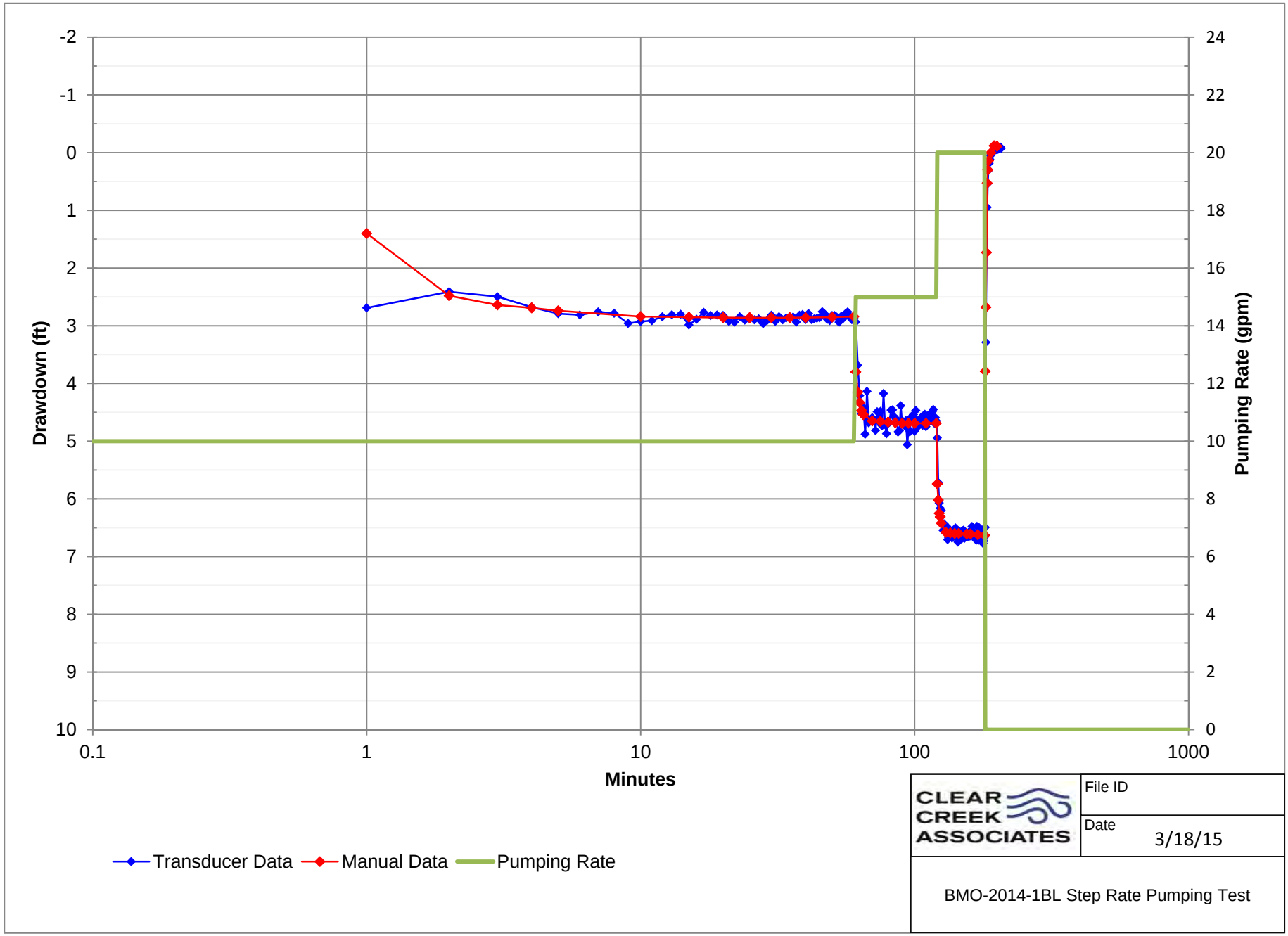
* LEGEND
SAMPLE MATRIX
DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

Compliance Analysis: ☐ Yes ☐ No	Custody Seals ☐	Preservation Confirmation ☒
ADEQ Forms: ☐ Yes ☐ No	Container Intact ☒	Appropriate Head Space ☒
Mail ADEQ Forms: ☐ Yes ☐ No	COC / Labels Agree ☒	Received Within Hold Time ☒

SPECIAL INSTRUCTIONS/COMMENTS:

APPENDIX A.3

DRAWDOWN PLOTS FOR HYDRAULIC TESTS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Pumping Rate (gpm)
0.1
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10
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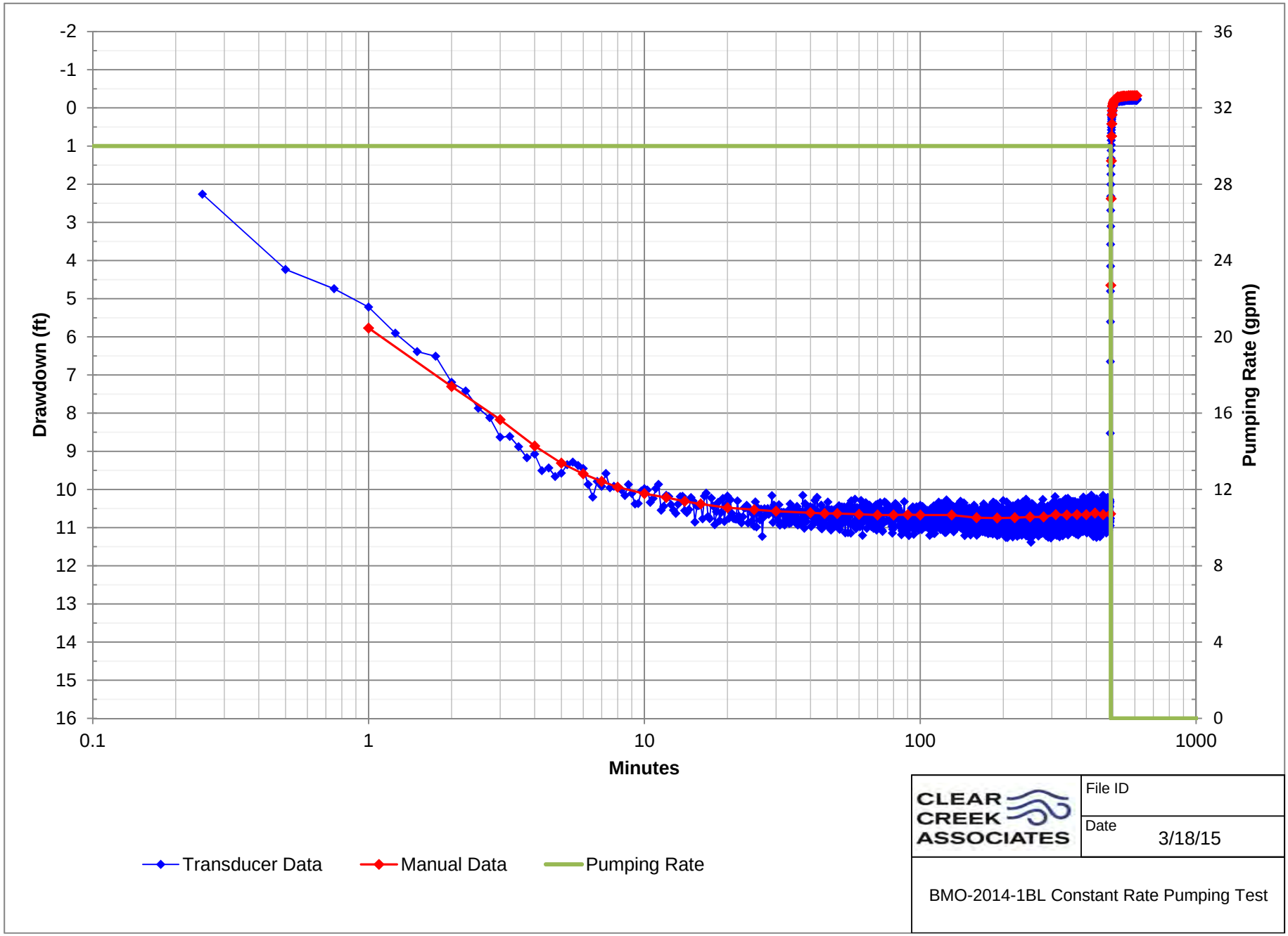
Minutes
Transducer Data
Manual Data
Pumping Rate
CLEAR CREEK ASSOCIATES
File ID
Date
3/18/15
BMO-2014-1BL Step Rate Pumping Test

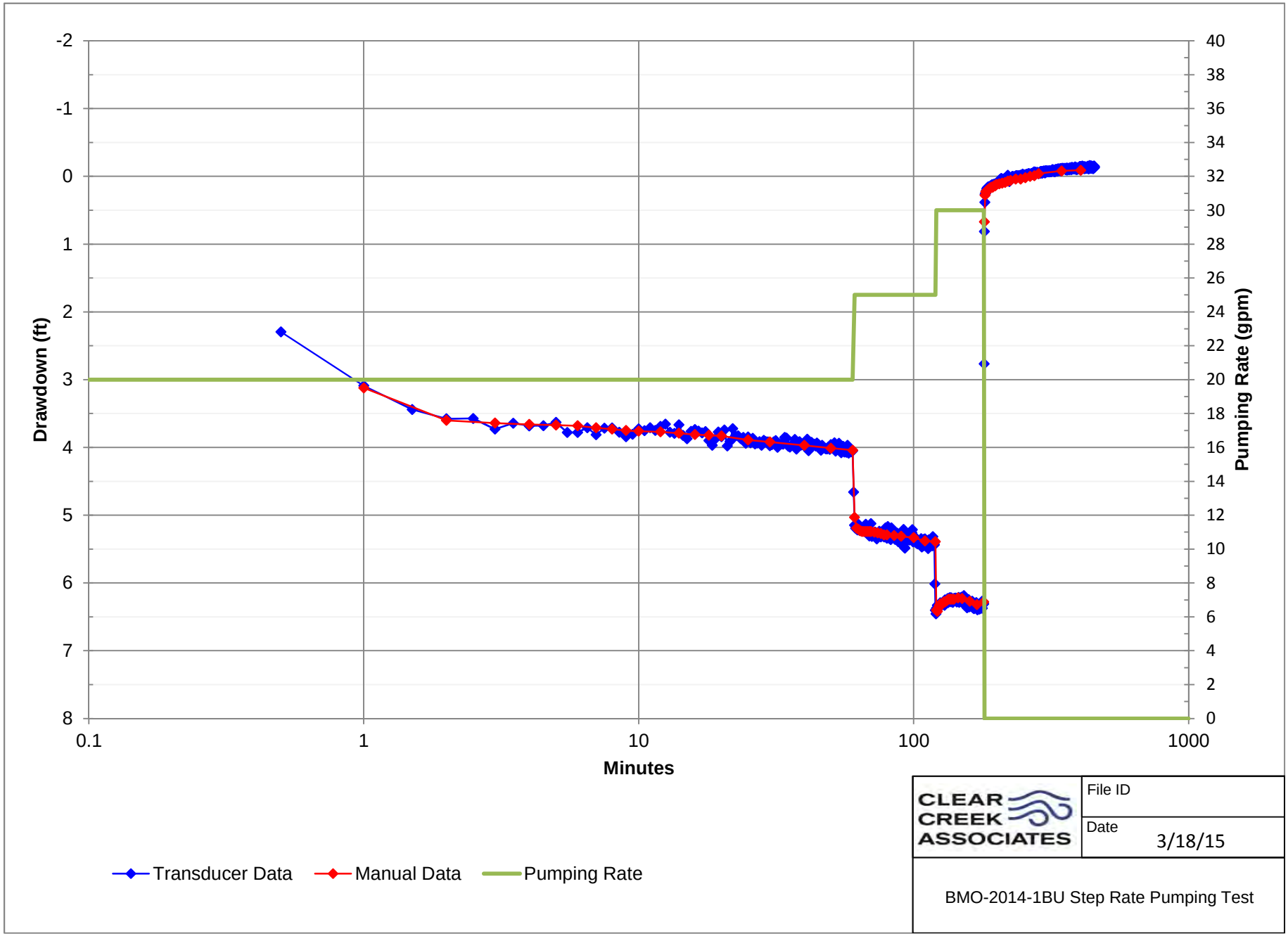


CLEAR CREEK ASSOCIATES

File ID

Date 3/18/15

BMO-2014-1BL Constant Rate Pumping Test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38
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26
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22
20
18
16
14
12
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8
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4
2
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Pumping Rate (gpm)
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10
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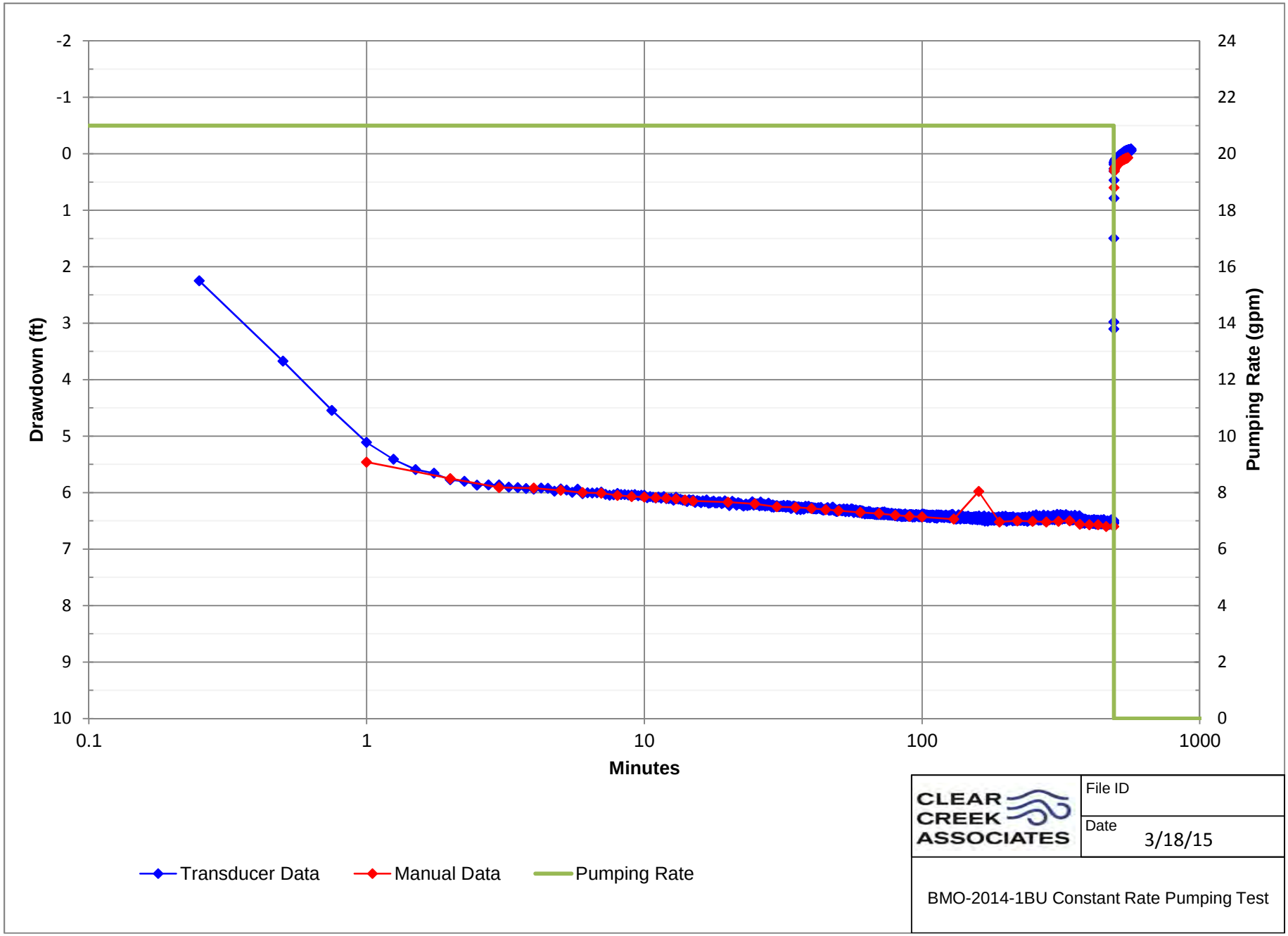
1000
Minutes
Transducer Data
Manual Data
Pumping Rate
CLEAR CREEK ASSOCIATES
File ID
Date
3/18/15
BMO-2014-1BU Step Rate Pumping Test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Drawdown (ft)
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12
10
8
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4
2
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Pumping Rate (gpm)
0.1
1
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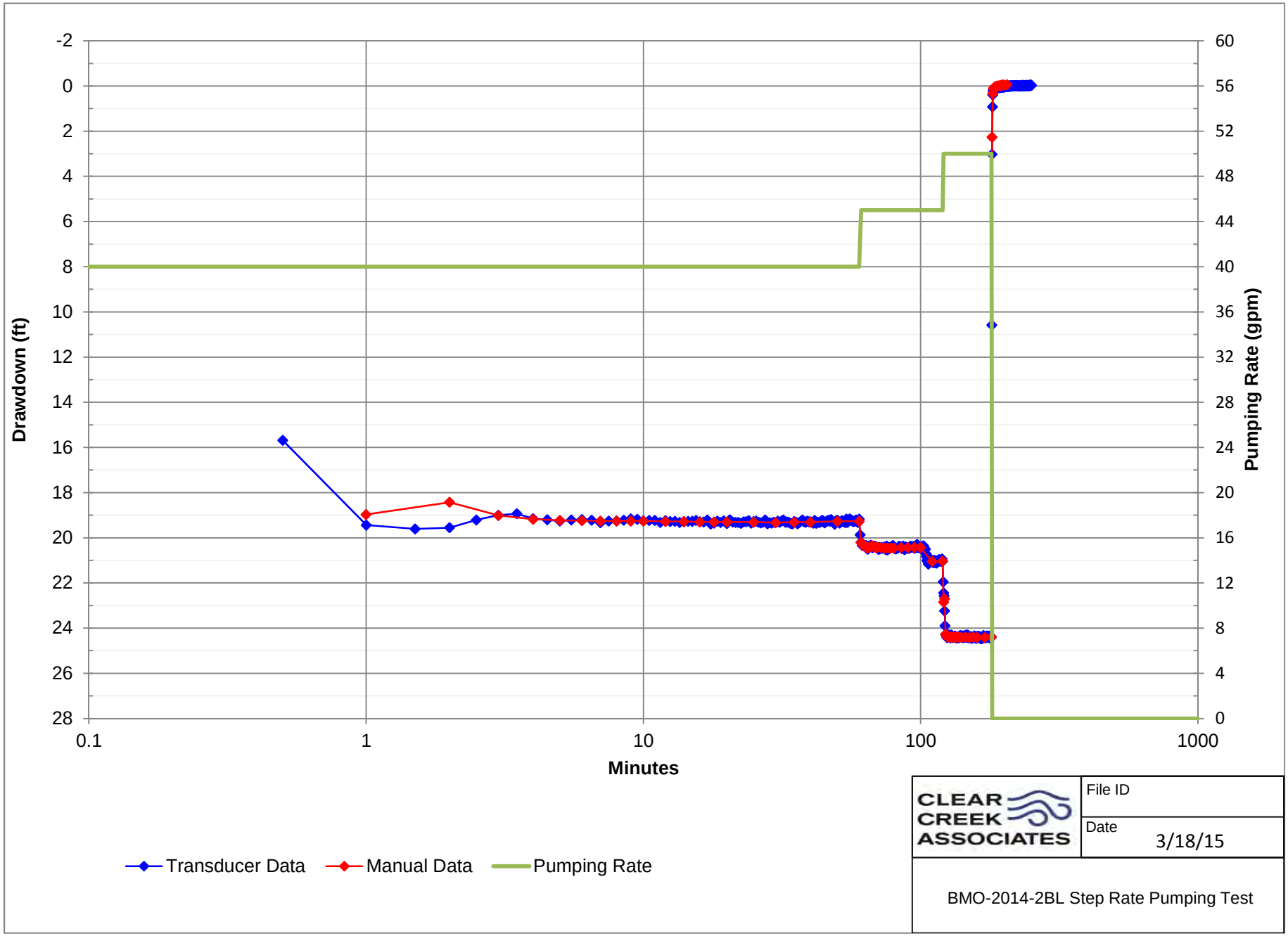
Minutes
Transducer Data
Manual Data
Pumping Rate
CLEAR CREEK ASSOCIATES
File ID
Date
3/18/15
BMO-2014-1BU Constant Rate Pumping Test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Pumping Rate (gpm)
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48
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16
12
8
4
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1
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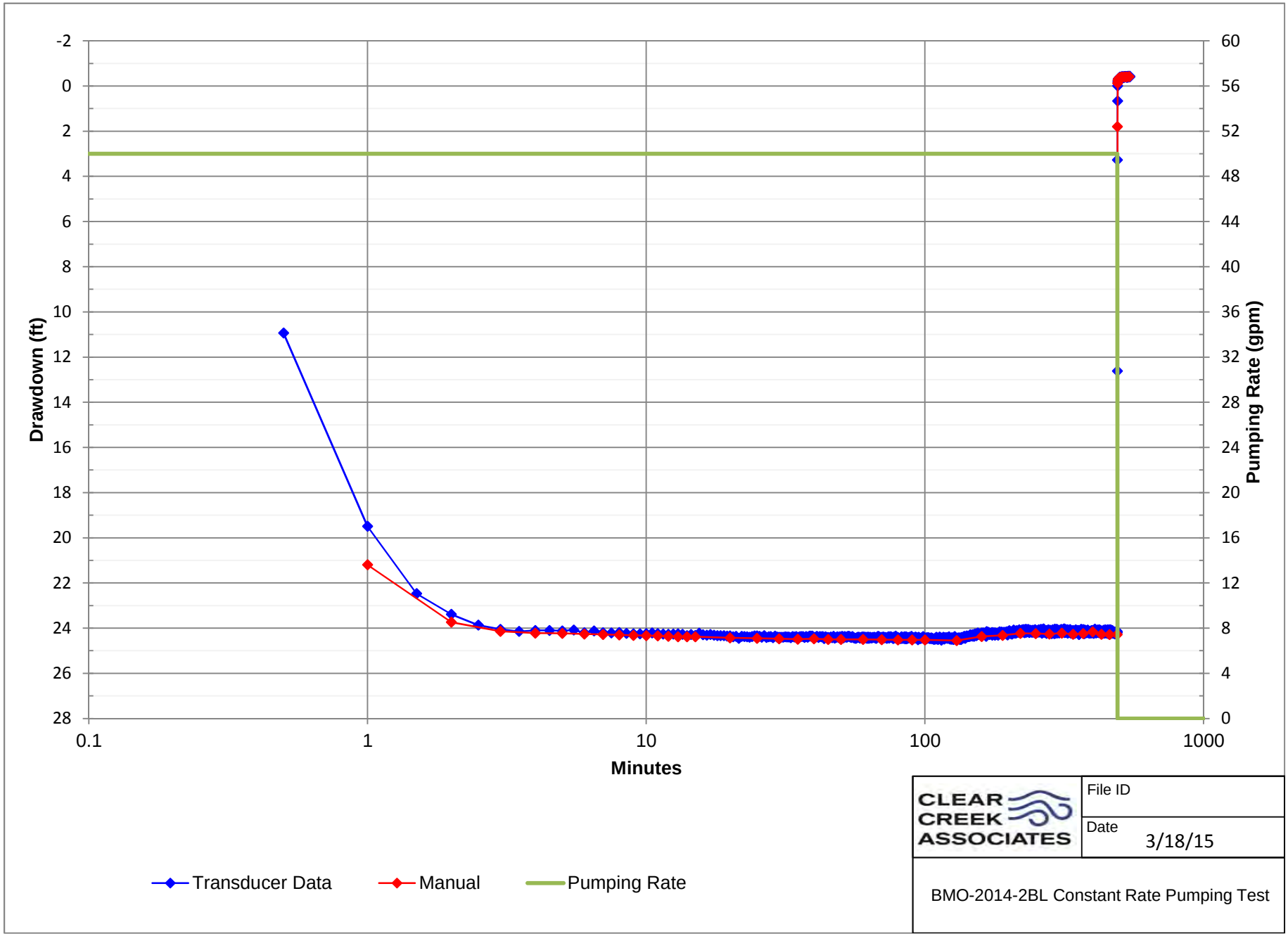
Minutes
Transducer Data
Manual Data
Pumping Rate
CLEAR CREEK ASSOCIATES
File ID
Date
3/18/15
BMO-2014-2BL Step Rate Pumping Test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Drawdown (ft)
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Pumping Rate (gpm)
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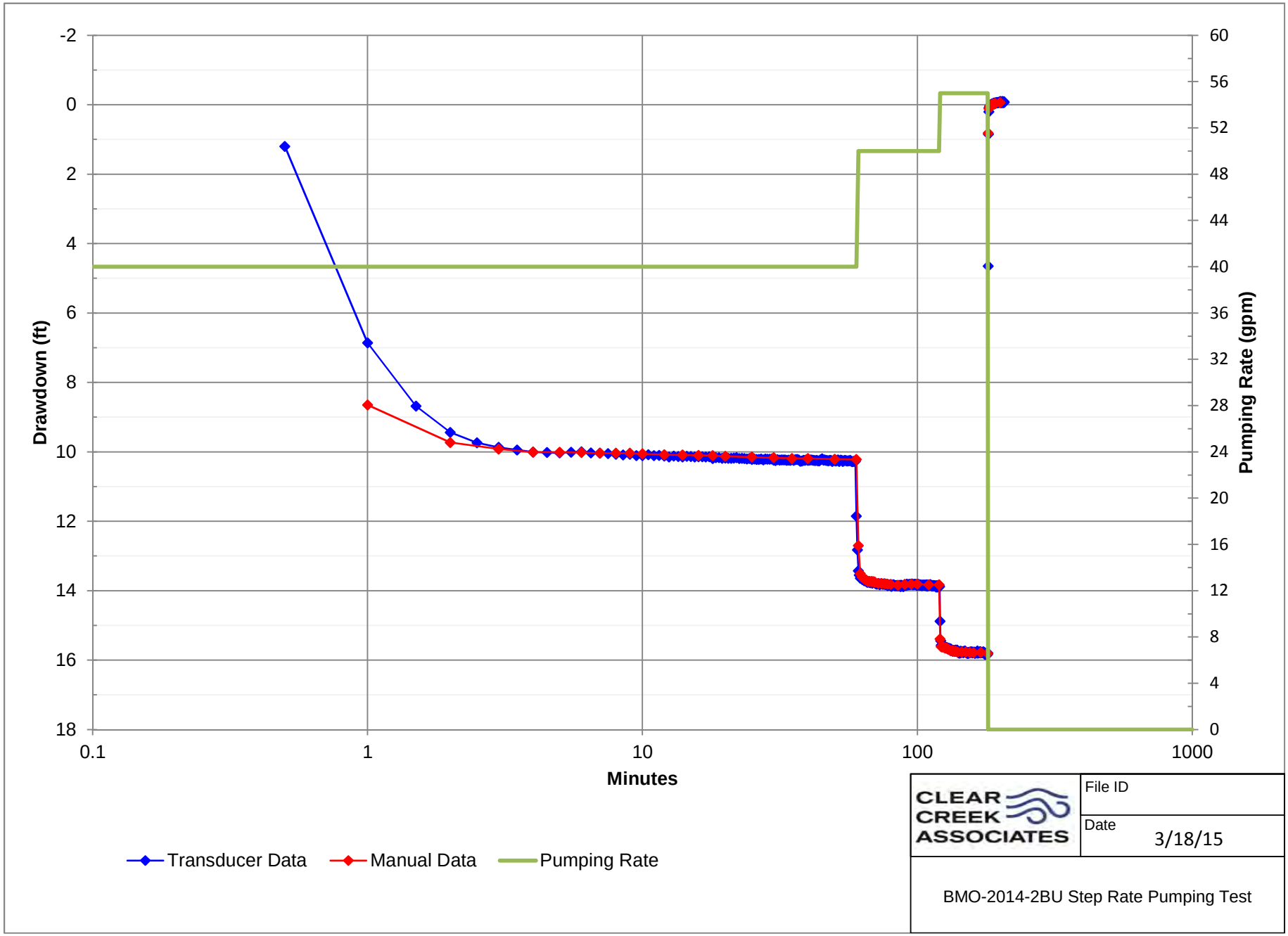
Minutes
Transducer Data
Manual
Pumping Rate
CLEAR CREEK ASSOCIATES
File ID
Date
3/18/15
BMO-2014-2BL Constant Rate Pumping Test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Drawdown (ft)
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Pumping Rate (gpm)
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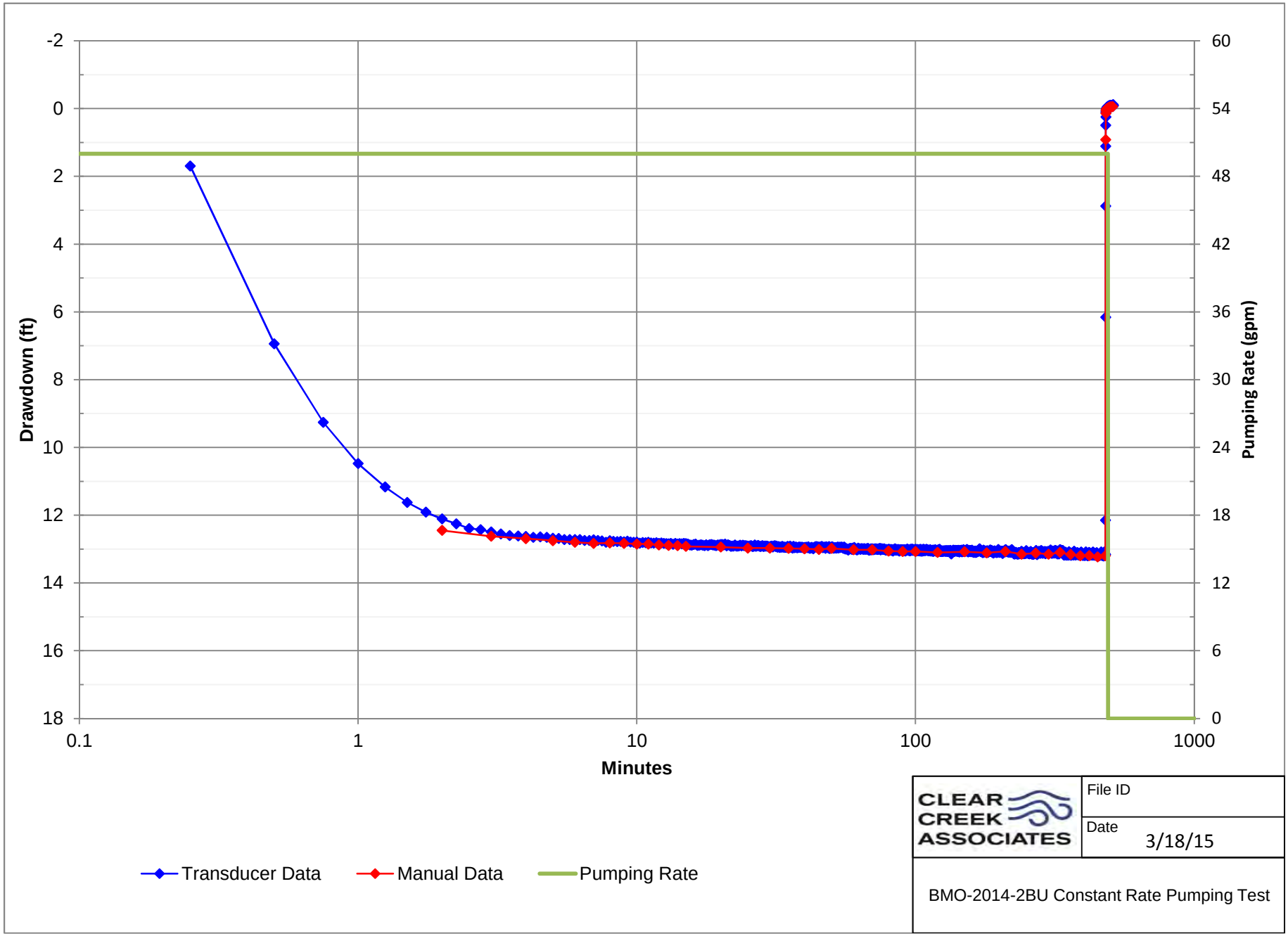
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18
12
6
0
Pumping Rate (gpm)
0.1
1
10
100
1000
Minutes
Transducer Data
Manual Data
Pumping Rate
CLEAR CREEK ASSOCIATES
File ID
Date
3/18/15
BMO-2014-2BU Constant Rate Pumping Test